

**CLAYTON COUNTY WATER AUTHORITY  
MORROW, GA**



**PROJECT MANUAL**

**FOR**

**BID NUMBER: 2020-PME-17**

**J.W. SMITH WATER PRODUCTION PLANT  
HIGH SERVICE PUMP STATION UPGRADES**

**JANUARY 2020**

**CONFORMED SET**

**VOLUME 1 OF 3  
DIVISIONS 00 – 01  
PROCUREMENT, CONTRACTING, AND  
GENERAL REQUIREMENTS**

**Hazen**

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## CONFORMED DOCUMENTS FOR CONSTRUCTION

Addenda items for addition to or replacement of existing text are shown bolded and annotated with addendum number in brackets in red (**example**<sup>[Add. No. 2]</sup>).

Addenda items that were deleted are shown bolded with strikethrough and annotated with addendum number in brackets in red (~~**example**~~<sup>[Add. No. 2]</sup>).

This document was originally issued for construction and sealed by:

Edward A. McCallum, PE, seal number 034186

Frederick P. Powell, PE, seal number 029283

Nubea Lima, PE, seal number 024756

Norman Bartley, seal number 040348

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**END OF SECTION**



 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road, Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
	<b>ADDENDUM # 1</b>	
	DATE	Wednesday, September 30, 2020
	BID NUMBER	2020-PME-17
	PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 3, 2020 at 2:00 p.m. local time	
<b>ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.</b>		

**The following REVISIONS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**


1. **Section 00 52 00, Agreement**, revised as follows,
  - a. *Part 8.01-B*
    - i. Delete "six volumes"
    - ii. Replace with "three volumes"
  - b. *Part 8.01-C*
    - i. Delete "and including the following:"
    - ii. Replace with "as listed in Section 00 01 15 List of Drawing Sheets in the Project Manual".
2. **Section 01 11 00, Summary of Work**, revised as follows,
  - a. *Part 1.03-A-1*
    - i. Delete "Work specified in the Specifications"
    - ii. Replace with "Work specified in Volume 1 – Procurement, Contracting, and General Requirements"
  - b. *Part 1.03-A-2*
    - i. Delete "Work shown on the Drawings"
    - ii. Replace with "Work specified in Volume 2 – Technical Specifications"
  - c. *Part 1.03-A-3*
    - i. Add "Work shown in Volume 3 – Drawings"

All other terms and conditions of the PROJECT MANUAL remain unchanged.

**The following REVISIONS shall be incorporated into the DRAWINGS for the above-referenced project:**

1. Delete Volume 3 - Drawings in its entirety and replace with Volume 3 attached to this Addendum. (Pages 7-26 of Volume 3 as originally issued for bid were unintentionally scanned in black and white. All pages of Volume 3 attached to this Addendum were scanned in grayscale.)

All other terms and conditions of the DRAWINGS remain unchanged.

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road, Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
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**The following QUESTIONS and ANSWERS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

**Q1:** What items on the Drawings are proposed and what items are existing?

**A1:** See 'LINETYPES' on Drawing G001 for proposed and existing linetypes. When printing hard copies, planholders are advised to ensure that drawings are printed in grayscale, not black and white. If further clarification is needed submit questions on specific items prior to the deadline for questions.

**Q2:** Do you know what the approximate budget is for the project?

**A2:** An engineer's estimate is not available for this project.


**Q3:** How can Amtech Drives Inc get added to your Specifications? We are an original equipment manufacturer for drives/soft-starter/harmonic filters & front end convertors. We are one of the few OEMS that do not require air-conditioning, which can really reduce energy cost as well as increase reliability.

**A3:** As indicated on the Bid Form, no substitutes will be considered for the Motor Control Centers (Section 26 24 19), the Variable Frequency Drives (Section 26 29 23), and the Enclosed Motor Controllers (Section 26 29 13.16). See also General Conditions, Paragraph 7.05 and Section 01 25 00, Product Requirements and Options, Paragraph 1.03-C-2. The request to add Amtech Drives Inc to the specifications is denied.

<b><i>Acknowledgment of receipt of this addendum must be signed and included in your bid response.</i></b>	
COMPANY NAME	LAKESHORE ENGINEERING
SIGNATURE	[Signature]
DATE	2/5/21

## ATTACHMENTS

1. Volume 3 of 3 - Drawings

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road, Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
	<b>ADDENDUM # 2</b>	
	DATE	Friday October 16, 2020
	BID NUMBER	2020-PME-17
	PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 3, 2020 at 2:00 p.m. local time	
<b>ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.</b>		

**The following REVISIONS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

1. **Section 00 21 13, Instructions to Bidders**, revised as follows,
  - a. Part 1.16-C
    - i. Add Item 5: ***Section 00 45 13 Bidders Qualifications***
2. **Section 01 14 00 Coordination with Owner's Operations**, revised as follows,
  - a. Part 1.01-B
    - i. Add Item 7: ***Contractor shall not enter any buildings on site except as required to complete the Work. Contractor shall not use Owner's facilities as an office. Contractor shall not use Owner's internet or restrooms.***
3. **Section 01 73 00, Execution of Work**, revised as follows,
  - a. Part 3.03-A-6
    - i. Insert the following in this paragraph *"Provide temporary or permanent bypass provisions if required in accordance with Section 01 14 00 and Contractor's proposed sequencing plan prior to cutting..."*

All other terms and conditions of the PROJECT MANUAL remain unchanged.


**The following QUESTIONS and ANSWERS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

**Q1:** Can you provide the pre-bid meeting agenda and attendee list?

**A1:** A copy of the pre-bid meeting agenda and attendee list is attached to this addendum.

**Q2:** If the prime bidder is a registered SLBE, does that satisfy all participation goals or must the prime bidder also demonstrate good faith efforts?

**A2:** A prime bidder will satisfy the goal in full if the bidder is a certified CCWA SLBE.

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road, Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
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<i>Acknowledgment of receipt of this addendum must be signed and included in your bid response.</i>	
COMPANY NAME	LAKESHORE ENGINEERING
SIGNATURE	<i>[Handwritten Signature]</i>
DATE	2/5/21

## ATTACHMENTS

1. Pre-Bid Meeting Agenda
2. Pre-Bid Meeting Attendee List

# Hazen *Agenda*



October 13, 2020

Location: [Join Microsoft Teams Meeting](#)

or

Phone number: [+1 470-443-0872](#)

Conference ID: 569 464 728#

Time: 2:00 PM

**Subject: Non-Mandatory Pre-Bid Meeting  
2020-PME-17 J.W. Smith WPP HSPS Upgrades**

## **Introductions**

**Hazen**

## **Disclaimer**

**Hazen**

Any statements expressed in this meeting are non-binding. Any questions a proposer may have shall be answered by reviewing the Request for Bid documents or by submitting the questions in writing via email to Eddie McCallum [EMccallum@hazenandsawyer.com](mailto:EMccallum@hazenandsawyer.com) by "Deadline for Questions" time listed in the Bid Schedule below. Any and all responses to bidder's questions will be issued in the form of Addenda.

## **Addenda**

**Hazen**

- CCWA and Hazen will provide responses to all questions via addenda.
- Addenda will be posted on Quest CDN website (<https://www.questcdn.com>) under eBidDoc project number 7276101 and made available to all planholders.
- Addenda are to be acknowledged on Section 00 41 00 Bid Form.
- All addenda issued shall become part of the Bid Documents.

## **Project Overview**

**Hazen**

The Project consists of improvements to the J.W. Smith Water Production Plant High Service Pump Station. The Work to be performed under this Contract includes, but is not limited to, the following:

- Replace existing High Service Pumps Nos. 1-4.

- Replace existing pump discharge piping and valves at each High Service Pump with new piping and valves including, but not limited to, automatic electric check pump control valves.
- Provide new miscellaneous valves, including, but not limited to, combination air-vacuum valves, surge anticipator valve, and pressure reducing valve.
- Replace existing MCCs, panelboard, transformer, and electrical equipment.
- Provide new motor controllers for new pumps (two RVSS constant speed starters and two VFDs).
- Provide air conditioning for electrical room.
- Replace wiring and instrumentation as required.
- Modify plant control system to enable control of pump speed.

## Bid Documents

Hazen

### Accessing Bid Documents

- Copies of Bidding Documents are available at <https://www.questcdn.com> upon payment of \$15.00, nonrefundable, for download and printing access. All Bidders are required to purchase a set of the Bidding Documents.
- Bidding Documents can be searched for in the Quest CDN project search bar under Project Number (eBidDoc#) 7276101.
- Hard copies of Bidding Documents are the responsibility of the Bidders.
- By purchasing the Bidding Documents, purchaser agrees to allow company information (company name, address, phone and email) to be published as a “placeholder”.
- The Owner is not obligated to consider a Bidder's proposal if Bidder is not on record with QuestCDN as having received a complete set of Bidding Documents from QuestCDN.

## Volume 1 – Procurement, Contracting, and General Requirements

- Section 00 21 13 Instructions to Bidders
  - Part 1.04 Mandatory Site Visit
  - Part 1.07 Reputation of Bidder (Section 00 45 13 Bidders Qualifications)
  - Part 1.12 SLBE Participation (Section 00 43 39 SLBE Forms)
- Section 00 31 00 Bid Form
  - Article 2.02 Acknowledge Site Visit
  - Article 3.01 Lump Sum Bid



- Article 3.02 Cash Allowances
  - Article 4 Subcontractors
  - Article 5 Manufacturers
- Section 00 73 00 Supplementary Conditions
  - SC-5.03 Available Reports
- Section 01 11 11 Summary of Work
  - Part 1.14 Salvage of Equipment and Materials
  - Part 1.15 Partial Utilization by Owner
- Section 01 14 00 Coordination with Owner's Operations
  - Part 1.03 Administration Period
  - Part 1.07 Suggested Sequence of Work
  - Parts 1.09 & 3.02 Shutdowns and Requirements
- Section 01 20 00 Measurement and Payment
- Section 01 45 16.13 Contractor Quality Control
- Section 01 79 00 Instruction of Owner's Personnel

## **Volume 2 – Technical Specifications**

- Section 40 05 65.21 Automatic Electric Check Pump Control Valve
  - Part 2 Products
- Section 40 05 67.45 Surge Anticipator Valves for Water Service
  - Part 2 Products
- Section 40 61 13 Process Control System General Provisions
  - Part 1.04 I&C Subcontractor MR Systems
- Section 43 21 47 Vertical Turbine Pumps
  - Part 2 Products

## **Volume 3 – Drawings**

## Bid Schedule

**Hazen**

Milestone	Date
<b>Bid Documents Issued</b>	Wednesday, September 23, 2020
<b>NON-MANDATORY Pre-Bid Meeting</b>	Tuesday, October 13, 2020 (2:00 PM)
<b>MANDATORY Site Visit</b>	Tuesday, October 20, 2020 Or Wednesday, October 21, 2020 (9:00 AM to 12:00 PM, either day)
<b>Deadline for Questions</b>	Thursday, October 22, 2020 (2:00 PM)
<b>Issue Last Addendum</b>	Wednesday, October 28, 2020 (2:00 PM)
<b>Bid Opening</b>	November 3, 2020 (2:00 PM)
<b>Estimated Approval of Selected Contractor at CCWA Monthly Board Meeting</b>	Thursday, December 3, 2020 (1:30 PM)

## Procurement

**CCWA**

### Submittal Requirements

Per Section 00 21 13 Part 1.16, Bidders shall complete and submit the following attachments with its Bid:

- Section 00 41 00 Bid Form
- Section 00 43 13 Georgia Bid Bond
- Section 00 45 13 Bidders Qualifications
- Section 00 45 19 Statement of Noncollusion
- Section 00 45 75 Georgia Security and Immigration Compliance Act of 2006 forms for both the Prime Contractor and for Subcontractors
- Section 00 21 13 SLBE Forms 1-4 including Checklist of Good Faith Effort and documentation attached to this Section.

In addition to the above, the following items are required to be included as a part of the bid submittal:

- Copies of all license(s) required to perform the work.
- Addenda
  - Addendum No. 1 has been issued.
- W-9 Form



- Any other items as required in this RFB, including but not limited to the items contained in Section 00 21 13 Instruction to Bidders

Failure to include any of these items may result in the bid being deemed non-responsive.

## **Contract Requirements**

- Section 00 73 00 Supplementary Conditions, Exhibit A – Insurance Requirements

## **Bid Evaluation**

- The bid will be awarded to the lowest responsive responsible bidder whose bid conforms to the RFB specifications and will be the most advantageous to the CCWA.
- An evaluation will also be performed to ensure bidder complies with the required submittals. Determination of best responsive responsible bidder will be the sole judgment of the CCWA.

## **Small Local Business Enterprise**

- This procurement has a Small Local Business Enterprise (SLBE) goal of 10 percent.
- The bidder needs to make a Good Faith Effort in meeting this SLBE goal.
- SLBE Forms 1-4 including Checklist of Good Faith Effort and documentation must be included in the bid submittal.
- CCWA list of certified SLBE can be found on the CCWA website. Two certifications levels - General and Provisional – Provisional certification is available for GADOT DBE, City of Atlanta, Dekalb County and Clayton County.
- Please refer to Section 00 21 13 Instructions to Bidders, Part 1.12 for more details.

## **Questions & Answers**

# Hazen *Attendees*



October 13, 2020

Location: [Join Microsoft Teams Meeting](#)

or

Phone number: [+1 470-443-0872](#)

Conference ID: 569 464 728#

Time: 2:00 PM


**Subject: Non-Mandatory Pre-Bid Meeting  
2020-PME-17 J.W. Smith WPP HSPS Upgrades**

The below list of names is based upon the verbal rollcall within the conference call. The names may not be fully accurate. Contact information is based upon what was available on-hand and is not to be considered complete.

Name	Organization	Contact
Kathy Bogaert	CCWA Procurement	kathy.bogaert@ccwa.us
Hilda Flores	CCWA Procurement	hilda.flores@ccwa.us
Marcia Jones	CCWA Procurement	marcia.jones@ccwa.us
Jikeva Moore	CCWA Procurement	ccwa_slbe_program@ccwa.us (770) 960-5880
John Walter	CCWA PME	John.walter@ccwa.us
Kelly Taylor	CCWA PME	kelly.taylor@ccwa.us
Alan Bowling	Hazen	ABowling@hazenandsawyer.com
Eddie McCallum	Hazen	EMccallum@hazenandsawyer.com


Name	Organization	Contact
Carl Evans	Amcon Industrial	(770) 251-4710 Carl@amconindustrial.com
Robert Head	FS 360	(404) 886-4971 rhead@fs360.com
Terrel Lewis	FS 360	(407) 406-3662 tlewis@fs360.com
Will Varner	Herc Rentals	(404) 406-3662 Will.Varner@hercrentals.com
Garland Long	Lakeshore Engineering	glong@lakeshoreengineering.com
Melissa Roldan	MB Kahn Construction	mroidan@mbkahn.com
Teresa Munoz	R2T	teresa.munoz@r2tinc.com
Kevin Conkey	Reynolds Construction	kevin.conkey@reynoldscon.com
Lorie Moore	Sol Construction	estimating@solconstructionllc.com
Dave Williams	Templeton & Associates	Dave@Templeton-Associates.com
Mitchell Domit	Willow Construction	(770) 222-1555 mdomit@wilocon.com

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 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
	<b>ADDENDUM # 3</b>	
	DATE	Friday, October 23, 2020
	BID NUMBER	2020-PME-17
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BID OPENING DATE	Tuesday, November 3, 2020 at 2:00 p.m. local time	
<b>ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.</b>		

The following REVISIONS shall be incorporated into the PROJECT MANUAL for the above-referenced project:

1. **Section 00 21 13 Instructions to Bidders**
  - a. Part 1.02-B-4, add text in **bold**: "Successful Bidder: Lowest responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award. **Basis of award shall be either the Total Base Bid or Total Alternate Bid, at the sole discretion of the Owner.**"
2. **Section 00 41 00 Bid Form**
  - a. Replace Section 00 41 00 Bid Form in its entirety with revised Bid Form attached to this Addendum.
3. **Section 00 73 00 Supplementary Conditions**
  - a. Part SC-4.01-A, add text in **bold**: "The award of the Contract, if made, shall be to the lowest responsible bidder, or, if applicable, to the proposer whose proposal has been accepted, within (90) days after the opening of bids or proposals; however, in not event shall the award be made until any required investigations are made as to the responsibility of the bidder or proposer to whom it is proposed to award the Contract. **Basis of award shall be either the Total Base Bid or Total Alternate Bid, at the sole discretion of the Owner.**"
4. **Section 01 45 23 Testing Services Furnished by Contractor**
  - a. Part 1.01 add "D. See Drawing S001, Structural Note S14 for additional requirements of field quality control tests."
5. **Section 01 75 00 Checkout and Startup Procedures**
  - a. Part 3.02-A-2 delete "Certification" and replace with "Certificate of Proper Installation".
6. **Section 40 05 65.21 Automatic Electric Check Pump Control Valve**
  - a. Replace quote from GA Industries with revised quote attached to this Addendum.

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
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**7. Section 40 05 67.45 Surge Anticipator Valve for Water Service**

- a. Part 3.02-A-1, replace “dated September 18, 2020” with “dated September 22, 2020”
- b. Replace quote from Templeton & Associates with revised quote attached to this Addendum.

**8. Section 43 21 47 Vertical Turbine Pumps – Modified Radial Flow**

- a. Part 2.11-A delete Item 1 and replace with “1. Welding procedures and performance qualifications shall be in accordance with AWWA Standards and ASME Section VIII and IX with written certification from the manufacturer.”

**9. Section 43 21 47 Vertical Turbine Pumps – Modified Radial Flow**

- a. Part 2.12-A, Bowl wear rings, delete “316 SST” and replace with “316 SST or aluminum bronze”

**10. Section 43 21 47 Vertical Turbine Pumps – Modified Radial Flow**

- a. Part 2.12-A, Basket type suction strainer, delete “Stainless Steel Type 316L” and replace with “Stainless Steel, Type 304 or 316L (See Note 2).”

**11. Section 43 21 47 Vertical Turbine Pumps – Modified Radial Flow**

- a. Part 2.12-A, add “Note 2. Basket type suction strainer shall be provided in accordance with manufacturer’s recommendations. Basket type suction strainer is not required if it is not recommended by the manufacturer.”


**12. Section 43 21 47 Vertical Turbine Pumps – Modified Radial Flow**

- a. Part 2.12-A, Bolts and nuts, delete “Steel” and replace with “316 SST”

**13. Section 43 21 47 Vertical Turbine Pumps – Modified Radial Flow**

- a. Part 2.15-A, delete “One” and “Bowl Assembly” from bottom row of table.

All other terms and conditions of the PROJECT MANUAL remain unchanged.

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
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BID OPENING DATE	Tuesday, November 3, 2020 at 2:00 p.m. local time	
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**The following QUESTIONS and ANSWERS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

**Q1:** Regarding Owners Protective Liability policy to be provided, please clarify if GC is to provide a \$2 million per occurrence limit or a \$2 million aggregate limit.

**A1:** The Owner Protective Liability policy to be provided must be not less than a \$2 million aggregate limit.

**Q2:** Please clarify if Contractor is to provide a Contractors Pollution Liability with a \$2 million per occurrence limit.

**A2:** The Contractors Pollution Liability to be provided must be not less than a \$2 million per occurrence limit.

**Q3:** Please provide any available reports on the lead paint that may be encountered.


**A3:** The reports, tests and drawings described in Section 00 73 00 Supplementary Conditions, Paragraph 5.03 can be downloaded from Quest CDN under 'Q & A'. From the Quest CDN 'Project' page, click 'Q & A' button to display available reports, tests and drawings. This includes lead-based paint test results in "*Report of Limited Hazardous Materials Assessment for Asbestos-Containing Materials and Protective Paint Coatings*" by Willmer Engineering, July 2020. Planholders may contact Eddie McCallum at 404-513-4214 if additional assistance is required with accessing the reports, tests, and drawings.

**Q4:** The quote provided by GA Industries/Principle for the Automatic Electric Check Pump Control Valve indicates is valid until 10/10/2020. Please confirm this quote will be in fact valid until early on in the first quarter of 2021 when a PO can be expected to be issued.

**A4:** A revised quote from GA Industries is attached with pricing valid until 4/10/2021. This quote supersedes the quote previously appended to Section 40 05 65.21. The value of Bid Item 2.1 has been revised to match the value of the revised quote.

**Q5:** The quote provided by GA Industries/Principle for the Automatic Electric Check Pump Control Valve seems to include an amount of \$17,992 for what appears to be one electric actuator and one limit switch as part of the spare parts to be provided. This amount does not seem to be reflected in the provided cash allowance of \$180,000. Please also confirm this quote will be in fact valid until early on in the first quarter of 2021 when a PO can be expected to be issued.



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**A5:** A revised quote from GA Industries is attached with pricing valid until 4/10/2021. This quote supersedes the quote previously appended to Section 40 05 65.21. Contractor may use the value of spare electric actuator and limit switch in the revised quote to inform Contractor's determination of the value for Bid Item 4.3.

**Q6:** The quote provided by Templeton & Associates for the Surge Anticipator Valve is valid for 30 days from date of proposal 9/18/20. Please confirm this quote will be in fact valid until early on in the first quarter of 2021 when a PO can be expected to be issued.

**A6:** A revised quote from Templeton & Associates is attached with pricing valid for 180 days. This quote supersedes the quote previously appended to Section 40 05 67.45. The value of Bid Item 2.2 has been revised to match the value of the revised quote.

**Q7:** Please clarify if the general contractor is to add sales taxes to the two cash allowances for the Automatic Electric Check Pump Control Valve and the Surge Anticipator Valve.

**A7:** Contractor shall include in Bid Item 1 Lump Sum all costs of completing the Work that are not included elsewhere on the Bid Form. Sales tax for Bid Item 2 Cash Allowances is not included in the quotes provided by GA Industries and Templeton & Associates and shall therefore be included in Bid Item 1 Lump Sum.

**Q8:** Section 43 21 47 Vertical Turbine Pumps, Part 2.11-A-1 calls for welding to be in accordance with AWWA standards. AWWA has only one welding standard and that pertains to field welding of piping and not pump factory welding procedures. Recommend that the welding standard be changed to ASME Section VIII and IX as the welded column and discharge head components are in fact pressure vessels.

**A8:** The specification has been revised to include ASME Section VIII and IX welding standards.

**Q9:** I recommend removing the requirement for wear rings on new pump units. If wear rings are to be required, it is recommended that the materials be aluminum bronze for both the impeller and the bowl.

**A9:** Wear rings are required per Section 43 21 47, Part 2.12-A. The specification has been revised to allow aluminum bronze bowl wear rings.

**Q10:** The Section 43 21 47, Part 2.12-A calls for 316L stainless steel suction strainer; recommend this be changed to Type 304 stainless steel.

**A10:** The specification has been revised make the suction strainer optional and to allow Type 304 stainless steel suction strainer.





## J.W. Smith Water Production Plant High Service Pump Station Upgrades

### ADDENDUM # 3

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**Q11:** Section 43 21 47, Part 2.12-A calls for steel fasteners. It is recommended that these be changed to Type 316 stainless steel.

**A11:** The specification has been revised to 316 SST bolts and nuts.

**Q12:** Please clarify the requirement of Section 00 41 00 Bid Form, Bid Item 4.4 Uninstalled spare pump bowl assembly. Is this spare bowl assembly in addition to the specified spare bowl assembly noted in Section 43 21 47, Part 2.15-A?

**A12:** Section 43 21 47 has been revised to delete one spare bowl assembly. All other spare parts listed in Section 43 21 47, Part 2.15-A remain unchanged and are distinct from the spare pump bowl assembly included in Bid Item 4.4.

**Q13:** It is shown to a certain extent in the project pump drawings, but I think it needs to be clearly called out either in the specification or elsewhere that the discharge head supported and installed air release valve piping arrangement is required for the new pumps due to the space constraints.


**A13:** Pump discharge head shall include 4-inch flange for air release valve (4" combination air & vacuum valve) per Section 43 21 47, Part 2.04-F and as shown on Drawings M003 and M004.

**Q14:** Section 43 21 47, Part 2.03-F notes a minimum column diameter of ten (10) inches. This would result in very high internal velocities over ten (10) feet/second with higher frictional losses and the potential for vibration issues. Recommend requiring the column diameter match that of the pump discharge (twelve (12) inches) so velocities are constant through the pump and vibration issues are minimized. Please clarify the requirement.

**A14:** Minimum allowable pump column diameter of 10 inches in Section 43 21 47 remains unchanged.

**Q15:** We were wondering if there were any sites that you would recommend to advertise for the SLBE and DBE program.

**A15:** CCWA would recommend that you use all media outlets including the local newspaper which is the [News Daily](#). CCWA would recommend that contractor visit our website where you can find our [list of certified SLBEs](#) and reach out to our certified vendor via their contact information. Additionally, CCWA has a provisional application that is relatively easy to obtain certification by those SLBE currently certified as such with the City of Atlanta, Dekalb County and Clayton County as well as those vendors certified as a DBE with GDOT. We have provided below the link and basic instruction

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for each of those entities and their respective certified vendor list. While CCWA strongly encourages you to use our certified SLBE, we also encourage you to bring new vendors that are eligible for certification to our program. Please make sure that if they are not CCWA SLBE certified that the firm submits an application with CCWA to become certified prior to or as part of your bid submittal. The following are the links outlined below:

[City of Atlanta](#) - Scroll until you find Registry of Certified Firms

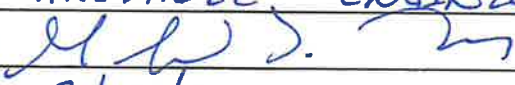
[Clayton County](#) – Click Clayton SLBE MWBE Certified Vendors List on the menu to the right

[DeKalb](#) -Click LSBE certified vendor list on the menu to the left

[GADOT](#) - You'll find their list of DBEs at the bottom of the webpage. Click Directories and then UCP Directory

**Q16:** Please provide a copy of the sign-in sheet from the mandatory site visit.

**A16:** Sign-in sheet from the mandatory site visit is attached to this Addendum.

<b>Acknowledgment of receipt of this addendum must be signed and included in your bid response.</b>	
COMPANY NAME	LAKE SHORE ENGINEERING
SIGNATURE	
DATE	2/5/21

#### ATTACHMENTS

1. Revised Section 00 41 00 Bid Form
2. Revised quote, GA Industries (Supplement to Section 40 05 65.21)
3. Revised quote, Templeton & Associates (Supplement to Section 40 05 67.45)
4. Sign-in sheet from mandatory site visit.

# Hazen Attendees



October 20 & 21, 2020

Location: J.S. Smith Water Production Plant  
82 Northbridge Road  
Hampton, GA 30228

Time: 9:00 AM - 12:00 PM each day

Subject: Mandatory Site Visit Sign-In Sheet  
2020-PME-17 J.W. Smith WPP HSPS Upgrades

Name	Organization	Email
DAMON ALEXANDER	RZT	damon.alexander@rztinc.com
LORIE MOORE	SOL CONST	ESTIMATING@SOLCONSTRUCTIONLLC.COM
JOSE Villegas	Sol Const	" "
SCOT STANKIEWICZ	FS360	BIDS@FS360.com
Brandon Bow	Lakeshore Eng.	bdow@lakeshoreengineering.com
Mitchell Doherty	Willow Creek	mdoherty@willowcreek.com
Dale Robinson	Robinson Electric	dalerobinson1@bellsouth.net
DONNIE PATTON	DEE ELECTRIC	dpatton9537@gmail.com
Jason Crump	M.B Kahn	jcrump@mbkahn.com
Kevin Conkey	Reynolds	kevin.conkey@reynoldson.com

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## J.W. Smith Water Production Plant High Service Pump Station Upgrades

### ADDENDUM # 4

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**The following REVISIONS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

**1. Section 00 41 00 Bid Form**

- a. Article 5.01, Item 1, delete "No Substitutes".
- b. NOTE: Substitute pump manufacturer(s) may be proposed by the Contractor after award of the Contract in accordance with General Conditions Part 7.05. Substitute pump manufacturers will not be considered prior to award of the Contract.

**2. Section 01 14 00 Coordination with Owner's Operations**

- a. Part 1.01-B, add ***"8. Contractor may use existing bridge crane in the High Service Pump Station in accordance with Drawing M004, Note 2. Before Contractor's initial use of the crane, the crane will be inspected, proof-tested and certified by an independent third-party testing firm employed by the Engineer or Owner (Pre-Construction Test). After Contractor's final use of the crane, the crane will again be inspected, proof-tested and certified by an independent third-party testing firm employed by the Engineer or Owner (Construction Completion Test). Any damage and/or deficiencies from the Construction Completion Test shall be repaired or replaced by a certified and factory authorized trained technician. The Contractor shall be responsible for any and all costs related to any damages and deficiencies including but not limited to: any additional tests required to verify satisfactory completion of repairs and/or replacement and to achieve re-certification of the bridge crane. The Engineer and Owner shall make the final determination if any damage and/or deficiencies are to be repaired or replaced. The Engineer, Owner and Contractor shall be present to observe the bridge crane tests."***

**3. Section 01 14 00 Coordination with Owner's Operations**

- a. Part 3.02, add ***"E. Contractor shall complete 14-day Operating Test Period for the first set of two pumps before taking the second set of two pumps out of service for demolition. For requirements of the 14-day Operating Test Period see Section 01 91 13 General Commissioning Requirements."***





## J.W. Smith Water Production Plant High Service Pump Station Upgrades

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#### 4. Section 01 20 00 Measurement and Payment

- a. Part 1.03-B-4-b, revise as follows “b. Bid Item 4.1 – Fiber Optic Cable: Payment for Bid Item 4.1 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide 12-strand multi-mode fiber optic cable ~~installation with terminations~~ installed in ~~existing~~ conduit which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. ***A portion of the fiber optic cable is to be installed in existing conduit and the remainder shall require new conduit as shown on the Communication Block Diagram on Drawing E008. All fiber optic cable on the project will be included in Bid Item 4.1. The new conduit and Innerduct described on Drawing E008 shall be included in Bid Item 1: Lump Sum. For additional information on existing conditions, refer to Section 00 73 00, Part SC-5.03, “Construction Drawings: Shoal Creek Water Treatment Plant, Robert and Company, June 1983”, electrical drawings 810095-04-E2 and 810095-04-E29.*** Bid Item 4.1 shall include all materials, equipment, labor, indirect costs, and profit to provide, place, and connect, meeting all requirements of the Bidding Documents. Fiber Optic Cable is further specified in Section 40 66 00, Paragraph 2.06. Measurement for Bid Item 4.1 will be by linear foot of Fiber Optic Cable installed.

#### 5. Section 01 20 00 Measurement and Payment

- a. Part 1.03-B-4-e, add text in ***bold***: “...Measurement for Bid Item 4.4 will be by each uninstalled spare pump bowl assembly provided. ***Uninstalled spare pump bowl assembly shall be factory tested as part of a complete pump assembly.***”

#### 6. Section 01 20 00 Measurement and Payment

- a. Part 1.03-B-4-f, add text in ***bold***: “...Measurement for Bid Item 4.5 will be by each spare pump motor provided. ***Uninstalled spare pump motor shall be factory tested as part of a complete pump assembly.***”

#### 7. Section 01 52 00 Construction Facilities

- a. Add Section 01 52 00 Construction Facilities attached to this Addendum.



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#### 8. Section 01 75 00 Checkout and Startup Procedures

- a. Part 3.03-B, revise as follows: ***"Vibration testing shall be performed by an experienced factory-trained and authorized third-party analysis expert shall be provided for and paid for by the Contractor as a part of Cash Allowances a third-party testing firm employed by the Engineer or Owner. Contractor shall be charged for the cost of any additional tests on work performed which does not meet the specifications.*** Each unit or pump system shall ..."

#### 9. Section 01 91 13 General Commissioning Requirements


- a. Add Section 01 91 13 General Commissioning Requirements attached to this Addendum.

#### 10. Section 43 21 47 Vertical Turbine Pumps – Modified Radial Flow

- a. Part 1.05-A, replace dynamic analysis table with revised table below.

	High Service Pumps
Lateral Analysis	
Level of Analysis	None
Torsional Analysis	
Level of Analysis	<b>None Level 1</b>
Structural Analysis	
Level of Analysis	<b>Level 1 Level 2</b>
Separation Margin	20%
Include Concrete Base/Pedestal in FEA Model	<b>No Yes</b>
Include Elevated Slab in FEA model	<b>No Yes</b>
<b>Include weight of pump control valve in analysis</b>	<b>Yes</b>

- b. Part 2.10-B, replace with the following revised text: ***"B. The pump and motor assembly shall be designed so that ~~its lateral critical speed avoids the operating speed range by a margin of 25 percent above and below the maximum and minimum speeds, respectively,~~ assuming a rigid foundation the assembly reflects the dynamic analysis specified in Section 43 21 47, Part 1.05-A.*** Manufacturer calculations that show compliance with this requirement shall be furnished with the shop drawing submittal."

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- c. Part 3.02-F, replace with the following revised text: "F. After the pump manufacturer's representative has determined the pump installation is correct and the pump is ready for continuous use, Contractor shall ~~operate support~~ **Owner's operation of** the pump under ~~the Owner's supervision and~~ actual operating conditions for 2 weeks **(14-Day Operating Test Period)**. The 2-week timeframe begins when all contract requirements associated with the pump are complete, including, but not limited to: startup, testing, training, and approved O&M manuals. **The 14-Day Operating Test Period shall apply to each pair of 2 pumps. See Sections 01 14 00 and 01 91 13 for additional requirements**".

All other terms and conditions of the PROJECT MANUAL remain unchanged.

**The following REVISIONS shall be incorporated into the DRAWINGS for the above-referenced project:**

**1. Drawing E007**


- a. Add the following sentence at the end of Note 4:

"PROVIDE HORIZONTAL RACKS AS REQUIRED, ATTACHED TO THE WALLS TO SUPPORT MULTIPLE ROWS OF CONDUITS."

- b. Add Note 9:

"RELOCATE EXISTING DISCONNECT SWITCHES FOR ALL UNIT HEATERS IN THE PUMP ROOM TO A LEVEL ACCESSIBLE FOR OPERATION, APPROXIMATELY 48-INCHES AFF."



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## 2. Drawing E008

- a. Revise the High Service Pumps Control Block Diagram as follows:

Combine control conduits C4, L12B, and L12A shown from VFD-HSP-1 to High Service Pump No.1 field devices (E-Stop, CJB-HSP1-2, and CJB-HSP1-1) into one 1-inch conduit. Utilize a junction box at the pump as required to combine the circuits. Similarly, combine control conduits for each of High Service Pump Nos. 2, 3, & 4 field devices.

- b. Revise PP-A1 Power Block Diagram as follows:

Combine power conduits P12 shown for Check Valve Nos. 1 & 2 into one 1-inch conduit. Utilize a junction box at the valves as required to combine the circuits. Similarly, combine the power conduits for Check Valve Nos. 3 & 4.

- c. Revise the Miscellaneous Instruments/Equipment Control Block Diagram as follows:

Combine instrumentation conduits I1 shown for LIT-101 and PHT-101 into one 1-inch conduit. Utilize a junction box at the instruments as required to combine the circuits.


**The following QUESTIONS and ANSWERS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

**Q1:** Can Flowserve get added to your Specifications?

**A1:** The request to add Flowserve to the specifications is denied. Section 00 51 00 Bid Form, Article 5.01, Item 1 has been revised to delete "No substitutes". Substitute pump manufacturer(s) may be proposed by the Contractor after award of the Contract in accordance with General Conditions Part 7.05. Substitute pump manufacturers will not be considered prior to award of the Contract.

**Q2:** Can Sulzer/Johnston get added to your Specifications?

**A2:** The request to add Sulzer/Johnston to the specifications is denied. Section 00 51 00 Bid Form, Article 5.01, Item 1 has been revised to delete "No substitutes". Substitute pump manufacturer(s) may be proposed by the Contractor after award of the Contract in

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accordance with General Conditions Part 7.05. Substitute pump manufacturers will not be considered prior to award of the Contract.

**Q3:** Do we need to include money for bridge crane testing and recertification? This is not mentioned in Note 2, Sheet M004.

**A3:** Section 01 14 00 has been revised to address bridge crane testing.

**Q4:** Is there a dedicated Contractor lay-down area?

**A4:** It is anticipated that the area directly north of the clearwell can be used for Contractor's lay-down area (approximate 80-foot x 50-foot). Coordinate the final location of lay-down area with Owner during construction to ensure no conflict with existing underground utilities. No vehicles or equipment shall be allowed on the top slab of the clearwell. Contractor is responsible for providing adequate erosion and sediment control BMPs (including silt fence and construction entrance) per the Manual for Erosion and Sediment Control in Georgia (GSWCC, latest edition). Contractor is also responsible for returning the lay-down area to preconstruction conditions (including grading improvements and grassing) prior to Final Completion.

**Q5:** Where will the Contractor be able to put their field office?

**A5:** It is anticipated that the area directly north of the clearwell can be used for Contractor's field office. There is an existing sanitary manhole in this location. Coordinate the final location of field office with Engineer and Owner during construction.

**Q6:** Where is the 24" header isolation valve? Valve is referenced in Section 01 14 00 Coordination with Owner's Operations, Part 3.03-C-1 and 3.03-D-1.

**A6:** Valve is located on the west side of plant entrance road, about 80 feet inside the plant entrance gate.

**Q7:** Is there a drain in the 24" header trench located inside the high service pump station, or will the Contractor need to pump out the water during the shutdown?

**A7:** There is a drain in the trench, but it may not have adequate capacity. Temporary pump(s) may be required per Section 01 14 00, Paragraph 3.03-C-1-b and 3.03-D-1-b.

**Q8:** Section 01 14 00, Part 3.03-B, Stage 1 includes replacement of the surge valve and PRV. This work will require a shutdown. Is an 8-hour shutdown acceptable during this stage?

**A8:** Yes, an 8-hour shutdown during Stage 1 is acceptable.



## J.W. Smith Water Production Plant High Service Pump Station Upgrades

### ADDENDUM # 4

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**Q9:** Section 01 14 00, Part 3.03-E, includes install of the sensing line for the surge valve. Can the sensing line for the surge valve and PIT-102 tubing be replaced in Stage 1 if a shutdown is allowed?

**A9:** Yes, these lines can be replaced in Stage 1.

**Q10:** Please reference Section B on Sheet M004. Will a third shutdown be allowed in order to complete this work, or should it be coordinated to take place during one of the two allotted 8-hour shutdowns?

**A10:** A third 8-hour shutdown will be allowed to complete the work shown in Section B on Sheet M004.

**Q11:** Section 00 41 00 Bid Form, Part 3.04, Bid Item 4.1: Does the fiber optic cable include either a duct or conduit associated with this item, and if the answer is yes, its associated hangers for that conduit? What type of conduit is required?

**A11:** See revisions to Section 01 20 00, Part 1.03-B-4-b for clarification of requirements for the unit price fiber optic cable.

**Q12:** Is testing required for the uninstalled spare bowl assembly specified in Section 00 41 00 Bid Form, Unit Price Bid Item 4.4?

**A12:** The uninstalled spare pump bowl assembly shall be factory tested as part of a complete pump assembly. Section 01 20 00, Part 1.03-B-4-e has been revised to clarify this requirement.

**Q13:** Is testing required for the uninstalled spare pump motor specified in Section 00 41 00 Bid Form, Unit Price Bid Item 4.5?


**A13:** The uninstalled spare pump motor shall be factory tested as part of a complete pump assembly. Section 01 20 00, Part 1.03-B-4-f has been revised to clarify this requirement.

**Q14:** Section 00 41 00 Bid Form, Part 3.04, Bid Item 4.9: Is this process drain piping underground or above ground? This will reflect the installed cost of the drain piping.

**A14:** Bid Item 4.9 is above-ground piping inside the high service pump station. See Section 01 20 00, Part 1.03-B-4-j for additional information on this Bid Item.

**Q15:** Section 00 41 00 Bid Form, Part 3.04, Bid Item 4.11: What is the proposed diameter for the piping for the Additional Ductile Iron Pipe?

**A15:** Bid Item 4.11 is 24-inch diameter, flange x flange segments of 3-foot length. See Section 01 20 00, Part 1.03-B-4-l for additional information on this Bid Item.

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**Q16:** Is a construction trailer required?

**A16:** The Contractor is not required to provide an Engineer's field office. The Contractor is required to provide Contractor's field office as specified in Section 01 52 00 Construction Facilities, attached to this Addendum.

**Q17:** Section 01 75 00, Part 3.03-B indicates vibration testing shall be performed by a third party and paid for as a part of Cash Allowances. Please clarify if a testing allowance will be included or if Contractor is to carry cost as part of base bid.

**A17:** Vibration testing will be performed by a third-party testing firm employed by the Engineer or Owner. Contractor shall be charged for the cost of any additional tests on work performed which does not meet the specifications. Section 01 75 00 has been revised to clarify this.

**Q18:** Recommend removing Section 26 05 60, Part 1.05-A from the specification.

**A18:** The specification section will remain as written.

**Q19:** Section 26 05 60, Part 2.02-G-6 requires winding RTDs for all inverter duty motors rated 200 HP and over, "unless otherwise specified". Section 43 21 47, Part 2.13-C notes the requirement for motor thermal protection to be "thermostats". Unless otherwise clarified we intend to propose that the High Service Pump motors be fitted with Normally Closed (NC) thermostats with three (3) embedded in the windings and wired in series.

**A19:** Thermal protection requirement in the pump specification (Section 43 21 47) overrides the general requirement of the motor specification (Section 26 05 60). Provide thermostats per Section 43 21 47.

**Q20:** We have noted requirements in the pump specification that the pump manufacturer shall "coordinate the settings of the VFDs with the pump and motor to ensure proper operation". Sizing of the VFDs and soft starts and ensuring that they work properly with the driven equipment is typically a requirement in engineering specs, with a requirement of "unit responsibility". There are discussions taking place at the Hydraulic Institute along these lines as it reduces the risk of the Owner by ensuring a complete pumping system (drives, motors and pumps) are provided by one vendor entity as opposed to fragmenting the system provision. Given the importance of having the entire system work together, and to eliminate the possibility of "finger pointing" should the VFDs/soft starts and the pumps be improperly coordinated, we would suggest that the Engineer consider requiring "unit responsibility". Requiring unit





## J.W. Smith Water Production Plant High Service Pump Station Upgrades

### ADDENDUM # 4

DATE	Wednesday, October 28, 2020
BID NUMBER	2020-PME-17
PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 3, 2020 at 2:00 p.m. local time

**ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.**

responsibility for this project would consolidate the functional responsibility of the system to the pumping system supplier who would provide the VFDs/soft starts along with the pumps/motors. This also "consolidates" warranties of the system, ensures optimal integration, coordination and scheduling providing the owner and contractor with one vendor entity during construction, testing, commissioning & start-up of the entire pumping system.

**A20:** There is no change to the Bidding Documents in response to this question.

**Q21:** In Section 43 21 47, Part 2.10-B requires pump design such that lateral critical speeds are 25% above and below the operating range of the pump. This conflicts with Part 1.05-A that requires no lateral analysis and only a 20% margin on the structural analysis. Please clarify.

**A21:** Section 43 21 47, Part 2.10-B has been revised to refer to the dynamic analysis specified in Part 1.05-A. The table in Part 1.05-A has also been revised.

**Q22:** In Section 43 21 47, Part 1.05-A is conflicting in that it notes multiple analyses, but only requires a Level 1 Structural analysis with no Lateral or Torsional analysis required. It also alludes to a Finite Element Analysis (FEA) of limited scope. Please clarify the requirements for the analysis(es).


**A22:** Manufacturer shall conduct a Level 1 Torsional Dynamic Analysis and a Level 2 Structural Analysis, including any piers or elevated slabs in the dynamic analysis model, as well as the weight of the automatic electric check pump control valve connected to the pump. Section 43 21 47 has been revised to reflect this change. For structural detail drawings of the existing concrete slab, see Section 00 73 00, Supplementary Conditions, Part 5.03, drawings, in particular the drawing sets from Robert and Company dated June 1983 and July 1989. These drawings can be downloaded from Quest CDN 'Project' page by clicking the 'Q&A' button.

**Q23:** Section 43 21 47, Part 2.03-E states the following:

- Minimum NPSHa at the secondary operating point is 34 feet.
- Maximum NPSHr at the secondary operating point is 26 feet.
- Minimum submergence is 3.5 feet (42 inches).

We propose a pump that has an NPSHr requirement of 42 feet at the secondary operating point and a minimum submergence of 56 inches at the primary design point. No HWL or LWL data is provided in the project drawings. Is our selection acceptable and what are the intended HWL and LWL levels?

**A23:** Pump selection with NPSHr requirement of 42 feet at the secondary operating point would not meet the specification requirement and would not be acceptable. Low

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
	<b>ADDENDUM # 4</b>	
	DATE	Wednesday, October 28, 2020
	BID NUMBER	2020-PME-17
	PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 3, 2020 at 2:00 p.m. local time	
<b>ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.</b>		

Water Level (LWL) in the clearwell is approximately 768.00 feet. High Water Level (HWL) in the clearwell is approximately 777.00 feet. LWL and HWL provided in this Answer are approximate. The requirements in Section 43 21 47 shall govern.

**Q24:** Section 43 21 47, Part 2.04-D notes that cast iron heads (if specified) are to have 125# flanges. Section 43 21 47, Part 2.12 allows discharge heads to be cast iron which would prevent the air release valve connection from being incorporated into the discharge head. Recommend removing the last sentence of Part 2.04-D and removing cast iron from Part 2.12 discharge head materials.

**A24:** There is no change to the Bidding Documents in response to this question.

**Q25:** We have found that impeller wear rings are not always necessary considering if maintenance is required on a bowl assembly, replacement of impellers usually takes place regardless of wear for preventative maintenance purposes. The process of manufacturing the wear rings into the assembly involves machining away at the existing material of the impeller to make room for the wear ring. This adds significant material and labor costs in manufacturing. Given this information does the engineer still intend on requiring impeller wearing rings?

**A25:** Wear rings are required per Section 43 21 47, Part 2.12-A. There is no change to the Bidding Documents in response to this question.

**Q26:** Is testing required for the spare parts specified in Section 43 21 47, Part 2.15-A?


**A26:** The spare parts specified in Section 43 21 47, Part 2.15-A do not need to be tested as part of a complete pump assembly.

**Q27:** Section 43 21 47, Part 3.02-F, requires a 2-week operation period. Please clarify if the 2-week pump operation period is to be conducted after each pump is installed, a pair of pumps are installed or is the requirement for a one-time 2-week period once all 4 pump are installed.

**A27:** The 2-week operation period is to be conducted after each pair of pumps is installed. Section 43 21 47, Part 3.02-F has been revised to clarify this. See also Section 01 91 13, Part 3.02 and Section 01 14 00, Part 3.02-E.

**Q28:** Section 43 21 47, Part 3.04 is labeled as Field Painting. We recommend changing this to Factory Coating.

**A28:** There is no change to the Bidding Documents in response to this question. If proposed by the Contractor, factory painting of the pump would be acceptable in lieu of field painting, provided that the coating system meets all other applicable requirements

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
	<b>ADDENDUM # 4</b>	
	DATE	Wednesday, October 28, 2020
	BID NUMBER	2020-PME-17
	PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 3, 2020 at 2:00 p.m. local time	
<b>ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.</b>		

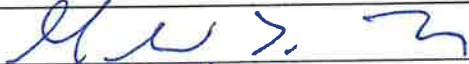
of the specification. Contractor would paint exposed portion of the pump (above the concrete slab) to match Owner-requested color.

**Q29:** The standard interior bowl coating from the foundry includes glass / Scotchkote 134 with a thickness of 8-10 mils, please confirm this is acceptable.

**A29:** There is no change to the Bidding Documents in response to this question.

**Q30:** There is limited space above and below the windows on the west interior wall for routing conduits. Would it be acceptable to route conduit in front of the windows?

**A30:** Route the conduits below the windows as much as possible. Provide multiple horizontal racks as required attached to the walls to support multiple rows of conduits. If necessary, the bottom of the windows may be partially blocked to accommodate the conduit installation. Contractor shall provide a conduit installation layout for the Engineer for review and approval prior to installing the conduits. With the Engineer's prior approval, some of the control conduits shown for each pump may be combined to facilitate the installation. Existing disconnects switches for two unit heaters are located in the area below the windows potentially in the way of the new conduits. Contractor shall relocate the existing disconnect switches for all unit heaters to a lower level accessible for operation without requiring a ladder. See Drawing revisions included with this Addendum.

<b>Acknowledgment of receipt of this addendum must be signed and included in your bid response.</b>	
COMPANY NAME	LAKE SHORE ENGINEERING
SIGNATURE	
DATE	2/5/21

#### ATTACHMENTS

1. Section 00 41 00 Bid Form
2. Section 01 52 00 Construction Facilities
3. Section 01 91 13 General Commissioning Requirements

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## J.W. Smith Water Production Plant High Service Pump Station Upgrades

### ADDENDUM # 5

DATE	Friday, October 30, 2020
BID NUMBER	2020-PME-17
PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 17, 2020 at 2:00 p.m. local time

**ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.**

**The following REVISIONS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

#### **1. Section 00 11 16 Advertisement for Competitive Sealed Bid**

- a. Opening paragraph of page 1, revise as follows: "Separate sealed Bids for the construction of J.W. Smith Water Production Plant High Service Pump Station Upgrades will be received by the Clayton County Water Authority (CCWA) at 1600 Battle Creek Road, Morrow, Georgia 30260 until 2:00 p.m. local time, the ~~3rd day of November, 2020~~ **17th day of November, 2020**, and then at said office opened and read aloud. Any bids received after the specified time will not be considered."
- b. Sixth paragraph of page 3, revise as follows: "All questions related to the Project shall be submitted by email no later than 2:00 p.m., local time, on ~~Tuesday, October 22, 2020~~ **Thursday, November 5, 2020** to Eddie McCallum at [emccallum@hazenandsawyer.com](mailto:emccallum@hazenandsawyer.com). Questions, if answered, will be addressed by Addenda 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.

#### **2. Section 00 21 13 Instructions to Bidders**

- a. Part 1.01-A, revise as follows: "Bids will be received by the Clayton County Water Authority (herein called the "Owner"), at 1600 Battle Creek Road, Morrow, Georgia 30260 until 2:00 p.m., local time, ~~3rd day of November, 2020~~, **17th day of November, 2020**, and only the names of the proposing firms will be read aloud."
- b. Part 1.09-A, revise as follows: "No interpretations of the meaning of the Contract Documents will be made orally to any Bidder. Every request for such interpretations should be made in writing and addressed to Eddie McCallum at [emccallum@hazenandsawyer.com](mailto:emccallum@hazenandsawyer.com). To be given consideration, such requests must be received by 2:00 p.m. on ~~October 22, 2020~~ **November 5, 2020** to permit written distribution of the response to all Bidders.

All other terms and conditions of the PROJECT MANUAL remain unchanged.



1600 Battle Creek Road  
Morrow, GA 30260

## J.W. Smith Water Production Plant High Service Pump Station Upgrades

### ADDENDUM # 5

DATE	Friday, October 30, 2020
BID NUMBER	2020-PME-17
PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 17, 2020 at 2:00 p.m. local time

**ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.**

*Acknowledgment of receipt of this addendum must be signed and included in your bid response.*

COMPANY NAME	LAKE SHORE ENGINEERING
SIGNATURE	[Handwritten Signature]
DATE	2/5/21

### ATTACHMENTS

1. NONE



## J.W. Smith Water Production Plant High Service Pump Station Upgrades

### ADDENDUM # 6

DATE	Friday, November 6, 2020
BID NUMBER	2020-PME-17
PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 17, 2020 at 2:00 p.m. local time

**ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.**

**The following REVISIONS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

**1. Section 01 73 00 Execution of Work**

- a. Part 1.03-D-1, revise as follows, "~~Owner has the right to request any demolished equipment and materials be retained at their discretion See Section 01 11 00 for salvage of equipment and materials~~".
- b. Part 1.03-D-2, delete, "~~Contractor shall move salvaged equipment and materials to storage areas located at the Site as instructed by Owner.~~"
- c. Part 1.03-D-3, delete, "~~Architectural equipment and materials may be salvaged for incorporation into the Work when approved by Engineer.~~"

**2. Section 02 83 19.13 Lead-Based Paint Abatement**

- a. Part 1.08-D, revise as follows, "In the event that ~~City of Durham~~ **Owner's** personnel must enter the lead control area for reasons unrelated to the supervision or inspection of work under this Contract (under emergency conditions), the Contractor shall stop work and immediately clean up any loose debris, so as to permit safe entry by ~~City of Durham~~ **Owner's** personnel. Abatement work shall not proceed until ~~City of Durham~~ **Owner's** personnel have left the control area."


**The following QUESTION and ANSWERS shall be incorporated into the PROJECT MANUAL for the above-referenced project:**

**Q1:** We are running into some difficulty meeting the requirement of critical speeds falling above the 25% max speed in Section 43 21 47, Part 2.10-B. At the requested 400 hp motor size, we are slightly missing it by about 3Hz. However, at a smaller 350hp motor size, we have a motor manufacturer that would be safely above the 25% limit. Please advise on if the 350 hp size is acceptable.

**A1:** Provide 400 hp motors per Section 43 21 47, Part 2.13-C. See Addendum 4 for revised dynamic analysis requirements.

**Q2:** Since the bid date has been postponed until the 17th, is there any way possible for one of our estimators to look at the site?

**A2:** There are no additional days scheduled for site visits.

 <p>CLAYTON COUNTY <b>Water</b> AUTHORITY</p> <p>1600 Battle Creek Road Morrow, GA 30260</p>	<b>J.W. Smith Water Production Plant High Service Pump Station Upgrades</b>	
	<b>ADDENDUM # 6</b>	
	DATE	Friday, November 6, 2020
	BID NUMBER	2020-PME-17
	PRE-BID MEETING DATE	Tuesday, October 13, 2020 at 2:00 p.m. local time
BID OPENING DATE	Tuesday, November 17, 2020 at 2:00 p.m. local time	
<b>ADDENDUM MUST BE SIGNED AND INCLUDED IN YOUR RESPONSE TO THE RFB.</b>		

**Q3:** Do the 4 pressure gauges require diaphragm seals or isolating rings? Per the specs, it calls to supply in accordance with Section 40 79 00, but the P&IDs do not show any requirements for this. Currently we are planning to just provide each pressure gauge with only a ball valve.

**A3:** Requirements for furnishing accessories such as diaphragm seals and instrument isolation rings for individual instruments are shown on the Instrument Schedule and are reflected in the symbols for the individual instruments on the P&IDs.

**Q4:** Does the Owner want to salvage any of the existing equipment to be removed?

**A4:** Owner does not want to salvage any of the existing equipment to be removed. See Section 01 11 00, Part 1.14. Section 01 73 00 has been revised to clarify this.


**Q5:** Will the Owner/Engineer witness the performance tests in the manufacturer's shop?

**A5:** Owner/Engineer witnessed performance tests in the manufacturer's shop are not specified in the individual equipment specification (Section 43 21 47) and are therefore not required as part of this project.

**Q6:** Section 02 83 19.13, Part 2.04 references lead paint. Is there lead paint located within the building where the pumps and piping are located? If so, please provide the approximate surface area in quantity for lead abatement.

**A6:** Refer to "Report of Limited Hazardous Materials Assessment for Asbestos-Containing Materials and Protective Paint Coatings" by Willmer Engineering, July 2020. Regarding access to this and other available reports on Quest CDN, see Addendum #3, Q&A #3. Contractor will be responsible for determining the extent of hazardous material that requires removal.

All other terms and conditions of the PROJECT MANUAL remain unchanged.

<b>Acknowledgment of receipt of this addendum must be signed and included in your bid response.</b>	
COMPANY NAME	LAKESHORE ENGINEERING
SIGNATURE	
DATE	2/5/21

## ATTACHMENTS

1. NONE



**SECTION 00 11 16**  
**ADVERTISEMENT FOR COMPETITIVE SEALED BID**

Clayton County Water Authority  
1600 Battle Creek Road  
Morrow, Georgia 30260

Name of Project: **J.W. Smith Water Production Plant High Service Pump Station Upgrades**

Separate sealed Bids for the construction of **J.W. Smith Water Production Plant High Service Pump Station Upgrades** will be received by the Clayton County Water Authority (CCWA) at 1600 Battle Creek Road, Morrow, Georgia 30260 until 2:00 p.m. local time, the ~~3rd day of November, 2020~~ **17<sup>th</sup> day of November, 2020** <sup>[ADD NO. 5]</sup>, and then at said office opened and read aloud. Any bids received after the specified time will not be considered.

A non-mandatory pre-bid conference for the Project will be held on Tuesday, October 13, 2020 at 2:00 p.m. local time to discuss the Project. Attendance at the pre-bid conference is encouraged but not required.

Due to the ongoing concerns with the COVID-19 pandemic, the CCWA has decided to host the bid opening and the pre-bid conference as conference call meetings.

To join the **pre-bid conference call**, use the Microsoft Teams link or below call-in number:

[Join Pre-Bid Microsoft Teams Meeting](#)

or

Phone number: [+1 470-443-0872](#)

Conference ID: 569 464 728#

To join the **bid opening conference call**, use the Microsoft Teams link or below call-in number:

[Join Bid Opening Microsoft Teams Meeting](#)

or

Phone number: [+1 470-443-0872](#)

Conference ID: 241 153 31#

Bidders are required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. Each Bidder shall schedule a Site visit on either Tuesday, October 20 or Wednesday, October 21, 2020, from 9:00 a.m. to 12:00 p.m. local time each day at J.W. Smith Water Production Plant (WPP), 82 Northbridge Road, Hampton, GA 30228. Bidder shall schedule the Site visit at least 24 hours in advance by contacting Eddie McCallum at 404-513-4214. Each Bidder shall be limited to a maximum of 2 visitors during the Site visit. Bids will not be accepted

from Bidders who do not attend the Site visit. It is each Bidder's responsibility to sign in at the Site visit to verify its participation. Bidders must sign in using the name of the organization that will be submitting a Bid. A list of qualified Bidders that attended the Site visit and are eligible to submit a Bid for this Project will be issued in an Addendum. During the visit, the Bidder must not disturb any ongoing operations at the Site.

As part of the effort to maintain the health and safety of CCWA personnel – as well as visitors – CCWA has put in place the following procedures, practices and protocols:

- A: Each visitor shall complete a copy of the CCWA COVID-19 Employee/Visitor Questionnaire form. A copy of this form will be sent to prospective visitors by email at the time the Site visit is scheduled. The completed form shall be provided to CCWA representative upon entry to the Facility (J.W. Smith WPP).
- B: Each visitor's temperature shall be taken by CCWA representative using a digital thermometer upon entry to the Facility. Visitor's temperature must be below 100.4 degrees Fahrenheit to be granted entry to the Facility.
- C: Visitor(s) shall provide, wear, and use their own Personal Protective Equipment (PPE - face mask/covering, gloves, disinfectant) while in public areas for the duration of the Site visit. The entire property of the J.W. Smith WPP is considered a 'public area'.
- D: Visitor(s) shall practice physical (social) distancing while at the Facility by providing others a personal space of at least six (6) feet during the visit.

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

- A: Four (4) new high service pumps
- B: New pump control valve and piping for each high service pump
- C: Miscellaneous new valves
  - a. Surge anticipator valve
  - b. Pressure reducing valve
  - c. Butterfly valves
  - d. Combination air and vacuum valves
- D: New MCCs, panelboard, transformer, and miscellaneous electrical equipment in electrical room.
- E: New motor controllers in MCCs
  - a. Two (2) high service pumps on VFD
  - b. Two (2) high service pumps on RVSS
- F: Air conditioning for electrical room
- G: New instrumentation and control equipment as required

The Bidding Documents, consisting of Advertisement for Competitive Sealed Bid, Instructions to Bidders, Bid Form, Bid Bond, Construction Contract, Performance Bond, Payment Bond, General and Supplementary Conditions, Specifications, Drawings, and Addenda may be examined at the main offices of the Owner at 1600 Battle Creek Road, Morrow, Georgia.

Copies of Bidding Documents are available at <https://www.questcdn.com> upon payment of \$15.00, nonrefundable, for download and printing access. All Bidders are required to purchase a

set of the Bidding 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 Bidding Documents including Addenda. Bidding Documents can be searched for in the Quest CDN project search bar under Project Number (eBidDoc#) **7276101**. Contact QuestCDN at 952.233.1632 or [info@questcdn.com](mailto: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 Bidding Documents, purchaser agrees to allow company information (company name, address, phone and email) to be published as a "planholder". The Owner is not obligated to consider a Bidder's proposal if Bidder is not on record with QuestCDN as having received a complete set of Bidding Documents from QuestCDN.

A list of planholders may be obtained by contacting Eddie McCallum at [emccallum@hazenandsawyer.com](mailto:emccallum@hazenandsawyer.com).

Each Bid must be submitted on the prescribed Bid Form and accompanied by Bid Security as prescribed in the Instructions to Bidders, payable to the Owner in an amount not less than 5 percent of the Bid Amount, and a letter from a surety company stating they are licensed to conduct business in the State of Georgia. Failure to supply the bond or to sign the proposal will be grounds for rejection.

In order to perform public work, the Bidder and its subcontractors, prior to award of Contract, shall hold or obtain such licenses as required by state statutes, and federal and local laws and regulations. All firms must be licensed in Georgia and have a registered agent in Georgia.

All questions related to the Project shall be submitted by email no later than 2:00 p.m., local time, on ~~Tuesday, October 22, 2020~~ **Thursday, November 5, 2020** [ADD NO. 5] to Eddie McCallum at [emccallum@hazenandsawyer.com](mailto:emccallum@hazenandsawyer.com). Questions, if answered, will be addressed by Addenda 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.

Owner shall make an award, if an award is made, to the lowest responsible and responsive Bidder.

The successful Bidder will be required to furnish the additional Bonds prescribed in the Contract Documents.

Owner's right is reserved to reject all Bids or any Bid not conforming to the intent and purpose of the Bidding Documents.

Dated this 23rd day of September 2020.

Clayton County Water Authority

Mr. Robin Malone, Chair

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**SECTION 00 21 13**  
**INSTRUCTIONS TO BIDDERS**

**1.01 Instructions**

- A. Bids will be received by the Clayton County Water Authority (herein called the "Owner"), at 1600 Battle Creek Road, Morrow, Georgia 30260 until 2:00 p.m., local time, ~~3<sup>rd</sup> day of November, 2020~~ **17<sup>th</sup> day of November, 2020** [ADD NO. 5], and only the names of the proposing firms will be read aloud.
- B. Each Bid must be submitted in a sealed envelope, addressed to the Clayton County Water Authority, 1600 Battle Creek Road, Morrow, Georgia 30260.
- C. Each sealed envelope containing a Bid must be plainly marked on the outside as Bid for the J.W. Smith Water Production Plant High Service Pump Station Upgrades, and the envelope should bear on the outside the name and address of the Bidder, and the Bidder's license number if applicable. If forwarded by mail, the sealed envelope containing the Bid must be enclosed in another envelope addressed to the Owner at 1600 Battle Creek Road, Morrow, Georgia 30260.
- D. The Owner may reject any and all Bids. Any Bid may be withdrawn prior to the above-scheduled time for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw a Bid within 60 days after the actual date of the opening thereof. Should there be reasons why the Contract cannot be awarded within the specified period; the time may be extended by mutual agreement between the Owner and Bidder.
- E. The Advertisement for Competitive Sealed Bids is incorporated by reference as if fully set out herein.

**1.02 Defined Terms**

- A. Terms used in these Instructions to Bidder have the meanings assigned to them in the General Conditions.
- B. Certain additional terms used in the Bid Documents have the meanings indicated below which are applicable to both the singular and plural thereof:
  - 1. Bidder: One who submits a Bid to Owner as distinct from a subbidder, who submits a Bid to a Bidder. Throughout these Bidding Documents, the words Bidder and Bid will be used interchangeably with the terms Proposer and Proposal.
  - 2. Apparent Low Bidder: That Bidder whose Bids, as offered in the Bid Form, represent the lowest total as determined by the Base Bid.

3. Total Base Bid Price: Includes Bid for the Lump Sum Work plus extended total for Unit Price Work and the Allowances.
4. Successful Bidder: Lowest, responsible and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award. ***Basis of award shall be either the Total Base Bid or Total Alternate Bid, at the sole discretion of the Owner.*** [ADD NO. 3]

### 1.03 Copies of Bidding Documents

- A. Copies of Bidding Documents are available at <https://www.questcdn.com> upon payment of \$15.00, nonrefundable, for download and printing access. All Bidders are required to purchase a set of the Bidding 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 Bidding Documents including Addenda. Bidding Documents can be searched for in the Quest CDN project search bar under Project Number (eBidDoc#) **7276101**. Contact QuestCDN at 952.233.1632 or [info@questcdn.com](mailto:info@questcdn.com) for assistance with navigating the website and digital project information. Hard copies of Bidding Documents are the responsibility of the Bidders.
- B. By purchasing the Bidding Documents, purchaser agrees to allow company information (company name, address, phone and email) to be published as a "planholder". The Owner is not obligated to consider a Bidder's proposal if Bidder is not on record with QuestCDN as having received a complete set of Bidding Documents from QuestCDN.
- C. Complete sets of Bidding Documents must be used in preparing Bids. Neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from use of incomplete sets of Bidding Documents.
- D. Bidding Documents made available on the above terms are only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

### 1.04 Pre-Bid Conference and Site Visits

- A. A non-mandatory pre-bid conference will be held at the time and location indicated in Section 00 11 16 Advertisement for Competitive Sealed Bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.
- B. A mandatory site visit will be held at the times and location indicated in Section 00 11 16 Advertisement for Competitive Sealed Bid. Representatives of Owner and Engineer will be present to help sign-in Bidders and provide a general tour of the facility. Bidder shall schedule the Site visit at least 24 hours in advance by contacting Eddie McCallum at 404-513-4214. Each Bidder shall be limited to a maximum of 2 visitors during the Site visit. Bids will not be accepted from Bidders who do not attend the site visit. It is each Bidder's responsibility to sign in at the site visit to verify its participation. Bidders must

sign in using the name of the organization that will be submitting a Bid. A list of qualified Bidders that attended the Site visit and are eligible to submit a Bid for this Project will be issued in an Addendum.

- C. Engineer will transmit to prospective Bidder of record such Addenda as Engineer considers necessary in response to questions arising during the conference. Oral statements may not be relied upon and will not be binding or legally effective.

#### **1.05 Preparation of Bid**

- A. All Bids must be made on the separate Bid form furnished with these Contract Documents. Do not write on or remove pages from the Specification book. All blank spaces for Bid prices must be filled in, in ink or typewritten, and the Bid form must be fully completed and executed when submitted. Only one copy of the Bid form is required.
- B. Bid prices must be written in both words and numerals where required; in the event of a conflict, the words shall govern.
- C. The cash allowances represent the Owner's estimate of the cost of the various products and services listed in the Bid Form as Cash Allowances. The Contract Price will be adjusted by Change Order to reflect the actual cost.
- D. Bids signed for a corporation shall have the correct corporate name thereof as listed with the Office of the Secretary of State of Georgia and shall be executed by the president, vice-president or other authorized officer of the corporation and attested by the secretary, assistant secretary, or other authorized officer of the corporation with the corporate seal affixed thereto. Bids by any other type of business entity shall be so executed as to bind that particular type of business entity to the full extent allowed under all applicable provisions of Georgia and United States law. A conditional or qualified Bid will not be accepted.
- E. The Bid shall contain an acknowledgement of receipt of all Addenda; the numbers of which shall be filled in on the Bid Form. Failure to acknowledge receipt will cause Bid to be considered in nonconformance.
- F. The address and telephone number for communications regarding the Bid shall be shown.
- G. Bidder shall comply with the Bid Form requirement for identification of Manufacturers or Suppliers of certain equipment, product, or systems.
- H. The Bid shall contain evidence of Bidder's authority and qualification to do business in the state of Georgia. Bidder's Georgia Utility Contractor license number for the state of Georgia shall also be shown on the Bid Form.

## **1.06 Conditions of Work**

- A. The Contract Documents contain the provisions required for the construction of the Project. Information obtained from an officer, agent, or employee of the Owner, Engineer, or any other person shall not affect the risks or obligations assumed by the Contractor or relieve the Contractor from fulfilling any of the conditions of the Contract. Each Bidder is responsible for inspecting the Site and for reading and being thoroughly familiar with the Contract Documents. A Bidder shall in no way be relieved from any obligation with respect to the Bid by the failure or omission of the Bidder to be so familiar.
- B. It is each Bidder's responsibility, before submitting a Bid, to:
  - 1. Examine thoroughly the Bid Documents and other related data identified in the Bid Documents.
  - 2. Inspect 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.
  - 3. Consider federal, state, and local laws and regulations that may affect cost, progress, performance, or furnishing of the work.
  - 4. Study and carefully correlate Bidder's knowledge and observations with the Bid Documents and such other related data.
  - 5. Promptly notify Engineer of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in or between the Bid documents and such other related documents.
- C. Reference is made to the Supplementary Conditions for identification of:
  - 1. Those Reports, if any, of explorations and tests of subsurface conditions at the Site which have been utilized by Engineer in preparation of the Bid Documents.
  - 2. Those Drawings, if any, of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are at or contiguous to the site which have been utilized by Engineer in preparation of the Bid documents.
  - 3. Copies of such Reports and Drawings that are not included with the Bid Documents may be examined at the Clayton County Water Authority main offices at 1600 Battle Creek Road, Morrow, Georgia during regular business hours.
- D. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, other physical conditions and Underground Facilities,

and possible changes in the Contract Documents due to differing or unanticipated conditions appear in Article 5 of the General Conditions.

- E. Before submitting a Bid, each Bidder will be responsible to make or 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 and which may affect cost, progress, performance, or furnishings of the work and which Bidder deems necessary to determine its Bid.
- F. 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 shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.
- G. Reference is made to the General Requirements for identification of the general nature of work that is to be performed at the Site by Owner or others and that relates to 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 by others.
- H. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this article; that without exception the Bid is premised upon performing and furnishing the work required by the Bid 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 Bid Documents; that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bid Documents, and the written resolution thereof by Engineer is acceptable to Bidder; and that the Bid Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the work and for preparing the Bid.
- I. All applicable laws, ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout performance of the work.

#### **1.07 Reputation of Bidder**

- A. The Owner may make such investigations as it deems necessary to further determine the ability of the Bidder and its Subcontractors to perform the work. The Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request.
- B. To further demonstrate qualifications to perform the work, Bidder shall submit, within five days of Owner's request, written evidence such as financial data, previous experience, present commitments, and other such data as may be called for below.

- C. Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to Contract award.
- D. Nothing indicated herein will prejudice Owner's right to seek additional pertinent information as is provided in Award of Contract.
- E. License Requirements: In order to perform public work, Bidder and its Subcontractors, where required by law, prior to award of Contract, shall hold or obtain a Utility Contractors License.
- F. Nonresident Bidders: Pursuant to Code of Georgia 48-13 the following shall be completed prior to Award:
  - 1. Register with Commissioner of Labor and pay fee.
  - 2. Execute and file with Commissioner of Labor, Bond worth 10 percent of Contract, conditioned that state and local taxes will be paid.
  - 3. Appoint, in writing, Secretary of State to be lawful agent upon whom all lawful process, proceedings or notices may be served.
  - 4. Comply with any and all other requirements of Georgia law applicable to nonresident contractors.
- G. Minimum Contractor Corporate Experience: The Bidder must be able to demonstrate the following experience as a condition of being deemed a responsible Bidder:
  - 1. Successful completion of at least three water or wastewater plant upgrades, water treatment plant upgrades, or pump station upgrades or modifications projects, each with a minimum construction value of \$3 million dollars.
  - 2. Each of the projects must have been completed since January 1, 2015. Projects currently under construction will not qualify.
  - 3. Experience to be deemed a responsible Bidder must be demonstrated by the corporation (see Section 00 45 13 – Bidder's Qualifications). While experience of individual project team members is a favorable attribute, it will not be considered as a substitution for corporate experience.

#### **1.08 Bid Security**

- A. Each Bid must be accompanied by a Bid Bond payable to the Owner for five percent of the project Base Bid. In the alternative, Contractor may deposit with Owner a cashier's check, certified check or cash in an amount equal to five percent of the project Base Bid, said deposit made under the same conditions as the furnishing of a surety bond.



Approval of the Bid Security by Owner shall be a condition precedent to the award of the Contract

- B. Attorneys-in-fact who sign Bid Bond or Payment Bonds and Performance must file with each Bond a certified and effective dated copy of their power of attorney.

#### **1.09 Addenda and Interpretations**

- A. No interpretations of the meaning of the Contract Documents will be made orally to any Bidder. Every request for such interpretations should be made in writing and addressed to Eddie McCallum at [emcallum@hazenandsawyer.com](mailto:emcallum@hazenandsawyer.com). To be given consideration, such requests must be received by 2:00 p.m. on ~~October 22, 2020~~ **November 5, 2020** [ADD NO. 5] to permit written distribution of the response to all Bidders.

#### **1.10 Material Suppliers and Subcontractors**

- A. Upon execution of the Contract, Contractor shall submit to Owner the identity of all Subcontractors, Suppliers, and other person and organizations proposed for those portions of the work identified in paragraph 7.06. of the General Conditions. Information shall include an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person, or organization.
- B. If Successful Bidder declines to make a substitution of Subcontractor, Supplier, person, or organization acceptable to Owner, as required by paragraph 7.05 E. of the General Conditions, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, and other persons and organizations. Declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person, or organization listed 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 the General Conditions paragraph 7.05 B.

#### **1.11 MBE/WBE/DBE Participation**

- A. It is the policy of the Clayton County Water Authority (CCWA) to promote award of sub-agreements for goods and/or services to qualified minority, women and disadvantaged-owned businesses. Bidders are encouraged to solicit minority, women and disadvantaged-owned businesses whenever they are potential sources.
- B. Bidders are encouraged to utilize the services and assistance of the U.S. Small Business Administration (SBA), and the Office of the Department of Commerce Minority Business Development Agency (MBDA). These agencies can provide assistance in securing the names of qualified minority, women and disadvantaged-owned businesses.

- C. The Georgia Department of Transportation (DOT) has established a list of qualified Disadvantaged Business Enterprises. Information is available online at: <http://www.dot.ga.gov/PS/Business/DBE>
- D. The successful bidder will be asked to provide, along with his Request for Payment each month, a list of qualified MBE/WBE/DBE businesses utilized on this Project and dollar amounts of MBE/WBE/DBE contracts.

#### **1.12 SLBE Participation**

- A. Clayton County Water Authority (CCWA) has implemented a Small Local Business Enterprise Program to promote full and open competition in all government procurement and purchasing.
- B. Goals for participation of Small Local Business Enterprises (SLBEs) are set on a contract by contract basis for each specific prime contract with subcontracting possibilities.
- C. CCWA wants to ensure that Bidders are non-discriminatory in their process of selecting subcontractors. CCWA also wants to encourage Bidders to utilize small, minority or woman-owned businesses whenever possible.
- D. Section 00 43 39 SLBE Forms 1-4 must be completed for Bidder to be considered responsive, regardless of participation.
- E. The participation goal for this procurement is 10 percent.

#### **1.13 Nondiscrimination**

- A. No Bidder or Subcontractor, nor any person on its behalf, shall refuse to hire, employ, or license, nor bar or discharge from employment, any individual between the ages of 40 and 70 years, solely upon the ground of age, when the reasonable demands of the position do not require such an age distinction, provided that individual is qualified physically, mentally, and by training and experience to perform satisfactorily the labor assigned to him or for which he applies.

#### **1.14 Wage Rates**

- A. The work under these Bid documents is to be paid for by public funds; therefore, minimum prevailing wage rates published by the state are applicable.

#### **1.15 Contract Documents**

- A. All elements of the Contract Documents except Addenda are itemized by the Tables of Contents and Index to Drawings. Each Bidder is responsible for ascertaining that the Bidder has a complete set of Documents and that each page and sheet thereof applies to the correct project and bears the correct date. Neither the Owner nor the Engineer



assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

#### **1.16 Submission of Bids**

- A. Bid Form and attachments may be photocopied for submission of Bids.
- B. Submit Bids not later than the time prescribed, at the place, and in the manner set forth in the Advertisement for Bids. Enclose Bids in an opaque sealed envelope, marked with the Project title and name and address of Bidder and accompanied by the Bid security and other required documents. 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. Bids must be made on the prescribed Bid Form provided and submitted with the attachments listed below.
- C. Bidders shall complete and submit the following attachments with its Bid:
  - 1. Section 00 43 13 Georgia Bid Bond
  - 2. Section 00 43 39 SLBE Forms 1 – 4
  - 3. Section 00 45 19 Statement of Noncollusion
  - 4. Section 00 45 75 Georgia Security and Immigration Compliance Act of 2006
  - 5. **Section 00 45 13 Bidders Qualifications** [Add No. 2]
- D. Only one Bid from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the Owner that any Bidder is interested in more than one Bid for Work contemplated, all Bids in which such Bidder is interested will be rejected.
- E. Information submitted by the Bidder in the Bid process shall be subject to disclosure after Bid award in accordance with the Georgia Open Records Act. Proprietary information must be identified and be accompanied by a signed affidavit outlining the redacted information. Entire Bids may not be deemed proprietary.

#### **1.17 Contract Award**

- A. Bids may be modified or withdrawn by an appropriate document duly executed (in the same manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.
- B. If within 48 hours after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that

Bidder will be disqualified from further consideration on the work to be provided under the Contract Documents.

- C. If the Contract is to be awarded, Owner will give Successful Bidder Notice of Award within 60 days after the day of the Bid opening.
- D. Owner reserves its right to reject any or 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. Discrepancies in the quantity multiplied by unit price and the extended total amount will be resolved in favor of the quantity multiplied by unit price. 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.
- E. In evaluating Bids, Owner will consider the qualifications of Bidders, whether or not the Bids comply with the prescribed requirements, and unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award. Owner shall have the right to accept alternates in any order or combination, unless otherwise provided in the Bid Documents.
- F. The Contract will be awarded to the successful Bidder. The selected firm will be given written notification of being selected and the Owner reserves the right to negotiate however a contract must be executed with the selected firm prior to the beginning of the actual services. In general, the contract will comply with applicable laws and standard provisions and shall contain the following terms: Detailed scope of services, schedule for providing services, and cost of services. The Bidder to whom the award is made will be notified at the earliest possible date. The Owner reserves the right to reject any and all Bids and to waive any informality in Bids received whenever such rejection or waiver is in its interest.
- G. In the event that, after the acceptance of a Bid by the Board of Directors of the CCWA, any unsuccessful Bidder wishes to contest such action, a written "Notice of Contest" must be filed with the General Manager no later than close of business on the 5th business day after the selection of successful Bidder by the Board. Said Notice shall be an express condition precedent to the right of any Bidder to challenge or contest any award or to otherwise contend that it should have been awarded the contract. Failure to timely file such notice shall forever preclude the filing of a contest of the award, or any civil action in the courts of the state of Georgia or of the United States.
- H. The successful Bidder to whom the Contract is awarded will be required to execute the Contract and obtain the Performance Bond and Payment Bond in the amount not less than 100% of the contract amount required herein within 10 calendar days from the date

when Notice of Award is delivered to that Bidder. Approval of the Payment Bond and Performance Bond by the Owner shall be a condition precedent to execution of the Contract by the Owner. In the event the Contract Price is adjusted by appropriate Change Order, the penal sum of the surety on the Payment Bond and the Performance Bond shall be deemed increased by like amount. The Notice of Award shall be accompanied by the Contract and Bond forms to be executed. In case of failure of the successful Bidder to execute the Contract, the Owner may at its option consider the Bidder in default, in which case the Bid Bond accompanying the Bid shall become the property of the Owner.

- I. The Owner, within 10 days of receipt of an acceptable Insurance, Performance Bond, Payment Bond and Contract signed by the successful Bidder, shall sign and return to the Bidder an executed duplicate of the Contract and the Bid Bond. Should the Owner not execute the Contract within the allowed period, the successful Bidder may give written notice of intent to withdraw the signed Contract. If 10 days after the Owner has received notice of intent to withdraw by the successful Bidder, the Owner has not executed the Contract; the Bidder may be written notice withdraw the signed Contract without further liability on the part of either party. Such notice of withdrawal shall be effective upon receipt of the notice by the Owner, and the Owner immediately thereupon shall return to the successful Bidder the Bid Bond.
- J. The Notice to Proceed shall be issued within 30 days of Owner's receipt of the Contract executed by the Bidder. Should there be reasons why the Notice to Proceed cannot be issued within such period; the time may be extended by mutual agreement between the Owner and Contractor. If the Notice to Proceed has not been issued within the allowed time or within the period mutually agreed upon, the Contractor may terminate the Contract without further liability on the part of either party.

#### **1.18 Preconstruction Conference**

- A. The attention of Bidders is particularly called to the preconstruction conference that will be held with the successful Bidder and all known subcontractors upon the issuance of a Notice to Proceed. This conference will cover provisions pertaining to schedules, payment requests, submittals, and other items related to the Contract.

#### **1.19 Georgia Security and Immigration Compliance Act of 2006**

- A. Pursuant to the Georgia Security and Immigration Compliance act of 2006, the Contractor understands and agrees that compliance with the requirements of O.C.G.A.13-10-91 and Georgia Department of labor Rule 300-10-02 are conditions of this agreement. The Contractor further agrees that such compliance shall be attested by the Contractor and any of his subcontractors by execution of the appropriate Affidavit and Agreement included after the Agreement Form of these documents.

**END OF SECTION**

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## SECTION 00 41 00

### BID FORM

#### ARTICLE 1 – BID RECIPIENT

- 1.01 Bid of Lakeshore Engineering, LLC (hereinafter "Bidder"), organized and existing under the laws of the State of GA, doing business as Corporation (insert "a corporation," "a partnership," or "an individual" or such other business entity designation as is applicable). Submitted to the Clayton County Water Authority (hereinafter "Owner").

#### ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS AND CERTIFICATIONS

- 2.01 In compliance with your Advertisement for Competitive Sealed Bid, Bidder hereby proposes to perform all Work for the **J.W. Smith Water Production Plant High Service Pump Station Upgrades** in strict accordance with the Contract Documents as enumerated in the Advertisement for Competitive Sealed Bid, within the time set forth therein, and at the prices stated below.
- 2.02 In submitting this bid, Bidder certifies that the Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- Site Visit**                      October 20, 2020  
\_\_\_\_\_  
(insert date)
- 2.03 By submission of this Bid, Bidder certifies, and in the case of joint Bid each party thereto certifies as to the party's own organization that this Bid has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor. Bidder also certifies compliance with the Instructions to Bidders.
- 2.04 In submitting this Bid, Bidder acknowledges and accepts Contractor's representations as more fully set forth in Section 00 52 00 Agreement.
- 2.05 In submitting this Bid, Bidder certifies Bidder is qualified to do business in the state where the Project is located as required by laws, rules, and regulations or, if allowed by statute, covenants to obtain such qualification prior to contract award.
- 2.06 In submitting this Bid, Bidder accepts all terms and conditions of the Bidding Documents. Contract Execution: The undersigned Bidder agrees, if this Bid is accepted, to enter into an Agreement with Owner on the form included in the Bidding Documents to perform and furnish Work as specified or indicated in the Bidding Documents for the Contract

Price derived from the Bid and within the Contract Times indicated in the Agreement and in accordance with the other terms and conditions of the Bidding documents.

- 2.07 Insurance: Bidder further agrees that the Bid amount(s) stated herein includes specific consideration for the insurance coverages specified in Section 00 72 00 General Conditions and Section 00 73 00 Supplementary Conditions.
- 2.08 Liquidated Damages: Bidder accepts the provisions in Section 00 52 00 Agreement as to liquidated damages.
- 2.09 Sales and Use Taxes: Bidder agrees to cooperate with Owner in accordance with the provisions in Section 00 73 00 Supplementary Conditions paragraph 7.10E.
- 2.10 Addenda: The Bidder hereby acknowledges that he has received the following Addenda to these Specifications (Bidder shall insert No. of each Addendum received) and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that his Bid includes all impacts resulting from said Addenda.

Addendum No.	Date Received	Addendum No.	Date Received	
1	9/30/2020	3	10/23/2020	5 - 10/30/2020
2	10/16/2020	4	10/28/2020	6 - 11/6/2020

### ARTICLE 3 – BASIS OF BID

Bidder will complete the Work in accordance with the Contract Documents for the amount as listed below. Total bid amount shall be shown in words and numbers. In case of discrepancy, the bid amount shown in words will govern. Basis of award shall be either the Total Base Bid or the Total Alternate Bid, at the sole discretion of the Owner. [Add No. 3]

#### 3.01 Bid Item 1 - Lump Sum Bid

Bidder agrees to accept as full payment for the **Lump Sum Work** proposed within the Bidding Documents, based upon the undersigned's own estimate of quantities and costs and including taxes, overhead, and profit, the following:

LUMP SUM BID PRICE: \$ 2,115,000.00

#### 3.02 Bid Item 2 - Cash Allowances

Bidder agrees that the following allowance, as further described in Measurement and Payment for additional work, will be furnished and paid for on a cash allowance basis.



Item	Description	Supplier	Specification *	Cash Allowance
2.1	Automatic Electric Check Pump Control Valve (Qty 4)	GA Industries	40 05 65.21	\$179,800 [Add No. 3]
2.2	Surge Anticipator Valve (Qty 1)	Cla-Val	40 05 67.45	\$20,724 [Add No. 3]
* Refer to Specification, which includes the Proposal from each Supplier regarding the scope to be supplied and/or installed under each allowance item. Contractor shall be responsible for compliance with all requirements of the Contract for all equipment and services provided under cash allowances.				

### 3.03 Bid Item 3 - Contingency Allowances

Bidder agrees that the following allowance, as further described in Measurement and Payment for additional work, will be furnished and paid for on a contingency allowance basis.

Item	Description	Contingency Allowance
3.1	Unforeseen Work Elements	\$250,000

### 3.04 Bid Item 4 - Unit Price Work

Bidder further proposes to accept as full payment for the Unit Price Work proposed herein the amounts computed under the provisions of the Bidding Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved.

Bidder agrees that the unit prices represent a true measure of the labor, materials, and services required to furnish and install the items, including all overhead and profit for each type and unit of Work called for in these Bidding Documents.

Bidder acknowledges that unit prices have been computed in accordance with Section 00 72 00 General Conditions paragraph 11.03.B and Section 01 29 00, Payment Procedures.

Bidder further acknowledges that quantities are not guaranteed, and final payment will be based on actual quantities.

Unit Price Bid Schedule - For Additional Work If Approved by the Owner					
Item	Description	Est. Qty.	Unit	Unit Price	Total Amount
4.1	Fiber optic cable	400	LF	\$ 6.50	\$2600.00
4.2	GRS conduit with conductors	1,000	LF	\$ 7.50	\$7500.00
4.3	Uninstalled spare electric actuator and limit switch	1	EA	\$ 19,450.00	<del>\$19,450.00</del> \$19,450.00

Unit Price Bid Schedule – For Additional Work If Approved by the Owner					
Item	Description	Est. Qty.	Unit	Unit Price	Total Amount
4.4	Uninstalled spare pump bowl assembly	1	EA	\$ 31,000.00	\$ 31,000.00
4.5	Uninstalled spare pump motor	1	EA	\$ 42,000.00	\$ 42,000.00
4.6	Uninstalled spare 12-inch flanged butterfly valve	1	EA	\$ 1,200.00	\$ 1,200.00
4.7	Uninstalled spare 4-inch bias/non-slam air valve	2	EA	\$ 2,300.00	\$ 4,600.00
4.8	Additional copper utility water piping	50	LF	\$ 5.00	\$ 250.00
4.9	Additional PVC process drain piping	50	LF	\$ 3.00	\$ 150.00
4.10	Additional ductile iron fittings	2	TON	\$ 4,000.00	\$ 8,000.00
4.11	Additional ductile iron pipe	30	LF	\$ 20.00	\$ 600.00
4.12	Additional pipe coating	150	SF	\$ 18.00	\$ 2,700.00
Total of all Unit Price Items					\$120,050.00

Bidder acknowledges that the total of the amounts shown above are estimated amounts to be included in the Base Bid, and that final payment will be based on actual costs as determined in conformance with the Bidding Documents and as authorized by Change Order.

3.05 Total Base Bid, Including Selected Manufacturer for Vertical Turbine Pumps [Add No. 3]

TOTAL BASE BID PRICE (Sum of Items 1, 2, 3 and 4): \$ 2,685,374.00

TOTAL BASE BID WRITTEN IN WORDS

Two million, six hundred and eighty-five thousand, three hundred seventy-four Dollars and 00 Cents

3.06 Total Alternate Bid, Including Alternate Manufacturer for Vertical Turbine Pumps [Add No. 3]

TOTAL ALTERNATE BID PRICE (Sum of Items 1, 2, 3 and 4): \$ 2,746,374.00

TOTAL ALTERNATE BID WRITTEN IN WORDS

Two million, seven hundred and forty-six thousand, three hundred seventy-four Dollars and 00 Cents



## ARTICLE 4 – LIST OF SUBCONTRACTORS

- 4.01 The Bidder submits the following list of Subcontractors to be used in the performance of work to be done on said Project.

AREA OF SPECIALIZATION	SUBCONTRACTOR Or "Self-Perform"
Electrical	HERR ELECTRIC
I&C System Integrator	MR Systems
Mechanical	SELF PERFORM

- A. The list of Subcontractors and all responsibilities of all disciplines shall be based on requirements of the Contract Documents.
- B. It is understood and agreed that, if awarded a Contract, the Contractor will not make any additions, deletions, or substitutions to this list without the consent of the Owner.

## ARTICLE 5 – EQUIPMENT / MATERIAL MANUFACTURERS

### 5.01 Owner Selected Equipment/Supplier Schedule

The Bidder shall provide identification of the equipment manufacturer being supplied for each component listed below. See specifications for approved manufacturers for each component.

For item 1 Vertical Turbine Pumps, indicate the selected manufacturer and an alternate manufacturer that meets the specifications. Submit performance curves for both selected pumps demonstrating compliance with the specified performance requirements. The Selected Manufacturer shall be a part of the Base Bid. The Alternate Manufacturer shall be a part of the Alternate Bid. [Add No. 3]

Item	Component	Specification Section	Selected Manufacturer	Alternate Manufacturer
1	Vertical Turbine Pumps	43 21 47	A: Fairbanks B: Goulds C: <u>Patterson</u> D: Peerless <span style="color: red;">[ADD NO. 4]</span>	A: Fairbanks B: Goulds C: Patterson D: <u>Peenness</u> <span style="color: red;">[ADD NO. 4]</span>
2	Automatic Electric Check Pump Control Valve	40 05 65.21	A: GA Industries No Substitutes	No Alternates
3	Surge Anticipator Valve	40 05 67.45	A: Cla-Val No Substitutes	No Alternates

Item	Component	Specification Section	Selected Manufacturer	Alternate Manufacturer
4	Motor Control Centers	26 24 19	<div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">A: Eaton</div> B: Square D  No Substitutes	No Alternates
	Variable Frequency Drives	26 29 23		
	Enclosed Motor Controllers	26 29 13.16		
5	PLC Hardware	40 63 43	A: Allen-Bradley CompactLogix  No Substitutes	No Alternates

## ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and completed and ready for final payment in accordance with Section 00 72 00 General Conditions paragraph 15.06 on or before the dates or within the number of calendar days indicated in Section 00 52 00 Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated and special damages in the event of failure to complete the Work within the Contract Times.

## ARTICLE 7 – SURETY

- 7.01 If Bidder is awarded a construction contract from this Bid, the surety who provides the Performance and Payment Bonds shall be:

Berkely Insurance Company whose address is  
475 Steamboat Road, Greenwich, CT, 06830  
Street City State Zip

**ARTICLE 8 – BID SUBMITTAL**

8.01 This Bid submitted on November 17, 2020 by:

Corporation Name: Lakeshore Engineering, LLC

GA

(State of Incorporation)

By: 

(Signature – Attach evidence of authority to sign)

Name and Title: Garland Long, President

(Typed or Printed)

(CORPORATE SEAL)

**Jeffrey A Laurion**  
**Notary Public**  
**State of Georgia**  
**Cherokee County**

Attest

Georgia Utility  
Contractor's License  
Number:

UC302050

(Successful Bidder will be required to hold a valid Georgia  
Utility Contractor's License)

Business Address:

1259 Ellsworth Dr, Atlanta, GA 30318

Phone No.:

404 355-3976

E-mail:

glong@lakeshoreengineering.com

Website:

www.lakeshoreengineering.com

**END OF SECTION**

**WRITTEN CONSENT OF THE ORGANIZER  
IN LIEU OF ORGANIZATIONAL MEETING  
OF  
LAKESHORE ENGINEERING, LLC**

The undersigned, being the organizer of LAKESHORE ENGINEERING, LLC, a Georgia limited liability company (the "Company"), by affixing his signature hereto, hereby consents to and hereby take the following action and adopt the following Resolutions pursuant to Section 14-11-309 of the Georgia Limited Liability Company Act.

It appearing that the Articles of Organization of the Company were filed with and approved by the Secretary of State and that a certificate of organization has been issued to the Company, it is resolved that:

1. The Articles of Organization of the Company are adopted and approved, and a certified copy of same has been inserted in the company minute book;
2. The Operating Agreement herewith submitted to the Company is acknowledged, and the Secretary is hereby directed to insert a copy thereof in the company minute book;
3. The following persons shall serve as the initial officers of the Company and shall have the power and authority granted to them by the Operating Agreement until amended or revoked by the Members:

Managing Member:  
President/Secretary/Treasurer

Garland Long  
Garland Long

The officers shall serve at the pleasure of the Members;

4. The form of share certificate filed following this Consent is adopted as the form of certificate for the shares of stock of the Company;
5. The resolutions contained in the certificate authorizing the establishment of a banking relationship with the banking institution designated therein are hereby adopted, a copy of which is filed with this Consent;

IN WITNESS WHEREOF, the undersigned have hereunto set forth their hands this 14<sup>th</sup> day of OCTOBER, 2009.

  
\_\_\_\_\_  
Garland Long

(THE FOLLOWING IS AN EXCERPT FROM LAKESHORE ENGINEERING'S  
OPERATING AGREEMENT)

**ARTICLE II  
MEMBERS**

2.2 Initial Member. The Initial Member of the LLC is Garland Long.

**ARTICLE III  
MANAGEMENT**

The LLC shall manage by its Members. The Members shall have authority to take all necessary and proper actions to conduct the business of the LLC. Anyone authorized by the Members may take any authorized action on behalf of the LLC. Except as authorized by the Members, no person shall have the authority act on behalf of the LLC. The Initial Member is also referred to as the Managing Member. If a President is named by the Managing Member, such President shall have full authority to act on behalf of the LLC, subject to any limitations set forth by the Managing Member.

Company:  
Name:  
Date: 10/29/2020



# Pump:

Size: 17JMC (stages: 4)  
Type: VertTurb-SM  
Synch Speed: 1800 rpm  
Dia: 11 in  
Curve: 17JMC-A

Dimensions:  
Suction: —  
Discharge: 10 in  
Vertical Turbine:  
Eye Area:  
Bowl Size: 17 in  
Max Lateral: —  
Thrust K Factor: 20.5 lb/ft

# Fluid:

Name: Water  
SG: 1  
Density: 62.4 lb/ft<sup>3</sup>  
Viscosity: 1.1 cP  
Temperature: 60 °F  
Vapor Pressure: 0.256 psi a  
Atm Pressure: 14.7 psi a  
Margin Ratio: 1

# Search Criteria:

Flow: 2780 US gpm  
Head: 375 ft  
Near Miss: —  
Static Head: 0 ft

# Pump Limits:

Temperature: —  
Wkg Pressure: 350 psi g  
Sphere Size: 1.56 in

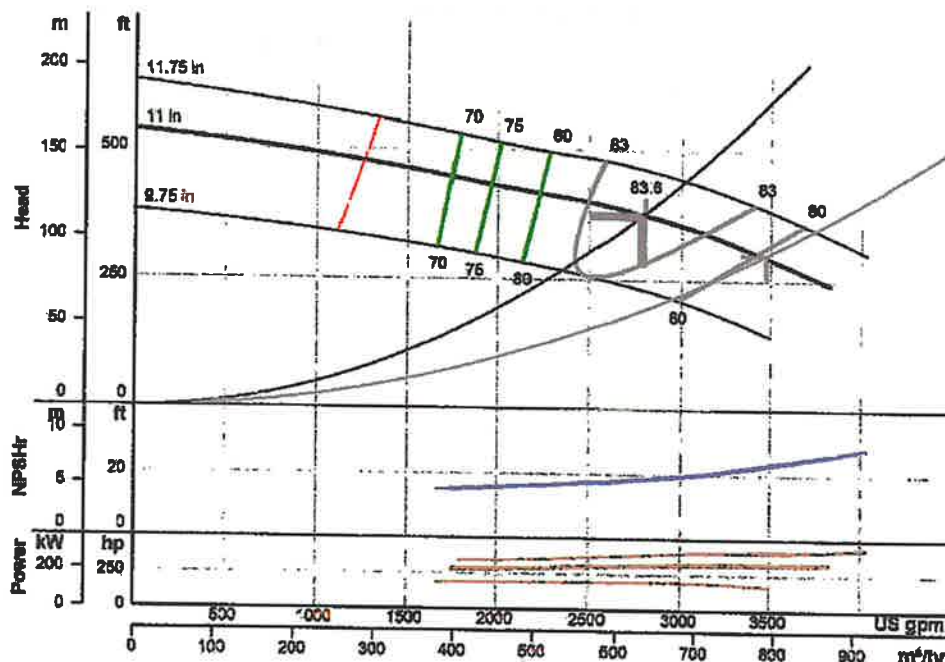
# Motor:

Consult Patterson 60 Hz Vertical Pumps to select a motor for this pump.

# Pump Selection Warnings:

One or more operating points are not within the selection window.

— Duty Point —	
Flow:	2786 US gpm
Head:	376 ft
Eff:	83.6%
Power:	317 hp
NPSHr:	18.6 ft
Speed:	1770 rpm
— Design Curve —	
Shutoff Head:	535 ft
Shutoff dP:	232 psi
Min Flow:	1259 US gpm
BEP:	83.6% @ 2799 US gpm
NOL Power:	331 hp @ 3835 US gpm
— Max Curve —	
Max Power:	439 hp @ 4037 US gpm



Impeller D-7513. Bowl Performance. To calculate pump performance refer to online catalog-Performance Calculations. Indicated impeller diameter is average in accordance with the Hydraulic Institute Standards, pump is guaranteed for one set of conditions. Performance guarantees are based on shop test and when handling clear cold fresh water at sea level and at a temp no greater than 85°F. Suction

# Operating Points:

Data Point	Speed rpm	Flow US gpm	Head ft	NPSHr ft	Efficiency %	Power hp	Min Flow US gpm
Primary	1770	2786	376	18.6	83.6	317	1259
1	1770	3456	298	22.9	79.2	327	1259





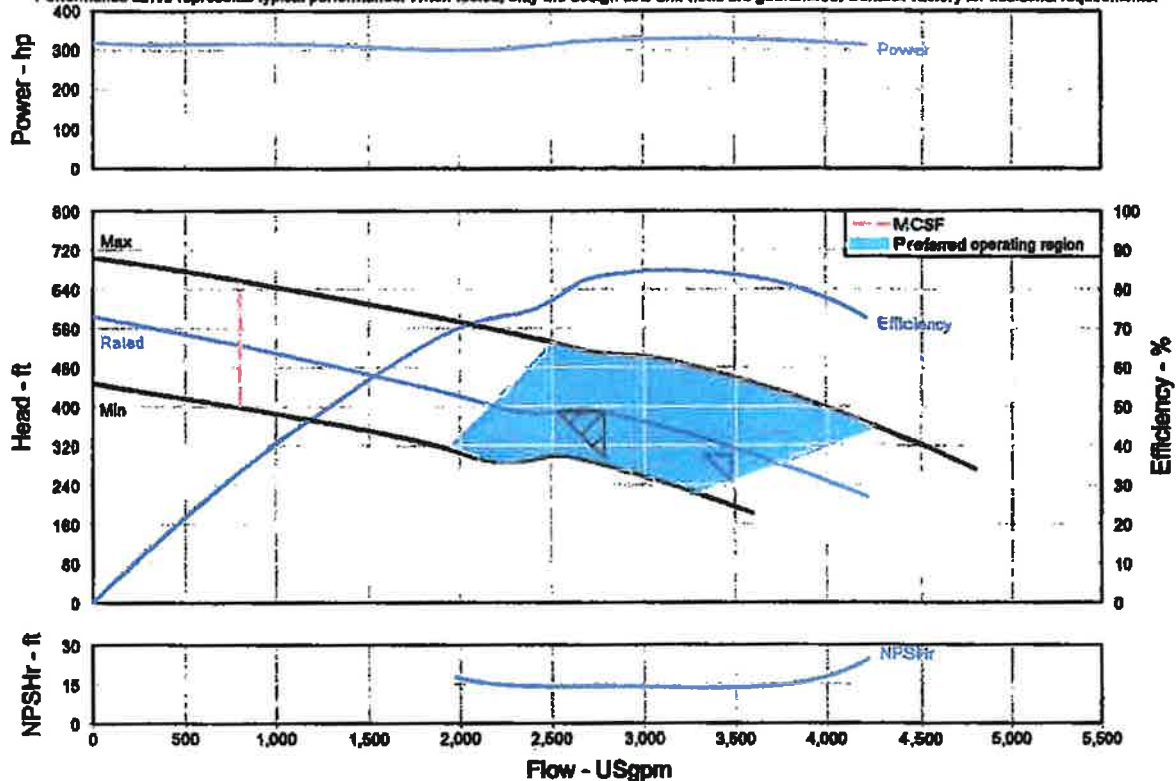
# Pump Performance Curve

Bowl performance. Adjusted for construction and viscosity.

The duty point represents the head at the bowl.

Performance based on test acceptance - Hyd Ins 14.6 Unilateral (1U)

Performance curve represents typical performance. When tested, only the design flow and head are guaranteed. Contact factory for additional requirements.



Customer	: TEMPLETON & ASSOC ENG SALES	Peerless Model	: 16HXBMC-14HH/HC
Customer ref. / PO	:	Stages	: 5 (4 / 1x-14HH/HC)
Tag Number	: WP1 VSS Scenario 4: 4.0 MGD @ 347 TDH	Speed, rated	: 1760 rpm
Service	: High Service	Based on curve number	: 16HXBMC-4601399 Rev May 2020
Quantity	: 4	Efficiency (bowl / pump)	: 83.17 / 82.53 %
Quote Number / ID	: 1124784	Power (bowl / pump)	: 328 / 329 hp
Date last saved	: 10/28/2020 8:47 PM	NPSH required	: 14.04 ft
Flow, rated	: 2,780.0 USgpm	Viscosity	: 1.00 cP
Differential head / pressure, rated	: 377.0 ft	Cq/Ch/Ce/Cn [ANSI/HI 9.8.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Fluid density, rated / max	: 1.000 / 1.000 SG		

Flow (USgpm)	Head (ft)	Efficiency (%)	Power (hp)	NPSHr (ft)	Thrust total (lbf)
0.00	584.8	0.00	321	-	14,619.3
469.5	550.8	20.54	318	-	12,954.9
939.0	514.4	38.36	318	-	11,620.7
1,408.4	473.8	53.86	313	-	10,427.6
1,877.9	433.0	67.57	304	-	9,286.0
2,347.4	387.1	73.99	310	14.25	7,906.6
2,816.9	385.0	83.41	328	14.05	7,261.4
3,286.3	338.6	84.45	333	13.77	5,842.0
3,755.8	280.8	81.36	327	14.64	3,895.5
4,225.3	214.7	72.42	316	24.66	2,264.3



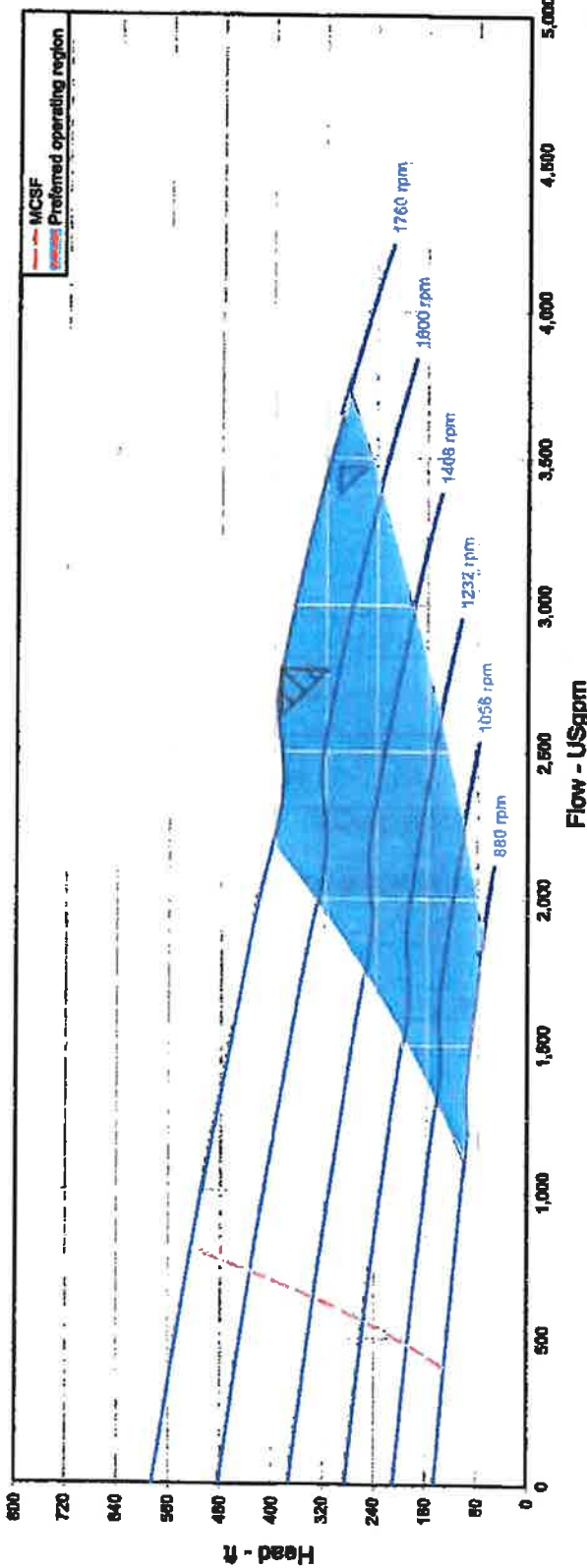


## Multi-Speed Performance Curve

Bowl performance. Adjusted for construction and viscosity.  
The duty point represents the head at the bowl.

Performance based on test acceptance - Hyd line 14.6 Unilateral (IU)

Performance curve represents typical performance. When tested, only the design flow and head are guaranteed. Contact factory for additional requirements.



Project name Commissioned Representative Customer Customer ref. / PO Quote Number / ID Data last saved	: JW Smith : : TEMPLETON & ASSOC ENG SALES : : 1124784 : 10/29/2020 8:47 PM	Tag Number Service Peerless Model Quantity Quoted By (Sales Office) Quoted By (Sales Engineer) Stages	: WP1 VSS Scenario 4: 4.0 MGD @ 347 TDH : High Service : 16HXBMC-14H/HHC : 4 : TEMPLETON & ASSOC ENG SALES : Andrew Smith : 5 (4 / 1x-14H/HHC)	Speed, rated Flow, rated Differential head / pressure, rated Fluid density, rated / max Viscosity Cp/Ch/Ce/Cn Based on curve number	: 1760 rpm : 2,760.0 USgpm : 377.0 ft : 1,000 / 1,000 SG : 1.00 cP : 1.00 / 1.00 / 1.00 / 1.00 : 16HXBMC-4601589 Rev May 2020
--	--	---	--	---	--

**BOND NO.** N/A

**Lakeshore Engineering LLC**

**Berkley Insurance Company**

having its principal place of business at 475 Steamboat Road, Greenwich, 06830

\_\_\_\_\_ in the State of Connecticut  
and authorized to do business in the State of Georgia as Surety, are held and firmly bound unto  
Clayton County Water Authority, as Owner, hereinafter called the Obligee, in the sum of \_\_\_\_\_

**Five (5%) Percent of Amount Bid**

\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_) for  
the payment for which we bind ourselves, our heirs, executors, administrators, successors, and  
assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is herewith submitting his or its Bid for construction of the J.W. Smith Water Production Plant High Service Pump Station Upgrades said Bid, by reference thereto, being hereby made a part hereof.

**WHEREAS, the Principal contemplates submitting or has submitted a bid to the Oblige for the furnishing of all labor, materials (except those to be specifically furnished by the Owner), equipment, machinery, tools, apparatus, means of transportation for, and the performance of the work covered in the Bid and the detailed Drawings and Specifications, entitled: J.W. Smith Water Production Plant High Service Pump Station Upgrades.**

WHEREAS, it was a condition precedent to the submission of said bid that a cashier's check, certified check, or bid bond in the amount of 5 percent of the base bid be submitted with said bid as a guarantee that the Bidder would, if awarded the Contract, enter into a written Contract with the Owner for the performance of said Contract, within 10 consecutive calendar days after written notice having been given of the award of the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the Principal within 10 consecutive calendar days after written notice of such acceptance, enters into a written Contract with the Obligee and furnishes a Performance Bond and a Payment Bond, each in an amount equal to 100 percent of the Contract amount, satisfactory to the Owner, then this obligation shall be void; otherwise the sum herein stated shall be due and payable to the Obligee and the Surety herein agrees to pay said sum immediately upon demand of the Obligee in good and lawful money of the United States of America, as liquidated damages for failure thereof of said principal.

Signed and sealed this 17th day of November, 2020.

CONTRACTOR – PRINCIPAL:

Lakeshore Engineering, LLC

By: [Signature]

(name signed)

Garland L. Long

(name printed or typed)

Title: PRESIDENT

Address: 1259 Ellsworth Drive

Atlanta, GA 30318

Attest: [Signature]

(name signed)

JEFF A. LAURION

(name printed or typed)

Title: Notary

Jeffrey A. Laurion  
Notary Public  
State of Georgia  
Cherokee County (SEAL)

Note: Attest for a corporation must be by the corporate secretary; for a partnership by another partner; for an individual by a notary.

SURETY:

Berkley Insurance Company

By: [Signature]

(name signed)

Daniel Yates

(name printed or typed)

Title: Attorney In Fact

Address: 2800 Century Pkwy NE # 300

Atlanta, GA 30345

Attest: Tina Marsh

(name signed)

Tina Marsh

(name printed or typed)

Title: Witness

(SEAL)

END OF SECTION



**POWER OF ATTORNEY  
BERKLEY INSURANCE COMPANY  
WILMINGTON, DELAWARE**

**NOTICE:** The warning found elsewhere in this Power of Attorney affects the validity thereof. Please review carefully.

**KNOW ALL MEN BY THESE PRESENTS,** that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: *P. D. Yates, III; Daniel Yates; Alan R. Yates; Kevin M. Naidert; Gary Spuller; Michael L. Angel; Betsy J. Holmes; Marie M. Hartley; Michael S. Brickner; Brian K. Hughes; Jeffery John Blanton; Dana D. Rutledge; or Tina Marsh of Yates Insurance Agency of Atlanta, GA* its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed Fifty Million and 00/100 U.S. Dollars (U.S.\$50,000,000.00), to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

**RESOLVED,** that, with respect to the Surety business written by Berkley Surety, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

**RESOLVED,** that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

**RESOLVED,** that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

**RESOLVED,** that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 20<sup>th</sup> day of April, 2020.

Attest:

(Seal)

By

*Ira S. Lederman*  
Executive Vice President & Secretary

Berkley Insurance Company

By

*Jeffrey M. Hafter*  
Senior Vice President

**WARNING: THIS POWER INVALID IF NOT PRINTED ON BLUE "BERKLEY" SECURITY PAPER.**

STATE OF CONNECTICUT )

) SS:

COUNTY OF FAIRFIELD )

Sworn to before me, a Notary Public in the State of Connecticut, this 20<sup>th</sup> day of April, 2020, by *Ira S. Lederman* and *Jeffrey M. Hafter* who are sworn to me to be the Executive Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.

MARIA C. RUDBAKER  
NOTARY PUBLIC  
CONNECTICUT  
MY COMMISSION EXPIRES  
APRIL 30, 2024

*Maria C. Rudbaker*  
Notary Public, State of Connecticut

**CERTIFICATE**

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date.

Given under my hand and seal of the Company, this 17<sup>th</sup> day of November, 2020.

(Seal)

*Vincent P. Forte*  
Vincent P. Forte

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## **SECTION 00 43 39**

### **SLBE FORMS**

#### **1.01 SLBE Participation**

- A. Clayton County Water Authority (CCWA) has implemented a Small Local Business Enterprise Program to promote full and open competition in all government procurement and purchasing.
1. Goals for participation of Small Local Business Enterprises (SLBEs) are set on a contract by contract basis for each specific prime contract with subcontracting possibilities.
  2. CCWA wants to ensure that Bidders are non-discriminatory in their process of selecting subcontractors.
  3. CCWA also wants to encourage Bidders to utilize small, minority or woman-owned businesses whenever possible.
  4. Forms 1-4 included in this Section must be completed for Bidder to be considered responsive, regardless of participation.
- B. SLBE means a locally-based small business operating inside or outside of Clayton County, which meets the following criteria:
1. Independently owned and operated business concern whose average annual gross receipts for the previous three years must not exceed:
    - a. Construction Firms- \$18,250,000
    - b. Professional Services Firms - \$5,500,000
    - c. Architectural Firms - \$3,750,000
    - d. Engineering Firms - \$7,500,000
    - e. Goods & Services – less than 250 employees.
  2. Locally based, meaning located and operating in Clayton County or the ten (10) counties of Cherokee, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry, Rockdale and Spalding for at least one year prior to submitting application for certification.
- C. If a firm is locally-based in one of the counties mentioned above, is currently certified as a small business through the DeKalb County, Clayton County, or the City of Atlanta or certified as a DBE with the Georgia Department of Transportation, and can provide evidence of its certification, the firm will be provisionally accepted as a SLBE, provided



that they complete the official certification application for CCWA within two (2) years following the date of provisional certification. If a firm meets these qualifications, but is not currently certified as a small business, then the firm must complete an application for certification with CCWA no later than seven (7) business days following the deadline for Bid submission.

- D. SLBEs must perform a commercially useful function, which means performance of provision of real and actual services under the contract or subcontract with CCWA. Factors such as the nature and amount of the work subcontracted; whether the SLBE has the skill and expertise to perform the work for which it has been certified; whether the SLBE actually performs, manages or supervises the work; and whether the SLBE intends to purchase commodities and/or services from a non-SLBE and simply resell them will be considered in determining if the SLBE is performing a commercially useful function.
- E. No substitution/replacement for any SLBE Subcontractor, vendor, or previously selected Subcontractor/vendor by the Prime shall be made without written notification to CCWA and the approval by CCWA. A Prime cannot arbitrarily terminate a SLBE Subcontractor and self-perform the work without requesting a waiver and written approval from CCWA in advance.
- F. SLBE Subcontractors can be replaced if they are unable or unwilling to perform the contracted work, or for other appropriate reasons, which are documented in writing. If it appears that the SLBE subcontracting requirement cannot be achieved, the Prime Contractor shall immediately notify CCWA in writing accompanied by the appropriate documentation. Good Faith Effort used to try to meet at least a portion of the requirement should be documented and submitted to CCWA for evaluation. All Prime Contractors must use the "Request for SLBE Subcontractor Removal/Substitution Form" which is set form herein as "Exhibit SLBE-6."
- G. Although participation in the SLBE program is not a requirement to participate in contracting with CCWA, it is a requirement to comply with making the "good faith effort" procedures and forms as outlined below.
- H. The Bidder will be required to submit evidence demonstrating that "good faith efforts" were made to meet the SLBE goal.
- I. SLBE Required Forms - This Section contains the following forms that Bidders are required to submit along with their Bids (in addition to general contractor forms):
  - 1. SLBE-1 Covenant of Non-Discrimination: The signed agreement stating that the firm will not discriminate on the basis of a firm's size (revenue or employee count) with regard to prime contracting, subcontracting, or partnering opportunities.
  - 2. SLBE-2 Sub-Contractor Contact Form: A list of all firms contacted to participate as SLBE sub-contractors/suppliers on a contract.

3. SLBE-3 SLBE Small Local Business Enterprise Project Participation Plan: A list of all firms procured as SLBE sub-contractors/suppliers to be utilized on a contract.
4. SLBE-4 Statement of Good Faith Efforts (Including the Checklist): Documented efforts to seek and procure the utilization of SLBE's as sub-contractors/suppliers on a contract where a goal is required.

**To be submitted post-award:**

5. SLBE-5 Post Award Monthly SLBE Participation Report – Contract Goal: Report detailing percentage of SLBE participation (work performed) and payments to SLBEs on a contract.
  6. SLBE-6 Request for Subcontractor Removal/Substitution Form: Required to fill out and obtain approval if a SLBE subcontractor is being substituted following post bid.
- J. By signing the Bid, the Bidder is certifying that it has complied with the requirements of this program. Please contact CCWA's Contracts, Compliance and Risk Management at [ccwa\\_slbe\\_program@ccwa.us](mailto:ccwa_slbe_program@ccwa.us) for a list of certified SLBEs. The list is also available through [www.ccwa.us](http://www.ccwa.us), under the tab for "About Us", section for "Small Local Business Program".

**1.02 Supplements**

- K. The supplements listed below, following "END OF SECTION", are part of this Specification:
1. Form SLBE-1, Covenant of Non-Discrimination
  2. Form SLBE-2, Sub-Contractor Contact Form – Contract Goal
  3. Form SLBE-3, Small Local Business Enterprise Project Participation Plan
  4. Form SLBE-4, Statement of Good Faith Efforts
  5. Form SLBE-5, Post-Award-Monthly SLBE Participation Report Contract Goal
  6. Form SLBE-6, Subcontractor Removal/Substitution Form

**END OF SECTION**

## FORM SLBE-1

### COVENANT OF NON-DISCRIMINATION

The undersigned understands that it is the policy of the Clayton County Water Authority (CCWA) to promote full and equal business opportunity for all persons doing business with CCWA. The undersigned covenants that we have not discriminated on the basis of a firm's revenue or employee count with regard to prime contracting, subcontracting or partnering opportunities. The undersigned further covenants that we have completed truthfully and fully the required forms SLBE-2, SLBE-3 and SLBE-4. Set forth below is the signature of an officer of the Bid entity with CCWA to bind the entity.

I, Garland Long, President (Name, Title), on behalf of Lakeshore Engineering, LLC  
(Company), by my signature below, do hereby promise:

1. To adopt the policies of Clayton County relating to equal opportunity in contracting on projects and contracts funded, in whole or in part, with funds of CCWA;
2. Not to otherwise engage in discriminatory conduct;
3. To provide a discrimination-free working environment;
4. That this Covenant of Non-Discrimination shall be continuing in nature and shall remain in full force and effect without interruption; and
5. That this Covenant of Non-Discrimination shall be incorporated by reference into any contract or portion thereof which we may hereafter obtain.

We understand that our failure to satisfactorily discharge any of the promises of non-discrimination as made and set forth herein shall constitute a material breach of contract.

[Signature]

Signature of Attesting Party

President

Title of Attesting Party

On this 17<sup>TH</sup> day of NOVEMBER, 2020, before me appeared Garland Long,  
the person who signed the above covenant in my presence.

[Signature]  
Notary Public

2/8/23  
My Commission Expires

Jeffrey A Laurion  
[Seal] Notary Public  
State of Georgia  
Cherokee County

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## FORM SLBE-2

### SUB-CONTRACTOR CONTACT FORM – CONTRACT GOAL

#### Instructions to Contractors:

The prime contractor must complete and sign the sub-contractor contact form and submit the completed and signed form with the bid. **Failure to submit this form may result in the bid being deemed nonresponsive.**

**SLBE Prime Contractors:** If you are the prime contractor on the project AND also the SLBE on the project and will NOT use any other SLBE firms as subcontractors, check the box at the top of the form and sign the form.

1. Name of contractor/supplier: Provide name of the contractor or supplier you contacted to perform on the contract.
2. Contact Name, Address and Phone Number: Provide the contact information of the contractor/supplier you contacted.
3. County of Clayton Business License: State if the contractor/supplier you contacted is a Clayton County Licensed business.
4. Type or work solicited for: Describe the type of work for which you are soliciting from the contractor/supplier.
5. Business Ownership (SLBE/non-SLBE): State whether the contractor/supplier you contacted is an SLBE or non-SLBE.
6. Results of Contact: Describe the results of your contact.
7. Sign and date the form.

**FORM SLBE-2****SUB-CONTRACTOR CONTACT FORM**

*List all sub-contractors or suppliers (SLBE and Non-SLBE) that were contacted regarding this project*

**IF THE PRIME IS THE SLBE ON THE PROJECT CHECK THE BOX**

**X**

<b>Name of Sub-Contractor/Supplier</b>	<b>Company Name, Contact Name, Address and Phone Number</b>	<b>County of Clayton Business License? (Yes or No)</b>	<b>Type of Work Solicited for</b>	<b>Business Ownership (Enter SLBE or Non SLBE)</b>	<b>Results of Contact</b>
Company ABC	123 Main Street Morrow, GA 30260 770-123-4568	Yes	Hauling	SLBE	Will perform as sub
Llamas Coatings		No	painting		
Contessa Construction Services, LLC	800 Lambert Drive Suite H Atlanta, GA 30324	No	painting	SLBE	will perform as sub
East Electrical		No	electrical	Non SLBE	no bld
M.E. Contractors, Inc.	1263 Ellsworth Drive Atlanta, GA 30318	No	electrical	Non SLBE	bld received
Robinson Electric		No	electrical	Non SLBE	no bld
ARSIMS HVAC	Lawrenceville, GA 30045	No	HVAC	SBE	will perform as sub



## FORM SLBE-2

### SUB-CONTRACTOR CONTACT FORM – Cont'd

*List all sub-contractors or suppliers (SLBE and Non-SLBE) that were contacted regarding this project*

Name of Sub-Contractor/Supplier	Company Name, Contact Name, Address and Phone Number	County of Clayton Business License? (Yes or No)	Type of Work Solicited for	Business Ownership (Enter SLBE or Non SLBE)	Results of Contact
Herr Electric		No	Electrical	Non SLBE	bid received
Wiggins Electric		No	electrical	Non SLBE	bid received

Bidder's Name: Lakeshore Engineering, LLC

Project Name: JW Smith HS Pumps

FC#: \_\_\_\_\_

Signature: 

Contact No: 404 355-3976

Date: 11/17/20

**FORM SLBE-3**  
**SMALL LOCAL BUSINESS ENTERPRISE**  
**PROJECT PARTICIPATION PLAN**

SUB-CONTRACTOR/SUPPLIER UTILIZATION

Instructions to Contractors:

The prime contractor must complete the project participation plan for sub-contractor/supplier utilization and submit the form with the bid. **Failure to submit this form may result in the bid being deemed nonresponsive.**

1. Name of contractor/supplier: Provide name of the contractor or supplier you contacted to perform on the project.
2. Certified as SLBE: State if the subcontractor/supplier to be used on the project is an SLBE.
3. Which County? If you are using an SLBE on the project, state in which county the SLBE is located.
4. NAIC or NIGP code: List the NAIC/NIGP code that relates to the service or work to be performed by the subcontractor/supplier.
5. Type of work to be performed: Describe the type of proposed work to be performed by the subcontractor/supplier.
6. Certification number and expiration date: If using an SLBE, provide the SLBE certification number and expiration date.
7. Estimated dollar value of work: Provide the estimated dollar value of the work to be performed by the subcontractor/supplier on the project.
8. Percentage of Total Bid Amount: Enter the estimated % of the total bid amount for which the SLBE will be paid.

**Estimated Dollar Value of the Work / Total Bid Amount = % of Total Bid Amount**

**FORM SLBE-3**  
**SMALL LOCAL BUSINESS ENTERPRISE PROJECT PARTICIPATION PLAN**

Sub-Contractor/Supplier Utilization

*List all sub-contractors and suppliers, including lower tiers, to be used on this project.*

Name of Sub-contractor/Supplier	Certified as Small Local Business Enterprise (SLBE) Yes or No	If SLBE, which county? Clayton, Cherokee, Cobb, DeKalb, Douglas, Fayette, Fulton, Henry, Gwinnett, Rockdale, Spalding	NIAC or MGP Code	Type of Work to be Performed	SLBE Certification No. and Expiration Date	Estimate Dollar (\$) Value of Work	Percentage of Total Bid Amount
Company ABC	Yes	Clayton	96239	Hauling	SLBE-465-12 1/15/2017	\$4,200	8.4%
Contessa Construction Services, LLC	YES	Clayton		Painting	SLBE 1904-3036 April 2022		1%
ARSIMS HVAC	Provisional SBE	City of Atlanta		HVAC	SBE 2020-25-219 11/2025		1%
Lakeshore Engineering	Provisional SBE	City of Atlanta		mechanical	SBE 2017-22-016 January 2022		70%

Total Estimate SLBE Sub-contractor % 72%

Bidder's Company Name: Lakeshore Engineering, LLC

Date: 11/17/20

Bidder's Contact Number: 404 355-3976

Project Name: JW Smith HS Pumps

Signature: 

## FORM SLBE-4


### STATEMENT OF GOOD FAITH EFFORTS

#### Instructions to Contractor:

If you will not meet the Small Local Business Enterprises (SLBE) goal set forth in the RFB, in addition to the information included on the SLBE Form 2 Sub-contractors Contact Form submitted with your bid, please provide a narrative explanation of why you cannot meet the SLBE goal and the steps taken to include SLBEs in your bid. Describe specific actions (i.e. phone calls, etc.). Please provide copies of any solicitation notices sent, whether by email, fax or mail, and the amount of time given for response. Describe efforts to follow up initial communications. Identify the individuals from your organization who performed these activities. Attach additional pages as needed.

### CERTIFICATION OF GOOD FAITH EFFORTS

I hereby attest that I have exercised good faith efforts to meet the Small Local Business Enterprise goals for this bid. Despite such good faith efforts, I have not been able to meet the SLBE goal for this bid.



Authorized Signature

11/17/2020

Date

Garland Long, President

Name and Title (typed or printed)

Lakeshore Engineering, LLC

Name of Firm

## FORM SLBE-4 (Cont'd)

### STATEMENT OF GOOD FAITH EFFORTS

#### Checklist

A Bidder or Bidder that does not meet CCWA's SLBE participation goal is required to demonstrate that it made "good faith efforts." Please indicate whether or not any of the following actions were taken:

**YES NO**

1. ☒ ☐ Attendance at a pre-bid meeting, if any, scheduled by CCWA to inform SLBEs of subcontracting opportunities under a given solicitation; Advertisement for solicitation of SLBEs in general circulation media, trade association publications, and minority-focus media, to provide notice of subcontracting opportunities.
2. ☐ ☒ Advertisement in general circulation media at least seven (7) days prior to Bid or Bid opening any and all Sub-contractor opportunities. Proof of advertisement must be submitted with the Bid or Bid.
3. ☒ ☐ Provided interested SLBEs with timely, adequate information about the plans specifications, and other such requirements of the Contract to facilitate their quotation and conducted follow up to initial solicitations.
4. ☒ ☐ Provided written notice to SLBEs that their interest in subcontracting opportunities or furnishing supplies is solicited. Provided a contact log showing the name, address, email and contact number (phone or fax) used to contact the proposed certified sub-contractors, nature of work requested for quote, date of contact, the name and title of the person making the effort, and the amount of the quoted price if one was obtained.
5. ☒ ☐ Efforts were made to divide the work for SLBE subcontracting in areas likely to be successful and identify portions of work available to SLBEs consistent with their availability. Include a list of divisions of work not subcontracted and the corresponding reasons for not including them. The ability or desire of a Bidder/Bidder to perform the work of a contract with its own organization does not relieve it of the responsibility to make good faith efforts on all scopes of work subject to subcontracting.
6. ☒ ☐ Efforts were made to assist potential SLBE sub-contractors to meet bonding, insurance or other governmental contracting requirements. Where feasible, facilitating the leasing of supplies or equipment when they are of such a specialized nature that an SLBE could not readily and economically obtain them in the marketplace.
7. ☐ ☐ Utilization of services of available minority community organizations, minority contractor groups and other organizations that provide assistance in the recruitment and placement of SLBEs.
8. ☐ ☒ Communication with the CCWA Contracts, Compliance and Risk Management Section seeking assistance in identifying available SLBEs.
9. ☐ ☒ Exploration of joint venture opportunities with SLBEs.
10. ☒ ☐ Other actions (specify):  
Sent ITB's directly to Clayton County SLBE's.

Please explain any "no" answers listed above (by number):

*This list is a guideline and by no means exhaustive. CCWA will review these efforts, along with other documents, towards assessing the Bidder/Bidder's efforts to meet CCWA's SLBE goal. If you require assistance in identifying certified SLBEs, please contact the Contracts, Compliance and Risk Management Section at [ccwa\\_slbe\\_program@ccwa.us](mailto:ccwa_slbe_program@ccwa.us) or at 770-960-5880.*

# Clayton County Central Services

**Administration Division**  
**Risk, Claims & Safety Division**  
**Contracts, Purchasing & Contract Compliance**  
7994 North McDonough Street  
Jonesboro, Georgia 30236  
Main #: 770-477-3587 Fax #: 770-477-3335



**Carol J. Rogers**  
**Director**

**Warehouse Division**  
1330 Government Circle  
Jonesboro, Georgia 30236  
Warehouse Main #: 770-477-3561  
Fax #: 770-477-3616

**April 11, 2019**

**Martha McIlton**  
**Contessa Construction Services, LLC**  
**800 Lambert Drive**  
**Suite H**  
**Atlanta, GA 30324**

**Re: Small Local Business Enterprise (SLBE) Certification Program**  
**Certification Number: SLBE-1904-3086**  
**Expiration Date: 04-11-2022**

**Dear Ms. McIlton,**

Congratulations! You have successfully completed an application for certification with Clayton County. Your firm has been certified. In recognition of your certification, please attach a copy of this letter with each bid and proposal whether you submit as a Prime contractor or Subcontractor.

We are pleased to certify your firm with Clayton County for a period of three years, beginning with the date of this letter. Prior to ninety (90) days of expiration, we ask that you submit an application for recertification, preventing a separation between certifications. Although you are certified we may conduct a site visit to your business location to verify information contained in your application at any time.

Certification does not guarantee any present or future contracts with Clayton County. All registered vendors must take the necessary steps to become a part of the County procurement process and bid competitively for business. You may visit our website for bids and proposals at: <https://www.claytoncountyga.gov/government/central-services/bids-and-proposals>.

You are also required to register in our certified vendor management system. Once you are certified, please visit: <https://pro.primcompliance.com/CustomCertApp/ApplicationStart.aspx?t=200&j=c0mF6H2wYmyFSmmx2Am1Qg%3d%3d>.

Again, we are pleased that you have chosen to become a vendor with us. We look forward to doing business with you.

Sincerely,

A handwritten signature in blue ink that reads "Carol J. Rogers".

Carol J. Rogers, CCA, GCPA  
Director of Central Services

CR:gw





## CITY OF ATLANTA

SUITE 5100

68 MITCHELL STREET, SW

ATLANTA, GA 30303

(404) 330-6010 Fax: (404) 658-7359

Internet Home Page: [www.atlantaga.gov](http://www.atlantaga.gov)

Keisha Lance Bottoms  
Mayor

OFFICE OF CONTRACT COMPLIANCE

Bruce T. Bell  
Interim Director

November 13, 2020

Mr. Ryan Sims  
AR Sims Heating and Air Conditioning  
283 Swanson Dr.  
Suite 204  
Lawrenceville, GA 30043

**ANNIVERSARY DATE: November 13**

Dear Mr. Sims:

Your firm has been certified as a(n) **Small Business Enterprise (SBE)** with the City of Atlanta's Small Business Opportunity Program (SBO). Your company's certification will last for a period of five (5) years from the date on this certification letter. Certification entitles your firm to be included in SBO plans submitted by contractors bidding on City of Atlanta projects.

Your company's certification lasts five (5) years; however, it is contingent upon the company maintaining its eligibility every two years. You will receive a notice to submit a **Biennial Affidavit of No Change** form approximately four (4) weeks prior to your anniversary date. The Affidavit of No Change must be completed, signed, and returned to our office before your anniversary date in order to continue your company's eligibility as an SBE. Additionally, your company is required to submit a full EBO/SBO application six (6) weeks prior to your certification expiration date.

As a certified firm, you are required to notify the Office of Contract Compliance if the ownership or control of your firm changes or if your office relocates outside of the twenty-county Atlanta Regional Development Commission (ARDC) area. Failure to provide this notification, in writing, may result in your firm being removed from the Small Business Opportunity Register.

We welcome you to the City of Atlanta's Small Business Opportunity Program.

Sincerely,

A handwritten signature in blue ink that reads "Bruce T. Bell".

Bruce T. Bell, Interim Director  
Office of Contract Compliance

BTB/aa

**Certification #: 2020-25-233**

**Vendor #: 2100794**

**Phone #: (770) 545-8530**

**Fax #:**

**Business: construction/renovation HVAC services**



## CITY OF ATLANTA

SUITE 1700

55 TRINITY AVENUE, SW

ATLANTA, GA 30303

(404) 330-6010 Fax: (404) 658-7359

Internet Home Page: [www.atlantaga.gov](http://www.atlantaga.gov)

OFFICE OF CONTRACT COMPLIANCE

Larry Scott

Director

[www.atlantaga.gov](http://www.atlantaga.gov)

Kasim Reed  
Mayor

January 31, 2017

Mr. Garland Long  
Lakeshore Engineering, LLC  
1259 Ellsworth Dr.  
Atlanta, GA 30318

**ANNIVERSARY DATE: January 31**

Dear Mr. Long:

Your firm has been certified as a(n) **Small Business Enterprise (SBE)** with the City of Atlanta's Small Business Opportunity Program (SBO). Your company's certification will last for a period of five (5) years from the date on this certification letter. Certification entitles your firm to be included in SBO plans submitted by contractors bidding on City of Atlanta projects.

Your company's certification lasts five (5) years; however, it is contingent upon the company maintaining its eligibility every two years through this office. You will receive a notice to submit an **Affidavit of No Change** approximately six (6) weeks prior to the deadline for submission. **The Affidavit of No Change must be completed, signed, and returned to our office before your anniversary date in order to continue your company's eligibility as an SBE.**

As a certified firm, you are required to notify the Office of Contract Compliance if the ownership or control of your firm changes or if your office relocates outside of the twenty-county Atlanta Regional Development Commission (ARDC) area. Failure to provide this notification, in writing, may result in your firm being removed from the Small Business Opportunity Register.

We welcome you to the City of Atlanta's Small Business Opportunity Program.

Sincerely,

A handwritten signature in blue ink, appearing to read "L. Scott", written over a horizontal line.

Larry Scott, Director  
Mayor's Office of Contract Compliance

LS/ts

**Certification #: 2017-22-015**

**Supplier ID #: 909335**

**Phone #: 404-355-3976**

**Fax #: 404-355-2429**

**Business: Water and Sewer Line and Related Structures Construction; Other Heavy and Civil Engineering Construction; Highway, Street, and Bridge Construction; Industrial Building Construction**

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**FORM SLBE-5**  
**POST-AWARD – MONTHLY SLBE PARTICIPATION REPORT –**  
**CONTRACT GOAL**

**Instructions to Contractors**

The prime contractor must complete the participation report and submit the form with each pay application to the CCWA Project Manager in charge of the contract. Failure to submit this form will result the pay application being deemed incomplete.

1. Report Number: Reports must be consecutively numbered. It will only be necessary to submit a report in a period when the approved SLBE has performed a portion of the work that has been designated for the contract.
2. Date: Actual date of the report.
3. Pay application period end date: Reports must acknowledge the end date for the period for which is being reported.
4. SLBE Amount: The amount of the contract for which the SLBE will earn.
5. Prior Earned Pay Application Amount: The amount previously submitted for payment on pay application.
6. Current Earned Pay Application Amount: The amount submitting with current payment application.
7. Earnings To-Date: The actual amount that each SLBE has earned to-date under the contract.
8. Percent of Contract: This percentage is calculated using the contract amount and the total SLBE earnings-to-date. Divide the total contract amount by the total SLBE earnings-to-date.
9. Certification: The contractor's authorized representative must sign this form prior to submittal.

**GENERAL INFORMATION**

When the approved SLBE is to provide materials, goods or services, this completed form must be submitted to the CCWA Project Manager. The prime contractor must notify CCWA or any changes to SLBE firms.

When the prime contractor is an approved SLBE, it will only be necessary to complete the total SLBE earnings to-date. Joint ventures between non-SLBE and certified SLBE: Only that portion of the work for which the SLBE is responsible may be used to satisfy the requirement.

# FORM SLBE-5

## POST AWARD – MONTHLY SLBE PARTICIPATION REPORT – CONTRACT GOAL

PROJECT NO. (S): \_\_\_\_\_

REPORT NO.: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

DATE: \_\_\_\_\_

CONTRACT AMOUNT: \$ \_\_\_\_\_

PAY APPLICATION PERIOD END DATE: \_\_\_\_\_

Check if final payment >>> ☐ FINAL PAYMENT

% SLBE GOAL \_\_\_\_\_

SLBE AMOUNT \$: \_\_\_\_\_

NAME OF APPROVED SLBE	DESCRIPTION OF WORK	PRIOR EARNED PAY APPLICATION AMOUNT	CURRENT EARNED PAY APPLICATION AMOUNT	EARNINGS TO-DATE

TOTAL SLBE EARNINGS TO-DATE: \_\_\_\_\_

% CONTRACT: \_\_\_\_\_

I HEREBY CERTIFY THAT THE ABOVE STATEMENT IS TRUE AND CORRECT AND SUPPORTING DOCUMENTATION IS ON FILE AND IS AVAILABLE FOR INSPECTION BY CCWA AT ANY TIME.

SIGNED \_\_\_\_\_ CONTRACTOR

REMARKS \_\_\_\_\_

**FOR DEPARTMENT USE ONLY:**

THIS DOCUMENT HAS BEEN REVIEWED AT THAT PROJECT LEVEL BY:

SIGNED \_\_\_\_\_ TITLE \_\_\_\_\_



## FORM SLBE-6

### REQUEST FOR SUBCONTRACTOR REMOVAL / SUBSTITUTION

Prior to submitting this form to Risk Management you must notify the SLBE in writing of your intent and allow the SLBE five (5) days to respond.

Request Date:		Contract/Project #	
Contract Value:	SLBE Contract Amount:	Amount Paid to SLBE:	
Prime Contractor Name:			
Prime Contractor Address:			
Prime Contact Name & Email:		Prime Contact Phone:	
Name of SLBE Firm:		SLBE Contact Name:	
SLBE Firm Address:		SLBE Contact Phone:	

Was SLBE firm given five (5) days written notice of intent? ☐ Yes or ☐ No If yes, please attach written notice.

Will the SLBE goal for the project still be met? ☐ Yes or ☐ No or ☐ N/A

Reason(s) for removal/substitution. **Check all that apply**

- ☐ The listed SLBE is no longer in business.
- ☐ The listed SLBE requested removal.
- ☐ The listed SLBE failed or refused to perform under the terms of the contract or failed to furnish the listed materials.
- ☐ The work performed by the listed SLBE was unsatisfactory and was not in accordance with the scheduled specifications.

Name/Address of Substitution Contractor:	Is the substituted contractor an SLBE? <input type="checkbox"/> Yes or <input type="checkbox"/> No
Fully describe the type of work the substitute subcontractor will perform:	

Prime Authorized Signature:		Date:
Approved <input type="checkbox"/>	Rejected <input type="checkbox"/>	Reason for rejection:
Risk Management Authorized Signature:		Date:

This form (with all required documentation) should be completed and submitted to:

Clayton County Water Authority  
ATTN: RISK MANAGEMENT  
1600 Battle Creek Rd.  
Morrow, GA 30260



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**SECTION 00 45 13**  
**BIDDERS QUALIFICATIONS**

**ARTICLE 1 – REQUIREMENTS**

- 1.01 Per Section 00 21 13 Instructions to Bidders, paragraph 1.07.G, the Bidder must be able to demonstrate minimum contractor corporate experience as a condition of being deemed a responsible Bidder.
- A. To assess the Bidder's qualifications, a Corporate Experience Form and Project Information Forms must be submitted with the Bid.
  - B. Bidder to submit as many Project Information Forms as necessary to verify the minimum contractor corporate experience.
  - C. All questions must be answered and the data given must be clear and comprehensive.

**ARTICLE 2 – SUPPLEMENTS**

- 2.01 The supplement listed below, following "END OF SECTION", is part of this Specification.
- A. Corporate Experience Form
  - B. Project Information Form

**END OF SECTION**

## CORPORATE EXPERIENCE FORM

(Page 1 of 2)

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. Please type all information. **This form must be notarized.**

1. Name of Bidder: Lakeshore Engineering, LLC
2. Permanent main office address, phone numbers, and email address of primary contact:  
1259 Ellsworth Dr, Atlanta, GA 30318
3. When organized: 09/14/2009
4. If a Corporation, where incorporated: GA
5. How many years has the Bidder been engaged in the contracting business under its present firm or trade name? eleven
6. General description of type of work performed by the Bidder's company: Utility Contracting
7. Has the Bidder ever failed to complete any work awarded to it? If so, where and why? No
8. Has the Bidder ever defaulted on a contract? If so, where and why? No
9. Has the Bidder ever refused to sign a Contract at the original bid? If so, where and why? No

**CORPORATE EXPERIENCE FORM**

**(Page 2 of 2)**

10. Names, position and years of experience of the principal members of the Bidder's organization, including officers:

Name	Position	Years of Experience
Garland Long	President	30
Jeff Laurion	Vice President	25
Beau Jackson	Superintendent	22

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

Bidder:

Lakeshore Engineering, LLC

By:



(name signed)

Garland Long

(name printed or typed)

Title:

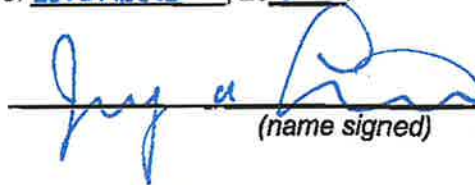
President

Date:

11/17/2020

Subscribed and sworn to me this 17<sup>th</sup> day of NOVEMBER, 2020.

Notary Public:



(name signed)

JEFF A. LAURION

(name printed or typed)

Commission Expires:

2/18/23

(Date)

**Jeffrey A Laurion**  
Notary Public  
State of Georgia  
Cherokee County

**PROJECT INFORMATION FORM**

**(Page 1 of 2)**

Complete a "Project Information Form" for each project required to verify Bidder's corporate experience. 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. Please type all information.

Applicant Name: Lakeshore Engineering, LLC

Project Title: Crosstown Water Treatment Plant Improvements

Project Location: Fayette County, GA

Project Manager: Garland Long

Superintendent: Ron Makamson

Project Description: Upgrade to existing water treatment plant

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

**Project Owner:**

Owner Name: Fayette County Water System - Russell Ray - (770) 487-3271

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Design Firm:**

Company Name: Jacobs - Michael Diaz - (404) 550-3452

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Construction Contract Administration:**

Company Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**PROJECT INFORMATION FORM**

**(Page 2 of 2)**

**Contract:**

Bid Date: June 16, 2015

Bid Price / Contract Amount: 4,323,281.00

Final Contract Price: 4,632,864.66

**Contract Time**

Initial: 540 days

Final: 540 days

Completion Date: March 2017

Explain Reasons for Variances to Contract Amount and/or Time: additional scope was added

**Major Subcontractors (or state 'self-perform'):**

Electrical: M.E. Contractors, Inc.

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Instrumentation & Controls: ICS

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Other: \_\_\_\_\_

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**END OF SECTION**



**PROJECT INFORMATION FORM**

**(Page 1 of 2)**

Complete a "Project Information Form" for each project required to verify Bidder's corporate experience. 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. Please type all information.

Applicant Name: Lakeshore Engineering, LLC

Project Title: North Rabun Water Treatment Plant Improvements

Project Location: Dillard, GA

Project Manager: Garland Long

Superintendent: Tony Haynes

Project Description: Construction of new water treatment plant

**Project Owner:**

Owner Name: Rabun County - Brendan Thompson - (706) 490-2075

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Design Firm:**

Company Name: Precision Planning - Jim Sunta - (770) 267-8800

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Construction Contract Administration:**

Company Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**PROJECT INFORMATION FORM**

**(Page 2 of 2)**

**Contract:**

Bid Date: July 23, 2015

Bid Price / Contract Amount: 5,448,616.00

Final Contract Price: 5,333,013.60

**Contract Time**

Initial: 420 days

Final: 420 days

Completion Date: 12/10/2016

Explain Reasons for Variances to Contract Amount and/or Time: minor scope was deleted from contract

**Major Subcontractors (or state 'self-perform'):**

Electrical: Southern Electrical and Testing

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Instrumentation & Controls: MR Systems

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Other: \_\_\_\_\_

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**END OF SECTION**

**PROJECT INFORMATION FORM**

**(Page 1 of 2)**

Complete a "Project Information Form" for each project required to verify Bidder's corporate experience. 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. Please type all information.

Applicant Name: Lakeshore Engineering, LLC

Project Title: North Chattahoochee Interceptor Pump Station Improvements

Project Location: Duluth, GA

Project Manager: Brandon Dow

Superintendent: Tim Raby

Project Description: Upgrade to existing wastewater pump station

\_\_\_\_\_

\_\_\_\_\_

**Project Owner:**

Owner Name: Gwinnett County - Tyler Tanksley (678) 376-6935

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Design Firm:**

Company Name: Brown & Caldwell - Johnathan Jackson (770) 673-3671

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Construction Contract Administration:**

Company Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**PROJECT INFORMATION FORM**

**(Page 2 of 2)**

**Contract:**

Bid Date: December 8, 2017

Bid Price / Contract Amount: 4,604,112.00

Final Contract Price: 5,443,155.00

**Contract Time**

Initial: 365 days

Final: 425 days

Completion Date: August 2019

Explain Reasons for Variances to Contract Amount and/or Time: \_\_\_\_\_

additional scope was added

**Major Subcontractors (or state 'self-perform'):**

Electrical: M.E. Contractors, Inc.

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Instrumentation & Controls: Global Controls

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Other: \_\_\_\_\_

Subcontractor PM: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**END OF SECTION**



## STATEMENT OF QUALIFICATIONS

Lakeshore Engineering, LLC (Lakeshore) is a fully licensed GA environmental / utility contractor that focuses on the construction and renovation of water / wastewater treatment plants, pump stations, industrial construction, and environmental remediation projects. The management team has over forty years of combined experience in this type of work. Lakeshore self performs the majority of the work on their projects and also has an extensive list of proven subcontractors and vendors that form an extremely efficient and well managed project team.

### WATER / SEWER PROJECTS LIST:

Project Name	Contract Amount	% complete	Engineer	Owner Contact	Completion Date
DDCWSA Lift Station & Forcemain	\$353,522.00	100%	RJ Wood Ronnie Wood (478) 741-7044	Douglas County Daniel Manny (770) 920-3853	7/31/10
City of Roswell WTP Improvements	\$69,960.00	100%	none	City of Roswell Mike Leonard (770) 641-3816	7/31/10
City of Montezuma Levee Pump Station	\$334,720.00	100%	Ocmulgee Engineering Lance Woods (478) 217-0352	City of Montezuma Jim Copland (478) 472-9782	8/15/10
City of Roberta WWTP Improvements	\$1,262,910.00	100%	Carter & Sloope Trey Gavin (478) 477-3923	City of Roberta Bob Bacle (478) 837-5582	8/1/11
Dekalb County Snapfinger WWTP Improvements	\$497,494.00	100%	none	Dekalb County Merat Zarrei (770) 621-3526	4/1/11
Stepan Chemical Site Development	\$343,000	100%	Process Unlimited	Stepan Chem. Bob Montgomery (770) 867-8826	4/1/11
Howard Road Booster Pump Station	\$96,928.00	100%	GBT Chris Poje (770) 333-0700	City of Senoia, GA	4/15/11
Mason Mill Park Ecological Pump Station	\$352,794.00	100%	Brown & Caldwell	Dekalb County Merat Zarrei (770) 621-3526	11/1/11



Project Name	Contract Amount	Percent Complete	Engineer	Owner	Completion Date
Skipper Road Booster Pump Station	\$1,120,000	100%	Hofstadter & Associates John Fry (478) 757-1169	MWA Ray Shell (478) 454-5637	10/1/11
WJ Hooper WPP Solids Handling Improvements	1,664,072.00	100%	CH2M Hill Chris Cranmer (678) 313-9095	CCWA Mike Buffington (770) 960-3616	3/1/12
Willeo Creek Pump Station Upgrade	399,628.00	100%	Hazen & Sawyer	Cobb County, Andrew Kennedy (770) 419-6388	7/15/12
Scott Candler Emergency Pump Station Modifications-Dekalb County	2,062,918.00	100%	CDM Rob Isabel (404) 720-1400	Dekalb County Merat Zarreii (770) 621-3526	3/1/14
Lower Crooked Creek Pump Station #1	1,181,000.00	100%	B & C -Kelly Comstock (770) 673-3669	Dekalb County, GA Jeff Winston (404) 660-9436	11/15/12
Echeconee Lift Station Modifications	657,400.00	100%	Carter Sloope Trey Gavin (478) 477-3923	MWA Ray Shell (478) 454-5637	10/31/12
MWA Pump Station Rehab No. 2	\$634,780.00	100%	Hofstadter & Associates John Fry (478) 757-1169	MWA Ray Shell (478) 454 -5637	4/30/13
CCWA Distribution System Improvements	\$1,143,456.00	100%	Jacobs Michael Diaz (770) 455-8555	CCWA Cliff Beroset (678) 422-2828	8/15/13
City of Atlanta DB -Dechlor Project	282,800	100%	Lakeshore Engineering	City of Atlanta Mike Shelhammer	4/30/13
Fort Gordon Gate 4 BPS	1,334,492	100%	JLA -Rich Laschober (706) 724-5756	AUD - Stanley Aye (706) 724-5756	10/31/13
Louisville GA WTP Improvements	1,109,016	100%	GBT - Kenny Green (706) 863-8800	City of Louisville, GA	6/30/14
College Park, GA	288,896	100%	GBT - Chris Poje (770) 333-0700	College Park, GA- Jackson Myers	6/30/13





Project Name	Contract Amount	Percent Complete	Engineer	Owner	Completion Date
Casey Bio-Filter Rehab	\$680,873	100%	Jacobs Diana Davis	CCWA Cliff Beroset	4/15/14
NE Chemical Tank Replacement	\$165,496	100%	Jacobs Diana Davis	CCWA Cliff Beroset	3/27/14
Middle Oconee WRF Improvements	\$1,065,000	100%	EMI Chip McGaughey	JCWSA Joey Leslie	9/30/2014
Cobb Raw Water Pump Replacement	\$363,275	100%	CEC Andrew Lovejoy	Cobb Water Lance Buchanan	8/15/2014
Rincon WRF	\$258,404	100%	EMC Tim Baumgartner	City of Rincon Tracy Gunter	6/15/14
Shoal Creek IPS	\$627,521	100%	Jacobs Michael Diaz	CCWA Jim Poff	9/15/2014
Warm Springs Radium Removal	\$607,258	100%	EMI Russ Brink	City of Warm Springs	4/15/2015
Tallapoosa Pump Station	\$309,615	100%	GB Turnipseed Chuck Butterfield	City of Tallapoosa	10/31/2014
Runaway Point Pump Station	\$289,668	100%	ISE Cary Dial	Chatham County	7/15/14
Emory Private WRF	1,265,327	100%	Mckim & Creed George Simon	Emory University	7/15/15
Mauldin Road WTP	4,754,087	100%	Peoples & Quigley Bob Peoples	City of Calhoun Jerry Crawford	1/15/16
Amerson WTP RWPS	589,478	100%	Hazen & Sawyer Dave Ehrhardt	MWA Ray Shell	7/15/15
South River Aeration Basins	2,993,952	100%		COA Mike Shelhammer	5/30/16
Long Cane Creek Fine Screen Installation	511,500	100%	Ellis & Associates Ron Ellis	City of LaGrange	11/15/15
RM Clayton WRC Centrifuge Controls	\$1,878,462.00	100%	CMG Brad Ross	COA Sandra Glenn	3/30/2016



Project Name	Contract Amount	Percent Complete	Engineer	Owner	Completion Date
Hemphill Embankment Repairs	\$2,899,000	100%	CMG Dennis Phillips	COA Lee Hunt	3/1/2017
Crosstown WTP Improvements	\$4,523,281	100%	CH2M Hill Michael Diaz	FCWA Lee Pope	11/2016
North Rabun WTP Improvements	\$5,448,616	100%	Precision Planning Jim Sunta	Rabun County BOC Brendan Thompson	2/2017
South Columbus Dewatering Building	\$2,049,000	100%	Ch2M Hill Michael Diaz	Columbus Water Works Andrew Slavens	3/15/2017
Amerson WTP RWPS Low Flow Management System	\$467,000	100%	Aecom Dmitry Tepo (404) 965-9674	Macon Water Authority Ray Shell	4/2017
Bojo Ella Lift Station	\$794,000	100%	Carter & Sloope Charlie Bridges	City of Douglas	9/30/2017
Lamar Ham WTP High Service Pump Replacement	\$391,099	100%	Goodwyn, Mills, Cawood Tim Blaydes	City of Milledgeville Robert Haden	11/30/2017
Rose Creek Odor Control Improvements	\$689,027	100%	Infratech Keith Hendrix	Cherokee County Water & Sewer Authority Mike Venters	9/30/2017
City of Woodstock Wells	\$845,500	100%	Rindt McDuff Robert Simmons	City of Woodstock	10/30/2017
College Park Water System Improvements	\$1,664,000	100%	Turnipseed Engineers Chuck Butterfield	City of College Park Jackson Meyers	2/29/2018
Riverbend Environmental Complex - JV	\$14,046,190 (Lakeshore Engineering Portion)	100%	Hazen & Sawyer Chris Szoch (404) 459-6363	Cherokee County Water & Sewer Authority Corey Ghorley	10/15/2018
North Columbus WRF Solids	\$2,472,341	100%	Krebs Engineering Scott Lee	Columbus Water Works Jason Powers	12/31/2018



Project Name	Contract Amount	Percent Complete	Engineer	Owner	Completion Date
CNG Fueling Facility at Hamilton Mill	\$15,439,720	100%	MARTA Israel Shahdaiah (404) 848-4019	MARTA Jason Williams (404) 848-6297	2/29/19
Big Flat Creek Pump Station	\$3,042,000	100%	ESI John Fleck (770) 634-4177	Gwinnett County DWR Tyler Tanksley (678) 376-6935	10/30/19
North Chattahoochee Interceptor Pump Station	\$5,443,155.00	100%	Brown & Caldwell	Gwinnett County DWR Tyler Tanksley (678) 376-6935	10/30/19
Snapping Shoals WPCP	\$24,923,566	75%	Parsons Billy Street 678 910-1697	Rockdale County David Cervone	7/1/21
Reynolds Plantation Water Treatment Plant	\$11,600,000	70%	Fortis Engineering Mark Pittard 770 402-8452	Piedmont Water Adam Shaifer (404) 235-4035	3/15/2021
South Fayette Chloride Dioxide Generation System	\$934,080.00	75%	CH2M Hill Chris Cranmer	FCWA Russell Ray	11/30/2020
Clarkesville WTP Upgrade	\$4,854,505.00	50%	Turnipseed Engineers Chris Poje	City of Clarksville	10/15/2021
Nevis Island Water Treatment Plant	\$600,000.00	70%	Turnipseed Engineers Chris Poje	Nevis Island Authority Floyd Robinson	12/15/2020
Brooks Road Pump Station	\$7,721,900.00	10%	Tetra Tech	Gwinnett County DWR	12/31/2021
Blankets Creek Pump Station	\$2,039,000.00	5%	ESI Scott Hennessy	Cherokee County WSA	12/31/2021
Sherwood Pump Station	\$3,749,150.00	2%	ESI John Fleck	Gwinnett County DWR	12/31/2021



**President /Project Director  
Garland L. Long, P.E.**

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**EMPLOYMENT HISTORY**

November 2009 – Present      President Lakeshore Engineering  
June 2005 – October 2009      Vice President Heavy Constructors, Inc.  
July 1998 – April 2005      Vice President - The Winter Construction Company/ Winter Environmental  
September 1990 – June 1998      Project Manager – Waste Abatement Technology (WATEC)

**EDUCATION**

Bachelor Civil Engineering – Georgia Institute of Technology, 1990

**TRAINING & CERTIFICATIONS**

- Licensed Professional Engineer, State of Georgia
- Licensed General Contractor, Unlimited, State of Georgia
- Licensed Utility Manager, State of Georgia
- Prior Board of Directors, Georgia Utility Contractors Association
- Member, American Society of Civil Engineers
- Member Association General Contractors of GA
- OSHA 40-hour HAZWOPER training

**RELEVANT PROJECT EXPERIENCE**

- Rabun County WTP Construction – Construction of new water treatment plant including the installation of Westech Package Water Treatment System
- **OVER 30 YEARS EXPERIENCE IN WATER AND WASTEWATER TREATMENT PLANT CONSTRUCTION**



**Vice President / Preconstruction Manager**  
**Jeff Laurion**

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**EMPLOYMENT HISTORY**

**August 2010 – present**

**Lakeshore Engineering LLC**

- Project Manager / Estimator for water / wastewater treatment plant projects

**August 2005 – July 2010**

**Skanska USA Civil SE**

- Project Manager, R.M. Clayton Digester Upgrades Project, Atlanta, GA
- Sr. Project Engineer, West Area CSO Treatment Facility, Atlanta, GA

**May 2003 – August 2005**

**Winter Construction Company**

- Project Manager, Tussahaw Water Treatment Facility, Jackson, GA
- Project Manager, City of Rincon Water Pollution Control Facility, Rincon, GA

**November 1998 – May 2003**

**Danis Environmental Industries, Inc**

- Civil Project Manager, Lee Hall Water Treatment Plant, Newport News, VA
- Civil Project Manager, Harwoods Mill Water Treatment Plant, Newport News, VA
- Mechanical Project Manager, Lawrence Wastewater Treatment Facility, Lawrence, KS
- Mechanical Project Manager, Ina Road Wastewater Treatment Plant, Tucson, AZ
- Mechanical Project Engineer, Sod Run Wastewater Treatment Plant, Pctryman, MD

**October 1995 – November 1998**

**M.A. Mortenson**

- Field/ Office Engineer, South Essex Sewer District Treatment Plant, Salem, MA

**EDUCATION:**

Wentworth Institute of Technology, Boston, MA

- Bachelor of Science in Civil Engineering Technology, September 1995
- Associate Degree in Building Construction Technology, May 1993

**TRAINING & CERTIFICATIONS:**

- OSHA (30 hrs) & OSHA Focus Four
- Scaffold & Excavation Competent Person
- Confined Space and Sulfur Dioxide/Chlorine Safety trained
- CPR & First Aid Certified.



## **Senior Project Manager Brandon Dow**

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### **EMPLOYMENT HISTORY**

**2016 – Present**                **Lakeshore Engineering**  
**2008 – 2016**                **Layne Heavy Civil (Formerly Reynolds Inc.).**  
**2001 – 2008**                **Alberici Constructors**

### **EDUCATION**

Bachelor Mechanical Engineering Technology–Southern Polytechnic State University (SPSU)

### **TRAINING & CERTIFICATIONS**

- E.I.T. 2002
- LEED 2.2 Certified
- OSHA 30 Hour Safety Training
- Red Cross First Aid / CPR

### **RELEVANT PROJECT EXPERIENCE –**

#### **Riverbend Environmental Complex – Ballground, GA**

Construction of new wastewater treatment plant including concrete, equipment installation, Electrical. Contract Value \$14,059,737.00

#### **North Chattahoochee Interceptor Pump Station Improvements – Duluth, GA**

Upgrade to existing wastewater pump station including concrete, mechanical, electrical, odor control, equipment installation and startup – Contract Value - \$5,443,155.00

#### **Big Flat Creek Pump Station – Loganville, GA**

Construction of new wastewater pump station including sitework, concrete, yard piping, concrete, Electrical, equipment installation, and startup. Contract Value \$3,184,000.00

#### **Hard Labor Creek Dam, Social Circle, GA**

New earth and concrete dam. Includes a concrete chute spillway with 14,000 CYD concrete, 120' foot tall earthen dam, 1,400 Acre reservoir. Contract Value \$18,000,000

#### **Breezy Hill Water Treatment Plant, Clearwater, SC**

New Water Treatment Facility that included a Raw Water Intake, Raw Water Pump Station, and an Operations Building to house the Plant Staff. Contract Value \$9,000,000





**Lawrenceville Water Treatment Facility, Lawrenceville, GA**

New Water Treatment Facility that included treatment and storage of Raw Well Water and an Office Building to house the City's Water Department. Contract Value \$4,000,000

**Wastewater Land Treatment System, Jacksonville, NC**

Upgrade and Expansion, Plant Upgrade at the main pump and effluent pump stations. Contract Value \$26,000,000

**No Business Creek, Gwinnett County, GA**

Tunnel and Pump Station Furnish and install two (2) pumps, metal building, processing and mechanical equipment for tunnel project. Contract Value \$8,500,000

**South River WRC Head works Improvements, City of Atlanta, GA**

Demolition and installation of head works equipment and the design, fabrication and construction of a permanent bypass pumping steel structure. Contract Value \$4,400,000

**Pump Stations Improvements, City of Atlanta, GA**

Modification of one pump station and four stations with major equipment. Upgrades and capacity improvements. Contract Value \$6,800,000

**Custer Avenue CSO & Dechlorination Facility, City of Atlanta, GA**

Demolition of screening facility and diversion channels and the construction of new screening and dechlorination facility with associate piping, site preparation, etc. Contract Value \$37,000,000



**Project Manager  
Steven Ruble**

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**EMPLOYMENT HISTORY**

**2020 – Present                      Lakeshore Engineering**  
**2005 – 2020                        Heavy Constructors, Inc.**

**EDUCATION**

Bachelors of Construction Management – Southern Polytechnic State University (SPSU)

**TRAINING & CERTIFICATIONS**

- OSHA – Trench and Excavation Certification
- OSHA 10
- NPDES Level 1A Certification
- Red Cross First Aid / CPR

**RELEVANT PROJECT EXPERIENCE –**

**Cartersville WTP Filter Upgrade – Cartersville GA**

Rehabilitation of existing filter systems including the replacement of existing control valves.  
Contract Value \$1,675,000

**Cumming WTP Chemical Improvements – Cumming GA**

Construction of new chemical system feed building and the addition of slope protection on an existing creek. Contract Value - \$4,803,000

**Riverside Chemical Improvements WTP Upgrade – Gainesville GA**

Construction of new chemical feed system including sitework, yard piping, concrete, electrical, equipment installation, and startup. Contract Value \$9,507,892

**WB Casey WWTP – Clayton County, GA**

Addition of a new 120' clarifier, rehabilitation of the existing pre-screening structure, and the construction of a drum screen. Contract Value \$14,114,829

**Rum Creek Pump Station – Clayton County GA**

Construction of new pump station while existing station was in service. Old pump station was demolished upon completion. Contract Value \$1,807,030



**Blue Ridge Water Treatment Plant – Blue Ridge GA**

New Water Treatment Facility that included the construction of a new 2.0 MGD clear well, basins, filters, chemical feed systems, and solids handling building. Contract Value \$7,720,000

**McCaysville WTP Expansion – McCaysville GA**

Upgrades to the water plant including the rehabilitation of the existing filters, chemicals system upgrades, instrumentation update, and the construction of a new clear well next to the Tallapoosa River. Contract Value \$4,457,767

**Fannin County H2O Main & Pump Station – Fannin County GA**

Construction of a new water main, including the addition of instrumentation and controls of water booster/tanks throughout the county.

Contract Amount \$1,457,767

**City of Atlanta Pump Stations (2) – College Park GA**

Construction of two new sewage pump station next to the fifth runway.

Contract Value \$1,985,230

**Quarles WTP Hypochlorite & Chemical Tank improvements – Cobb County Marietta Water Authority**

Construction of a new chemical systems including a sodium hypochlorite generation system, chlorine dioxide generator, and storage tanks. Contract Value \$7,030,434



**Project Engineer / QA QC Manager/ Safety Manager  
Jeff Endres, P.E.**

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**EMPLOYMENT HISTORY**

**2010 – Present                  Lakeshore Engineering**

**EDUCATION:**

Bachelor Civil Engineering – Georgia Institute of Technology, 1990

**TRAINING & CERTIFICATIONS:**

- Licensed Professional Engineer - GA
- OSHA 40 HR Hazwoper Training
- OSHA 30 HR CFR 1926 training

**RELEVANT PROJECT EXPERIENCE:**

- Marta CNG Fueling Facility
- Crosstown WTP Improvements
- Rabun County WTP Construction
- CCWA Pumping System Improvements
- Intranchment Creek WRF Improvements
- South Columbus WRF Solids Handling
- WJ Hooper Solids Handling



## **General Project Superintendent Beau Jackson**

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### **EMPLOYMENT HISTORY**

**2009 – Present                      Lakeshore Engineering**

- Supervision and construction of water and wastewater treatment facilities

**2005-2009                      Wharton-Smith Inc.**

- Supervision and construction of water and wastewater treatment facilities

**1998-2005                      Winter Construction**

- Supervision and construction of water and wastewater treatment facilities

### **TRAINING & CERTIFICATIONS:**

- OSHA 30 hr safety training
- OSHA Subpart P – Excavation Training
- Red Cross First Aid / CPR annual training

### **RELEVANT PROJECT EXPERIENCE:**

- Skipper Road Booster Pump Station
- City of Roberta WWTP
- South Columbus WRF Solids Handling Facility
- North Columbus WRF Screw Press Installation
- City of Milledgeville HS pump replacement
- Bojo Ella Lift Station Refurbishment
- Amerson WTP Low Flow Management System



## **Project Superintendent Michael Bowen**

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### **EMPLOYMENT HISTORY**

**2018 – Present                  Lakeshore Engineering**

- Supervision and construction of water and wastewater treatment facilities

**2005 – 2018                  Heavy Constructors**

- Construction of water and wastewater treatment projects

**2010-2018                  Winter Construction**

- Construction of water and wastewater treatment projects and remediation systems

### **TRAINING & CERTIFICATION**

- OSHA 30 HR Safety Training
- 40 HR OSHA HAZWOPER Training
- Red Cross & CPR
- OSHA Subpart P Excavation Safety Training

### **RELEVANT PROJECT EXPERIENCE:**

- Snapping Shoals WPCP
- WB Casey WRC Upgrade
- Huie Wetland Phase II & III
- Clayton County Water Authority WJ Hooper UV
- Gwinnett County F Wayne Hill





## **Project Superintendent Tim Raby**

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### **EMPLOYMENT HISTORY**

**2016 – Present                  Lakeshore Engineering**

- Supervision and construction of water and wastewater treatment facilities

**2003 - 2016                  Layne Heavy Civil / Reynolds**

- Supervision and construction of water and wastewater treatment facilities

### **TRAINING & CERTIFICATIONS**

- OSHA 40 HR Hazwoper Training
- OSHA 30 HR CFR 1926 training
- First Aid & CPR Training
- Excavation Safety & Competent Person Training

### **RELEVANT PROJECT EXPERIENCE:**

**North Chattahoochee Interceptor Pump Station** – Upgrade to existing wastewater pump station including bypass pumping, yard piping, concrete restoration, electrical, instrumentation, chemical feed systems, and startup. Contract Value - \$5,443,155.00

**Riverbend Environmental Complex – Ballground, GA**

Construction of new wastewater treatment plant including concrete, equipment installation, Electrical. Contact Value \$14,059,737.00

**Butler Creek Interceptor Upgrade West, Phase III, Augusta Utilities Department, Augusta, GA** – Start date October 2014 through Completion date: July 2015. 7,000 LF of 30-Inch diameter gravity sewer including 400 LF of tunneling and 200 LF of jack and bore; 5,100 LF of 20-Inch diameter force main; upgrade of existing lift station. Contract Amount \$5,170,950.

**Sunset Water Treatment Plant Expansion, Guntersville Water and Sewer Board, Guntersville, AL** - Superintendent-Start date: August 2012 through Completion date: June 2015. Additions and modifications to the existing 6 MGD water treatment plant. Contract Amount \$8,367,101.



**Breezy Hill Water Treatment Plant, Breezy Hill Water & Sewer Co., Inc., Burnetown, SC** - Superintendent-Start date: September 2011 through Completion date: May 2013. New Water Treatment Facility that included a Raw Water Intake, Raw Water Pump Station, and an Operations Building to house the Plant Staff. Contract amount \$9,000,000

**Walnut Creek WWTF, Henry County WSA McDonough, GA** - Project Superintendent-Start date: April 2009 through Completion date: May 2012. This project involved furnishing all labor, materials, tools, equipment and incidentals, required to construct complete in place and ready to operate the Walnut Creek WRF Phase 2 Expansion. Contract amount \$24,803,953.

**James Creek WRF- Waterscape Utilities LLC, Cumming, GA** - Superintendent-Start date: June 2004 through Completion date: June 2006. The project utilized a Design-Build delivery method to provide for quick results while maintaining flexibility to allow for the changing demands of growth during construction. The facility is built to handle 1.0 MGD of flow, but outfitted with enough equipment to treat 0.25 MGD. Contract amount: \$10,331,464.



## **Assistant Project Manager Nick Leclerc**

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### **EMPLOYMENT HISTORY**

#### **June 2018 – Present Lakeshore Engineering, LLC**

- Assistant Project Manager / Estimator / Scheduler / Wastewater Treatment Plant Projects
  - North Chattahoochee Interceptor Pump Station Upgrades
  - Intrinchment Creek WRC Upgrades

#### **May 2014 – June 2018 PC Construction**

- Project Engineer / Estimator / Scheduler/ Manager / Water Treatment Plant Projects / Buildings and Facilities
  - City of Atlanta Department of Watershed Water Reserve Project, Atlanta, GA
  - Waterbury State Complex Renovation and Rehabilitation, Waterbury, VT

### **EDUCATION**

Bachelor of Science in Construction Engineering Management – Norwich University, Northfield, VT, 2014

### **TRAINING & CERTIFICATIONS**

- OSHA (30 hrs)
- CPR
- Fall Protection Training
- Confined Space Training
- Protection Training, Confined Space Training

### **RELEVANT PROJECT EXPERIENCE:**

- Annual Contract for Major Mechanical Repairs and Services – City of Atlanta
- Bellwood Quarry Pump Station – City of Atlanta
- North Chattahoochee Interceptor Pump Station Improvements – Gwinnett County DWM

**SECTION 00 45 19**  
**STATEMENT OF NONCOLLUSION**

Each Bidder shall complete the following statement in accordance with OCGA 36-91-21(e):

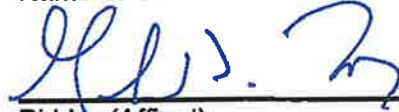
STATE OF GA }  
COUNTY OF Fulton } §

That (s)he is the agent authorized by the Bidder to submit the attached bid. Affiant further states that the Bidder has not been a party to any collusion among Bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any State, County, City, or Authority official or employee as to quantity, quality, or price in the prospective Contract, or any other terms of said prospective Contract; or in any discussions between Bidders and any State, County, City, or Authority official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

Affiant further warrants that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business.

Lakeshore Engineering, LLC

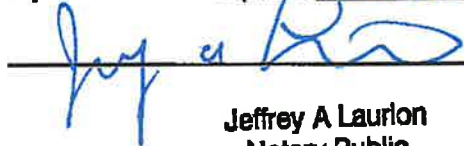
Name of Contractor



Bidder (Affiant)

Subscribed and sworn to before me this 17<sup>th</sup> day of NOVEMBER, 2020.

My commission expires: 2/18/23



Notary Public

Jeffrey A Laurion  
Notary Public  
State of Georgia  
Cherokee County

**END OF SECTION**

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**SECTION 00 45 75**

**GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT OF 2006**

Pursuant to the Georgia Security and Immigration Compliance Act of 2006, the Contractor understands and agrees that compliance with the requirements of O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-.02 are conditions of this Agreement. The Contractor further agrees that such compliance shall be attested by the Contractor through execution of the contractor affidavit required by Georgia Department of Labor Rule 300-10-1-.07, or a substantially similar contractor affidavit. The Contractor's fully executed affidavit is attached hereto as Exhibit A and is incorporated into this Agreement by reference herein.

By initialing in the appropriate line below, the Contractor certifies that the following employee-number category as identified in O.C.G.A. § 13-10-91 is applicable to the Contractor:

1. \_\_\_\_\_ 500 or more employees;
2. \_\_\_\_\_ 100 or more employees;
3.   X   Fewer than 100 employees.

The Contractor understands and agrees that, in the event the Contractor employs or contracts with any subcontractor or subcontractors in connection with this Agreement, the Contractor shall:

1. Secure from each such subcontractor an indication of the employee-number category as identified in O.C.G.A. § 13-10-91 that is applicable to the subcontractor;
2. Secure from each such subcontractor an attestation of the subcontractor's compliance with O.C.G.A. § 13-10-91 and Georgia Department of Labor Rule 300-10-1-.02 by causing each such subcontractor to execute the subcontractor affidavit required by Georgia Department of Labor Rule 300-10-1-.08, or a substantially similar subcontractor affidavit. The Contractor further understands and agrees that the Contractor shall require the executed subcontractor affidavit to become a part of the agreement between the Contractor and each such subcontractor. The Contractor agrees to maintain records of each subcontractor attestation required hereunder for inspection by the Clayton County Water Authority at any time.

Contractor: Lakeshore Engineering, LLC

Authorized Signature: 

Title: President

Date: November 17, 2020

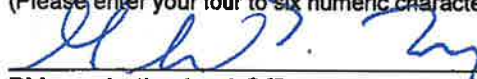
**EXHIBIT A  
CONTRACTOR AFFIDAVIT AND AGREEMENT**

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 contracting with the Clayton County Water Authority has registered with, is participating in, uses, and will continue to use for the duration of the Contract, the federal work authorization program – EEV/Basic Pilot Program operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA), commonly known as E-Verify, in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

The undersigned further agrees that, in connection with the physical performance of services pursuant to this Contract with the Clayton County Water Authority, the Contractor will only employ or Contract with subcontractor(s) who can present a similar affidavit verifying the subcontractor's compliance with O.C.G.A. 13-10-91. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the Clayton County Water Authority within five days of the subcontractor(s) presenting such affidavit(s) to the Contractor.

292618

EEV / Basic Pilot Program User Identification Number  
(Please enter your four to six numeric characters)



BY: Authorized Officer or Agent

November 17, 2020

Date

President

Title of Authorized Officer or Agent if Contractor

Garland Long

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE  
17<sup>TH</sup> DAY OF NOVEMBER, 2020.



Notary Public

My Commission Expires: 2/8/23

Jeffrey A Laurion  
Notary Public  
State of Georgia  
Cherokee County



**EXHIBIT A-1  
SUBCONTRACTOR AFFIDAVIT**

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) Lakeshore Engineering on behalf of the Clayton County Water Authority has registered with, is participating in, uses, and will continue to use for the duration of this contract the federal work authorization program – EEV/Basic Pilot Program operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA), commonly known as E-Verify, in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91. The undersigned further agrees that the Subcontractor will maintain records of such compliance and provide a copy of each such verification to the Contractor within five days of the subcontractor(s) presenting such affidavit(s) to the Subcontractor.

470839  
EEV / Basic Pilot Program User Identification Number  
(Please enter your four to six numeric characters)

BY: [Signature]  
Authorized Officer or Agent  
Subcontractor Name

11/12/2020  
Date

President  
Title of Authorized Officer or Agent of Subcontractor

Joshua Herr  
Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE  
12 DAY OF November, 2020

[Signature]  
Notary Public  
My Commission Expires:

10/15/2022

END OF SECTION



**EXHIBIT A-1  
SUBCONTRACTOR AFFIDAVIT**

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) Lakeshore Engineering on behalf of the Clayton County Water Authority has registered with, is participating in, uses, and will continue to use for the duration of this contract the federal work authorization program – EEV/Basic Pilot Program operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA), commonly known as E-Verify, in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91. The undersigned further agrees that the Subcontractor will maintain records of such compliance and provide a copy of each such verification to the Contractor within five days of the subcontractor(s) presenting such affidavit(s) to the Subcontractor.

1325059

EEV / Basic Pilot Program User Identification Number  
(Please enter your four to six numeric characters)

Angela Ellinwood

11/17/2020

BY: Authorized Officer or Agent  
Subcontractor Name

Date

Vice President

Title of Authorized Officer or Agent of Subcontractor

Angela Ellinwood

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE  
17th DAY OF November, 2020.

Martha McGilton

Notary Public

My Commission Expires:

01/11/2022



**END OF SECTION**

**EXHIBIT A-1  
SUBCONTRACTOR AFFIDAVIT**

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) Lakeshore Engineering, Inc. on behalf of the Clayton County Water Authority has registered with, is participating in, uses, and will continue to use for the duration of this contract the federal work authorization program – EEV/Basic Pilot Program operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA), commonly known as E-Verify, in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91. The undersigned further agrees that the Subcontractor will maintain records of such compliance and provide a copy of each such verification to the Contractor within five days of the subcontractor(s) presenting such affidavit(s) to the Subcontractor.

1609497  
EEV / Basic Pilot Program User Identification Number  
(Please enter your four to six numeric characters)

Arnold Sims  
BY: Authorized Officer or Agent  
Subcontractor Name

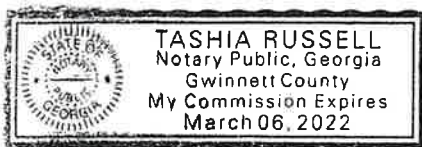
1-28-21  
Date

VP of Operations  
Title of Authorized Officer or Agent of Subcontractor

ARNOLA SIMS  
Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE  
28 DAY OF January, 2021.

Tashia Russell  
Notary Public  
My Commission Expires: 03/06/2022




**END OF SECTION**



**EXHIBIT A-1  
SUBCONTRACTOR AFFIDAVIT**

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) MR Systems, Inc. on behalf of the


Clayton County Water Authority has registered with, is participating in, uses, and will continue to use for the duration of this contract the federal work authorization program – EEV/Basic Pilot Program operated by the U.S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA), commonly known as E-Verify, in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91. The undersigned further agrees that the Subcontractor will maintain records of such compliance and provide a copy of each such verification to the Contractor within five days of the subcontractor(s) presenting such affidavit(s) to the Subcontractor.

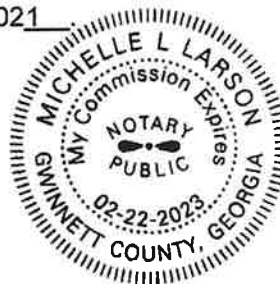
98676  
EEV / Basic Pilot Program User Identification Number  
(Please enter your four to six numeric characters)  
  
BY: \_\_\_\_\_  
Authorized Officer or Agent  
Subcontractor Name

01/29/2021  
Date

CEO  
Title of Authorized Officer or Agent of Subcontractor  
  
Thomas H. Hopkins, Jr.  
Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE  
29th DAY OF January, 2021

  
\_\_\_\_\_  
Notary Public  
My Commission Expires:  
02/22/2023



**END OF SECTION**





## SECTION 00 52 00

### AGREEMENT

THIS AGREEMENT is by and between the Clayton County Water Authority (hereinafter called Owner) and Lakeshore Engineering, LLC (hereinafter called Contractor).

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

#### ARTICLE 1 – WORK

- 1.01 Contractor shall at its own cost and expense furnish all labor, services, tools, materials, equipment, and incidentals necessary to complete all Work as specified or indicated in the Contract Documents to construct the **2020-PME-17 J.W. Smith Water Production Plant High Service Pump Station Upgrades**

#### ARTICLE 2 – ENGINEER

- 2.01 The Project has been designed by Hazen and Sawyer, which 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

- 3.01 Days to Achieve Substantial Completion and Final Payment
- A. The Work shall be substantially completed within 420 calendar days after the date when the Contract Times commence to run as provided in Section 00 73 00 Supplementary Conditions paragraph SC-4.01 A, and completed and ready for final payment in accordance with Section 00 72 00 General Conditions paragraph 15.06 within 460 calendar days from the date when the Contract Times commence to run.
- 3.02 Liquidated Damages
- A. Owner and Contractor recognize that time is of the essence and that Owner will suffer financial loss if the Work is not substantially completed within the time specified in Paragraph 3.01 for Substantial Completion, plus any extensions thereof allowed in accordance with the General Conditions. Owner and Contractor also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not substantially 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 at the daily rate of One Thousand Five Hundred Dollars (\$1,500.00) per day for each day that



expires after the time specified in Paragraph 3.01 for Substantial Completion (adjusted for changes thereof, if any, made in the General Conditions) until the Work is substantially complete.

- B. After Substantial Completion, if Contractor neglects, refuses, or fails to complete the remaining Work within the Contract Times or any Owner-granted extension thereof, Contractor shall pay Owner Five Hundred Dollars (\$500.00) for each day that expires after the time specified in paragraph Contract Times above for completion and readiness for final payment.
- C. Owner shall recover such liquidated damages by deducting the amount owed from the final payment or any retainage held by Owner.

#### ARTICLE 4 – CONTRACT PRICE

4.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the prices stated in Contractor's Bid, which Bid is attached hereto and identified as an Exhibit of this Agreement, an adjusted amount equal to the sum of the amounts determined pursuant to the following.

- A. Lump Sum Bid Price: \$ 2,115,000.00
- B. Plus: Cash Allowances
  - a. CHECKTronic Valve \$ 179,600.00
  - b. Surge Anticipator Valve \$ 20,724.00
- C. Plus: Contingency Allowances
  - a. Unforeseen Work Elements \$ 250,000.00

D. Plus: Unit Price Items, an estimated amount of:

Description	Est. Qty.	Unit	Unit Price	Total Amount
Fiber Optic Cable	400	LF	\$6.50	\$2,600.00
GRS conduit with conductors	1000	LF	\$7.50	\$7,500.00
Uninstalled spare electric actuator and limit switch	1	EA	\$19,450.00	\$19,450.00
Uninstalled spare pump bowl assembly	1	EA	\$31,000.00	\$31,000.00
Uninstalled spare pump motor	1	EA	\$42,000.00	\$42,000.00
Uninstalled spare 12-inch flanged butterfly valve	1	EA	\$1,200.00	\$1,200.00
Uninstalled spare 4-inch bias/non-slam air valve	2	EA	\$2,300.00	\$4,600.00
Additional copper utility water piping	50	LF	\$5.00	\$250.00
Additional PVC process drain piping	50	LF	\$3.00	\$150.00
Additional ductile iron fittings	2	TON	\$4,000.00	\$8,000.00
Additional ductile iron pipe	30	LF	\$20.00	\$600.00
Additional pipe coating	150	SF	\$18.00	\$2,700.00

Total of All Unit Price Items \$120,050.00

E. Total Contract Price:

Two Million Six Hundred Eighty Five Thousand Three Hundred Seventy Four Dollars

(Words)

and Zero Cents

(Words)

\$ 2,685,374.00

(Figures)

F. Equipment / Material Manufacturers Selected

a. Vertical Turbine Pumps Patterson

b. Automatic Electric Check Pump Control Valve GA Industries

c. Surge Anticipator Valve Cla-Val

d. Motor Control Centers, Variable Frequency Drives

Enclosed Motor Controllers Eaton

e. PLC Hardware Allen-Bradley CompactLogix

## **ARTICLE 5 – PAYMENT PROCEDURES**

### **5.01 Progress Payments; Retainage**

- A. Prior to Substantial Completion, Owner shall retain from progress payments 10 percent of the value of Work completed, and 10 percent of the value of stored materials and equipment. When Work has been 50 percent completed as determined by Owner, the provisions of Section 00 73 00 Supplementary Conditions paragraph SC-15.01 B. shall be applicable to the withholding of further retainage. Following Substantial Completion, Owner shall retain from progress payments an amount, not to exceed 200 percent of the value of the outstanding Work.

## **ARTICLE 6 – INTEREST**

- A. Monies not paid when due as provided in the Contract Documents shall bear interest at the rate to be negotiated between Owner and Contractor.

## **ARTICLE 7 – CONTRACTOR'S REPRESENTATIONS**

### **7.01 As part of the inducement for Owner to enter into this Agreement, Contractor makes the following representations:**

- A. Contractor has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, general nature of work to be performed by Owner or others at the site that relates to Work required by the Contract Documents and local conditions and federal, state, and local Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of Work.
- B. Contractor has studied carefully reports of explorations and tests of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in paragraph 5.03 of the General Conditions, and accepts the determination set forth in the Supplementary Conditions of the extent of the technical data contained in such reports and drawings upon which Contractor is entitled to rely. Contractor acknowledges that such reports and drawings are not Contract Documents.
- C. Contractor has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) examination, investigations, explorations, tests, studies, and reports (in addition to or to supplement those referred to above) which pertain to the conditions (subsurface or physical) at or contiguous to the site or otherwise and which may affect the cost, progress, performance, or furnishing of the Work as Contractor deems necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 5.03 of the General Conditions; and no additional or supplementary examinations, investigations,

explorations, tests, reports, or similar information or data are or will be required by Contractor for such purposes.

- D. Contractor has reviewed and checked information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities, if any, at or contiguous to the site and has included costs as defined by paragraph 5.05 of the General Conditions.
- E. Contractor has correlated information known to Contractor and results of such observations, familiarizations, examinations, investigations, explorations, tests, studies, and reports with Contract Documents.
- F. Contractor has given Engineer written notice of conflicts, errors, ambiguities, or discrepancies that it 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 terms and conditions for performing and furnishing Work.

## ARTICLE 8 – CONTRACT DOCUMENTS

8.01 The Contract Documents consist of the following:

- A. This Agreement as defined in Section 00 72 00 General Conditions paragraph 1.01.A.13
- B. Except for the Notice to Proceed, Drawings, and Addenda, these Contract Documents are also listed in the Tables of Contents and are bound in ~~six~~ **three** volumes, identified as Contract Documents for construction of the **J.W. Smith Water Production Plant High Service Pump Station Upgrades**. [Add. No. 1]
- C. The Drawings bound to the Project Manual, comprising a set entitled “J.W. Smith Water Production Plant High Service Pump Station Upgrades”, ~~and including the following:~~ **as listed in Section 00 01 15 List of Drawing Sheets in the Project Manual**. [Add. No. 1]
- D. Specifications, as listed in the table of contents of the Project Manual
- E. Standard details, bound with the above-noted volumes.
- F. Addenda consisting of number 1 through 6 inclusive.
- G. Exhibits to this Agreement include:
  - a. Conformed Bid Form.
  - b. Executed Performance and Payment Bonds.
  - c. Documents submitted by Contractor prior to execution of Agreement

- d. Statement of Noncollusion.
- H. The following, which may be delivered or issued on or after the Effective Date of the Agreement, and are not attached hereto:
  - a. Work Change Directive(s)
  - b. Change Order(s)
  - c. Field Order(s)
- 8.02 The documents listed in Paragraph 8.01 above are attached to this Agreement (except as expressly noted otherwise above). Documents not attached are incorporated by reference.
- 8.03 The Contract Documents may only be amended or supplemented as provided in the General Conditions.

## **ARTICLE 9 – MISCELLANEOUS**

### **9.01 Terms**

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

### **9.02 Assignment of Contract**

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

### **9.03 Successors and Assigns**

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

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in six copies (two counterparts each have been delivered to Owner, Contractor, and Engineer). All portions of the Contract Documents have been signed by Owner and Contractor.

This Agreement will be effective on March 16, 2021 (which is the Effective Date of the Agreement).

Owner: Clayton County Water Authority

Signature: [Signature]

Name: Harold Franks

Title: General Manager

Attest: [Signature]

Name: Rhonda Maxwell

Title: Executive Coordinator

Contractor: LAKEHORE ENGINEERING, LLC

Signature: [Signature]

Name: GARLAND LONG

Title: PRESIDENT

Attest: [Signature]

Name: JEFF A. LAURION Jeffrey A. Laurion

Title: Notary Notary Public  
State of Georgia  
Cherokee County

Exp: 2/8/23

Address for giving notices

1600 Battle Creek Road

Morrow, Georgia 30260

Address for giving notices

1259 ELLSWORTH DR

ATLANTA, GA 30318

Agent for service of process:

GARLAND LONG

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

(CORPORATE SEAL)



END OF SECTION





IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in six copies (two counterparts each have been delivered to Owner, Contractor, and Engineer). All portions of the Contract Documents have been signed by Owner and Contractor.

This Agreement will be effective on March 16, 2021 (which is the Effective Date of the Agreement).

Owner: Clayton County Water Authority

Signature: [Signature]

Name: H. Bernard Franks

Title: General Manager

Attest [Signature]

Name: Rhonda Maxwell

Title: Executive Coordinator

Contractor: LAKE SHORE ENGINEERING, LLC

Signature: [Signature]

Name: GARLAND LONG

Title: PRESIDENT

Attest [Signature]

Name: JEFF A. LAURION

Title: Notary  
Jeffrey A. Laurion  
Notary Public  
State of Georgia  
Cherokee County  
Exp: 7/8/22

Address for giving notices

1600 Battle Creek Road

Morrow, Georgia 30260

Address for giving notices

1259 ELLSWORTH DR  
ATLANTA, GA 30318

Agent for service of process:

GARLAND LONG

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

(CORPORATE SEAL)

(CORPORATE SEAL)

END OF SECTION

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Bond No.089572

JW SMITH WPP HSPS UPGRADES  
PERFORMANCE BOND

which the Authority may incur, sustain or suffer by reason of the failure or default on the part of the Principal in the performance of any and all of the terms, provisions and requirements of the Contract, including all modifications, amendments, changes, deletions, additions, and alterations thereto and any warranties or guarantees required thereunder, then this obligation shall be void; otherwise to remain in full force and effect;

2. In the event of a failure of performance of the Contract by the Principal, which shall include, but not be limited to, any breach of default of the Contract;
  - a. The Contractor's Surety shall commence performance of its obligations and undertakings under this Bond no later than thirty (30) days after written notice from the Authority to the Contractor's Surety;
  - b. The means, method or procedure by which the Contractor's Surety undertakes to perform its obligations under this Bond shall be subject to the advance written approval of the Authority.

The Contractor's Surety hereby waives notice of any and all modifications, omissions, additions, changes and advance payments or deferred payments in or about the 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, and advance payments or deferred payments. The Parties further expressly agree that any action on this Bond may be brought within the time allowed by Georgia law for suit on contracts under seal.

IN WITNESS WHEREOF, the Principal and Contractor's Surety have hereunto affixed their corporate seals and caused this obligation to be signed by their duly authorized officers or attorneys-in-fact, this 16 day of March, 2021.

CONTRACTOR – PRINCIPAL:

Lakeshore Engineering, LLC  
By: [Signature]  
(name signed)  
GARRAND LONG  
(name printed or typed)  
Title: PRESIDENT  
Address: 1258 Ellsworth Drive, Atlanta, GA 30318

Attest: [Signature]  
(name signed)  
JEFF A. LAURION  
(name printed or typed) Jeffrey A Laurion  
Notary Public  
State of Georgia  
Cherokee County (SEAL)  
Exp: 2/6/23  
Title: Notary

SURETY:

Berkley Insurance Company  
By: [Signature]  
(name signed)  
Daniel Yates  
(name printed or typed)  
Title: Attorney In Fact  
Address: 2800 Century Pkwy NE #300, Atlanta, GA 30345  
Attest: [Signature]  
(name signed)  
Tina Marsh  
(name printed or typed)  
Title: Witness

(SEAL)

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

END OF SECTION

THE  
FEDERAL  
BUREAU OF  
INVESTIGATION  
UNITED STATES  
DEPARTMENT OF JUSTICE

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POWER OF ATTORNEY  
BERKLEY INSURANCE COMPANY  
WILMINGTON, DELAWARE

NOTICE: The warning found elsewhere in this Power of Attorney affects the validity thereof. Please review carefully.

KNOW ALL MEN BY THESE PRESENTS, that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: *P. D. Yates, III; Daniel Yates; Alan R. Yates; Kevin M. Neidert; Gary Spuller; Michael L. Angel; Betsy J. Holmes; Marie M. Hartley; Michael S. Brickner; Brian K. Hughes; Jeffery John Blanton; Dana D. Rutledge; or Tina Marsh of Yates Insurance Agency of Atlanta, GA* its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed **Fifty Million and 00/100 U.S. Dollars (U.S.\$50,000,000.00)**, to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

**RESOLVED**, that, with respect to the Surety business written by Berkley Surety, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

**RESOLVED**, that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

**RESOLVED**, that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

**RESOLVED**, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 20<sup>th</sup> day of April, 2020.

Attest:  
(Seal) By Ira S. Lederman  
Executive Vice President & Secretary

Berkley Insurance Company

By Jeffrey M. Hafter  
Senior Vice President

**WARNING: THIS POWER INVALID IF NOT PRINTED ON BLUE "BERKLEY" SECURITY PAPER.**

STATE OF CONNECTICUT )

) ss:

COUNTY OF FAIRFIELD )

Sworn to before me, a Notary Public in the State of Connecticut, this 20<sup>th</sup> day of April, 2020, by Ira S. Lederman and Jeffrey M. Hafter who are sworn to me to be the Executive Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.

MARIA C RUNDRAKEN  
NOTARY PUBLIC  
CONNECTICUT  
MY COMMISSION EXPIRES  
APRIL 30, 2024

Maria C. Rundraken  
Notary Public, State of Connecticut

**CERTIFICATE**

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date, 26<sup>th</sup> day of February, 2021.

Given under my hand and seal of the Company, this \_\_\_\_\_ day of \_\_\_\_\_, 2021.

(Seal)

Vincent P. Forte  
Vincent P. Forte



Please **verify the authenticity** of the instrument attached to this Power by:

Toll-Free Telephone: (800) 456-5486; or

Electronic Mail: [BSGInquiry@berkleysurety.com](mailto:BSGInquiry@berkleysurety.com)

---

Any written notices, inquiries, claims or demands to the Surety on the bond attached to this Power should be directed to:

Berkley Surety  
412 Mount Kemble Ave.  
Suite 310N  
Morristown, NJ 07960  
Attention: Surety Claims Department

**Or**

Email: [BSGClaim@berkleysurety.com](mailto:BSGClaim@berkleysurety.com)

---

Please include with all communications the bond number and the name of the principal on the bond. Where a claim is being asserted, please set forth generally the basis of the claim. In the case of a payment or performance bond, please also identify the project to which the bond pertains.

Berkley Surety is a member company of W. R. Berkley Corporation that underwrites surety business on behalf of Berkley Insurance Company, Berkley Regional Insurance Company and Carolina Casualty Insurance Company.

SECTION 00 61 13.16

PAYMENT BOND

Bond No. 089572

KNOW ALL MEN BY THESE PRESENTS THAT Lakeshore Engineering, LLC  
(as Contractor, hereinafter referred to as the "Principal"), and Berkley Insurance Company  
(as Surety Company, hereinafter referred to as the "Contractor's Surety"), are held and firmly  
bound unto the Clayton County Water Authority (as Owner, hereinafter referred to as the  
"Authority"), for the use and benefit of any "Claimant" as hereinafter defined in the sum of \_\_\_\_\_  
Two Million Six Hundred Eighty Five Thousand, Three Hundred Seventy Four and No Cents  
(\$ 2,685,374.00 ) lawful  
money of the United States of America, for the payment of which the Principal and the Contractor's  
Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly  
and severally, firmly by these presents.

**WHEREAS**, the Principal has entered, or is about to enter, into a certain written agreement  
with the Authority, dated March 16, 2021, which is incorporated herein  
by reference in its entirety (hereinafter referred to as the "Contract"), for the construction of a  
project known as **J.W. Smith Water Production Plant High Service Pump Station Upgrades**  
(hereinafter referred to as "the Project").

**NOW THEREFORE**, the conditions of this obligation is such, that if the Principal shall  
promptly make payment to any Claimant, as hereinafter defined, for all labor, services and  
materials used or reasonably required for use in the performance of the Contract, then this  
obligation shall be void; otherwise to remain in full force and effect.

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 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  
the Contract with the Principal or any Subcontractor performing Work on the Project.

In the event of any claim made by the Claimant against the Authority, or the filing of a Lien  
against the property of the Authority affected by the Contract, the Contractor's Surety shall either  
settle or resolve the Claim and shall remove any such Lien by bond or otherwise as provided in  
the Contract.

The Parties further expressly agree that any action on this Bond may be brought within  
the time allowed by Georgia law for suit on contracts under seal.

IN WITNESS WHEREOF, the Principal and Contractor's Surety have hereunto affixed their corporate seals and caused this obligation to be signed by their duly authorized officers on this 16 day of March, 2020.

CONTRACTOR – PRINCIPAL: Lakeshore Engineering, LLC

By: \_\_\_\_\_

Garland Long

(name signed)

GARLAND LONG

(name printed or typed)

Title: \_\_\_\_\_

PRESIDENT

Address: 1259 Ellsworth Drive, Atlanta, GA 30318

Attest: \_\_\_\_\_

Jeffrey A. Laurion

(name signed)

JEFF A. LAURION

(name printed or typed)

Title: \_\_\_\_\_

NOTARY

(SEAL)

Jeffrey A Laurion  
Notary Public  
State of Georgia  
Cherokee County  
Exp: 2/16/23

SURETY:

Berkley Insurance Company

By: \_\_\_\_\_

Daniel Yates

(name signed)

Daniel Yates

(name printed or typed)

Title: Attorney In Fact

Address: 2800 Century Pkwy NE #300, Atlanta, GA 30345

Attest: \_\_\_\_\_

Tina Marsh

(name signed)

Tina Marsh

(name printed or typed)

Title: Witness

(SEAL)

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

END OF SECTION

POWER OF ATTORNEY  
BERKLEY INSURANCE COMPANY  
WILMINGTON, DELAWARE

NOTICE: The warning found elsewhere in this Power of Attorney affects the validity thereof. Please review carefully.

KNOW ALL MEN BY THESE PRESENTS, that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: *P. D. Yates, III; Daniel Yates; Alan R. Yates; Kevin M. Neidert; Gary Spuller; Michael L. Angel; Betsy J. Holmes; Marie M. Hartley; Michael S. Brickner; Brian K. Hughes; Jeffery John Blanton; Dana D. Rutledge; or Tina Marsh of Yates Insurance Agency of Atlanta, GA* its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed **Fifty Million and 00/100 U.S. Dollars (U.S.\$50,000,000.00)**, to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

**RESOLVED**, that, with respect to the Surety business written by Berkley Surety, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

**RESOLVED**, that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

**RESOLVED**, that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

**RESOLVED**, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 20<sup>th</sup> day of April, 2020.

Attest:

(Seal)

By

*Ira S. Lederman*

Executive Vice President &amp; Secretary

Berkley Insurance Company

By

*Jeffrey M. Hafter*

Senior Vice President

**WARNING: THIS POWER INVALID IF NOT PRINTED ON BLUE "BERKLEY" SECURITY PAPER.**

STATE OF CONNECTICUT )

) ss:

COUNTY OF FAIRFIELD )

Sworn to before me, a Notary Public in the State of Connecticut, this 20<sup>th</sup> day of April, 2020, by Ira S. Lederman and Jeffrey M. Hafter who are sworn to me to be the Executive Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.

MARIA C RUNDRAKEN  
NOTARY PUBLIC  
CONNECTICUT  
MY COMMISSION EXPIRES  
APRIL 30, 2024

*Maria C. Rundraken*  
Notary Public, State of Connecticut

**CERTIFICATE**

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date.

Given under my hand and seal of the Company, this 26<sup>th</sup> day of February, 2021.

(Seal)

*Vincent P. Forte*  
Vincent P. Forte

Please **verify the authenticity** of the instrument attached to this Power by:

Toll-Free Telephone: (800) 456-5486; or

Electronic Mail: [BSGInquiry@berkleysurety.com](mailto:BSGInquiry@berkleysurety.com)

---

Any written notices, inquiries, claims or demands to the Surety on the bond attached to this Power should be directed to:

Berkley Surety  
412 Mount Kemble Ave.  
Suite 310N  
Morristown, NJ 07960  
Attention: Surety Claims Department

**Or**

Email: [BSGClaim@berkleysurety.com](mailto:BSGClaim@berkleysurety.com)

---

Please include with all communications the bond number and the name of the principal on the bond. Where a claim is being asserted, please set forth generally the basis of the claim. In the case of a payment or performance bond, please also identify the project to which the bond pertains.

Berkley Surety is a member company of W. R. Berkley Corporation that underwrites surety business on behalf of Berkley Insurance Company, Berkley Regional Insurance Company and Carolina Casualty Insurance Company.

**SECTION 00 72 00**  
**GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT**

EJCDC C-700, Standard General Conditions of the Construction Contract  
(2013 Edition)

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# STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



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

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

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## ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

### 1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
  2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
  3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
  4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
  5. *Bidder*—An individual or entity that submits a Bid to Owner.
  6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
  7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
  8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
  9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
  10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision

regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.

25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.

38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

## 1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
    - a. does not conform to the Contract Documents; or
    - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
    - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
  2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
  3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
  4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words

“furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

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

## **ARTICLE 2 – PRELIMINARY MATTERS**

### **2.01 *Delivery of Bonds and Evidence of Insurance***

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner’s Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

### **2.02 *Copies of Documents***

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

### **2.03 *Before Starting Construction***

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
  - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
  - 2. a preliminary Schedule of Submittals; and
  - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

#### 2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

#### 2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
  - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
  - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
  - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

#### 2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.



## ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

### 3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

### 3.02 *Reference Standards*

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

### 3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
  - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
  3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.
- B. *Resolving Discrepancies:*
1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
    - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
    - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

### 3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

### 3.05 *Reuse of Documents*

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

## **ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK**

### 4.01 *Commencement of Contract Times; Notice to Proceed*

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

### 4.02 *Starting the Work*

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

### 4.03 *Reference Points*

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

### 4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
  - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

#### 4.05 *Delays in Contractor's Progress*

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

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

### 5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

### 5.02 *Use of Site and Other Areas*

- A. *Limitation on Use of Site and Other Areas:*
  - 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
  - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste

materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

- C. *Cleaning*: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

#### 5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
  - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
  - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
  - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
  - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
  - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
  - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

#### 5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor*: If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
  - 1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
  - 2. is of such a nature as to require a change in the Drawings or Specifications; or
  - 3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
  1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
    - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
    - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
  2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
    - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
    - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site



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

- c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
- 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
- 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

#### 5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
  - 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
  - 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
    - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
    - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
    - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
    - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.
- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and

recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
  - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
    - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
    - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
    - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
    - d. Contractor gave the notice required in Paragraph 5.05.B.
  - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
  - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

#### 5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
  - 1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
  - 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer,

or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
  2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
  3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

## **ARTICLE 6 – BONDS AND INSURANCE**

### **6.01 *Performance, Payment, and Other Bonds***

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond

signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

#### 6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor

to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.

- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

#### 6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
  - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
  - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
  - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).
  - 4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
  - 1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
  - 2. claims for damages insured by reasonably available personal injury liability coverage.
  - 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
  - 1. Products and completed operations coverage:
    - a. Such insurance shall be maintained for three years after final payment.

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



Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.

- I. *General provisions:* The policies of insurance required by this Paragraph 6.03 shall:
  - 1. include at least the specific coverages provided in this Article.
  - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
  - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
  - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
  - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

#### 6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

#### 6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
  - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."

2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
  3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
  4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
  5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
  6. extend to cover damage or loss to insured property while in transit.
  7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
  8. allow for the waiver of the insurer's subrogation rights, as set forth below.
  9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
  10. not include a co-insurance clause.
  11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
  12. include performance/hot testing and start-up.
  13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this

Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.

- C. *Deductibles*: The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

#### 6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
  - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by,

arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

#### **6.07    *Receipt and Application of Property Insurance Proceeds***

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

### **ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES**

#### **7.01    *Supervision and Superintendence***

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.

- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

#### 7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

#### 7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

#### 7.04 *"Or Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
  - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:

- a. in the exercise of reasonable judgment Engineer determines that:
    - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
    - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
    - 3) it has a proven record of performance and availability of responsive service; and
    - 4) it is not objectionable to Owner.
  - b. Contractor certifies that, if approved and incorporated into the Work:
    - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
    - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

## 7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
  - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.

2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
  - a. shall certify that the proposed substitute item will:
    - 1) perform adequately the functions and achieve the results called for by the general design,
    - 2) be similar in substance to that specified, and
    - 3) be suited to the same use as that specified.
  - b. will state:
    - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
    - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
    - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
  - c. will identify:
    - 1) all variations of the proposed substitute item from that specified, and
    - 2) available engineering, sales, maintenance, repair, and replacement services.
  - d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the



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

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.
- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
  - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
  - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

#### **7.07 *Patent Fees and Royalties***

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the

performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

#### 7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

#### 7.09 *Taxes*

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

#### 7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if

any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

#### 7.11 *Record Documents*

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

#### 7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
  - 1. all persons on the Site or who may be affected by the Work;
  - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
  - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly

or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
- G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

#### 7.13 *Safety Representative*

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

#### 7.14 *Hazard Communication Programs*

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

#### 7.15 *Emergencies*

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

#### 7.16 *Shop Drawings, Samples, and Other Submittals*

- A. *Shop Drawing and Sample Submittal Requirements:*
  - 1. Before submitting a Shop Drawing or Sample, Contractor shall have:
    - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
    - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
    - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
    - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
  - 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
    - a. Contractor shall submit the number of copies required in the Specifications.
    - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.
  2. *Samples:*
    - a. Contractor shall submit the number of Samples required in the Specifications.
    - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
  3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
  2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
  3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
  4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and

Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.

5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
  1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
  2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:



1. observations by Engineer;
  2. recommendation by Engineer or payment by Owner of any progress or final payment;
  3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
  4. use or occupancy of the Work or any part thereof by Owner;
  5. any review and approval of a Shop Drawing or Sample submittal;
  6. the issuance of a notice of acceptability by Engineer;
  7. any inspection, test, or approval by others; or
  8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

#### 7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
  2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

## 7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

## **ARTICLE 8 – OTHER WORK AT THE SITE**

### 8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or

alter others' work with the written consent of Engineer and the others whose work will be affected.

- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

#### 8.02 *Coordination*

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

#### 8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual

rights against Contractor with respect to the breach of the obligations set forth in this paragraph.

- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

## **ARTICLE 9 – OWNER'S RESPONSIBILITIES**

### **9.01    *Communications to Contractor***

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

### **9.02    *Replacement of Engineer***

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

### **9.03    *Furnish Data***

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

### **9.04    *Pay When Due***

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

### **9.05    *Lands and Easements; Reports, Tests, and Drawings***

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

9.06 *Insurance*

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

9.07 *Change Orders*

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

9.08 *Inspections, Tests, and Approvals*

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

9.09 *Limitations on Owner's Responsibilities*

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

9.10 *Undisclosed Hazardous Environmental Condition*

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

9.11 *Evidence of Financial Arrangements*

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

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

**ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION**

10.01 *Owner's Representative*

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

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On

the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

#### 10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

#### 10.04 *Rejecting Defective Work*

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

#### 10.05 *Shop Drawings, Change Orders and Payments*

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

#### 10.06 *Determinations for Unit Price Work*

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

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

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

#### 10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in

contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

#### 10.09 *Compliance with Safety Program*

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

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

#### 11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
  - 1. *Change Orders:*
    - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
    - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
  - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents

governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

#### 11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

#### 11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

#### 11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
  1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
  2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or



3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
  2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
    - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
    - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
    - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
    - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
    - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
    - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

#### 11.05 *Change of Contract Times*

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

#### 11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
  2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
  3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

#### 11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
  2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
  3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
  4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

#### 11.08 *Notification to Surety*

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

### ARTICLE 12 – CLAIMS

#### 12.01 *Claims*

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

and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

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

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

### **13.01 Cost of the Work**

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
  1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
  2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
  1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing

Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
  - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
  - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
  - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
  - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
  - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
  - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or

indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

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

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

### 13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

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

### 13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
  - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
  - 2. there is no corresponding adjustment with respect to any other item of Work; and
  - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

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

### 14.01 *Access to Work*

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

### 14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
  - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
  - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
  - 3. by manufacturers of equipment furnished under the Contract Documents;
  - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
  - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

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

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to



cover the same and Engineer had not acted with reasonable promptness in response to such notice.

#### 14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

#### 14.04 *Acceptance of Defective Work*

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

#### 14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.

- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
  - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
  - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

#### 14.06 *Owner May Stop the Work*

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

#### 14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

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

### **15.01 *Progress Payments***

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
  2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
  3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
  2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
    - a. the Work has progressed to the point indicated;
    - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon

Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and

- c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
  - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
  - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
  - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
  - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
  - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, requiring correction or replacement;
  - b. the Contract Price has been reduced by Change Orders;
  - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
  - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

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

E. *Reductions in Payment by Owner:*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
  - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
  - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
  - c. Contractor has failed to provide and maintain required bonds or insurance;
  - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
  - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
  - f. the Work is defective, requiring correction or replacement;
  - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
  - h. the Contract Price has been reduced by Change Orders;
  - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
  - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
  - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
  - l. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

#### 15.02 *Contractor's Warranty of Title*

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

#### 15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.

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

#### 15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
  - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
  - 2. At any time Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
  - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
  - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

#### 15.05 *Final Inspection*

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

#### 15.06 *Final Payment*

- A. *Application for Payment:*
  - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
  - a. all documentation called for in the Contract Documents;
  - b. consent of the surety, if any, to final payment;
  - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
  - d. a list of all disputes that Contractor believes are unsettled; and
  - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

**B. *Engineer's Review of Application and Acceptance:***

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.



#### 15.07 *Waiver of Claims*

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

#### 15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
  - 1. correct the defective repairs to the Site or such other adjacent areas;
  - 2. correct such defective Work;
  - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
  - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

## ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

### 16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

### 16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
  - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
  - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
  - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
  - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
  - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
  - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When

exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

#### 16.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
  - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
  - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
  - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

#### 16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

## ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

### 17.01 *Methods and Procedures*

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

## ARTICLE 18 – MISCELLANEOUS

### 18.01 *Giving Notice*

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

### 18.02 *Computation of Times*

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

### 18.03 *Cumulative Remedies*

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

18.04 *Limitation of Damages*

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

18.05 *No Waiver*

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

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Headings*

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

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**SECTION 00 73 00**  
**SUPPLEMENTARY CONDITIONS**

These SUPPLEMENTARY CONDITIONS amend, modify or supplement Section 00 72 00 the STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT as prepared by the Engineers Joint Contract Documents Committee (EJCDC), Form C-700, 2013 Edition (hereinafter "the General Conditions"). To the extent these SUPPLEMENTARY CONDITIONS amend, modify or supplement the General Conditions, said SUPPLEMENTARY CONDITIONS take precedence and shall control. All provisions of the General Conditions not so amended, modified, or supplemented, shall remain in full force and effect.

**SC-1.01 A.8.** Paragraph 1.01.A.8 of the General Conditions is amended to read as follows:

*Change Order:* A document which is signed by Contractor and Owner, and by Engineer if requested by 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.

**SC-1.01 A.15.** Paragraph 1.01 A.15 of the General Conditions is amended by the addition of the following provision:

Execution of this Agreement by Contractor constitutes an acknowledgement and agreement by Contractor that all Contract Times stated in the Contract Documents are reasonable and are of sufficient duration for the Work required to be performed within such times. Contractor acknowledges that Work on Saturdays, Sundays, or legal holidays requires the prior written approval of Owner and further requires that Contractor shall be responsible for, and shall pay, any and all overtime or extra cost incurred by Owner or Engineer resulting from such Work on Saturdays, Sundays, or legal holidays. Contractor further acknowledges that unless expressly stated otherwise, all days and times set forth in the Contract Documents are measured by calendar days.

**SC-1.01 A.20.** Paragraph 1.01. A.20 of the General Conditions is amended to read as follows:

*Engineer:* The individual or entity named as such in the Agreement or any substitute or successor as subsequently identified by Owner in writing to Contractor.

**SC-1.01 A.29.** Paragraph 1.01. A.29 of the General Conditions is amended to read as follows:

*Progress Schedule:* A detailed written 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. The Project Schedule shall be in such form and format as the Owner or Engineer may require. It shall be updated not less frequently than monthly, or as otherwise required by the Contract Documents, and it shall at all times reflect the

current and existing critical path of the Work to be completed. The Owner and Contractor specifically agree that any float contained in the Progress Schedule, or any update thereof, shall belong to the Project, and in no event, shall Contractor make a claim for any alleged delay, acceleration, or early completion so long as the Project is completed within the Contract Time

**SC-1.01 A.35.** Paragraph 1.01. A.35 of the General Conditions is amended by the addition of the following provision:

The Schedule of Values shall be in such form and format as the Owner or Engineer may require, and Contractor shall provide such information and data as Owner or Engineer may require to substantiate its accuracy. Contractor shall not imbalance the Schedule of Values nor artificially inflate any element thereof. The Schedule of Values shall only be used as a basis for evaluating Contractor's Applications for Payment and receipt and approval of such Schedule by Owner and Engineer are conditions precedent to payment of any sums to Contractor.

**SC-1.02 E.** Paragraph 1.02. E. of the General Conditions is amended by the addition of the following provision to be identified as Paragraph 1-02. E.5:

The words "include" or "including," as used in the Contract Documents, shall be deemed to be followed by the phrase "without limitation."

**SC-2.01 A.** Paragraph 2.01 A. of the General Conditions is amended by the addition of the following provision:

Such bonds shall be executed by a surety acceptable to Owner and shall be in such form as Owner may require. All such bonds must comply with all requirements of Georgia law.

**SC-2.01 C.** Paragraph 2.01 C. of the General Conditions is amended by the insertion of the following phrase at the beginning of said Paragraph:

Upon written request of Contractor, . . .

**SC-2.02 A.** Paragraph 2.02 A. of the General Conditions is amended by the deletion of the first sentence of said Paragraph and the substitution in lieu thereof of the following:

Owner shall furnish to Contractor 2 full size copies, and one electronic copy, of the Contract Documents.

**SC-2.04 B.** Paragraph 2.04 B. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision herein, to the extent the policies or procedures of Owner require that any decision of Owner's authorized representative must first be approved by any



officer or senior management employee of Owner, or by the Board of Directors of Owner, such decision shall not be binding or final until such approval has been issued in writing.

**SC-2.05 A.** Paragraph 2.05 A. of the General Conditions is amended by the addition of subparagraph 4. to read as follows:

Notwithstanding any other provision in this Paragraph 2.05, the Progress Schedule, Schedule of Submittals, and Schedule of Values shall comply with all other requirements of the Contract Documents and all must be acceptable to, and approved by, Owner.

**SC-3.03 A.2.** Paragraph 3.03 A.2 of the General Conditions is amended by the addition of the following provision:

Contractor shall have a continuing duty to read, carefully study, and compare each of the Contract Documents, the Shop Drawings and any applicable product data and shall give written notice to Engineer of any inconsistency, ambiguity, error or omission which Contractor may discover with respect to these documents before proceeding with the affected Work. The issuance, or the express or implied approval, by Owner or Engineer of the Contract Documents, Shop Drawings, or any product data shall not relieve Contractor of the continuing duties imposed hereby. OWNER MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY NATURE TO CONTRACTOR CONCERNING THE CONTRACT DOCUMENTS. By execution of this Agreement, Contractor acknowledges that it has received, reviewed, and carefully examined the Contract Documents and has reported in writing to Engineer any inconsistencies, ambiguities, errors or omissions discovered by Contractor in said Documents.

**SC-3.03 B.1.** Paragraph 3.03 B.1 of the General Conditions is amended by the addition of the following subparagraph c.:

In resolving conflicts, discrepancies, or inconsistencies among any of the Contract Documents, the following hierarchy shall control: (a) as between figures given on Documents and scaled measurements, the figures shall govern; (b) as between large-scale drawings and small-scale drawings, the large-scale shall govern; (c) as between Drawings and Specifications, the requirements of the Specifications shall govern; (d) as between the General Conditions and the Supplementary Conditions, the Supplementary Conditions shall govern. Any and all such conflicts, discrepancies, or inconsistencies shall be immediately reported by Contractor in writing to Engineer.

**SC-3.04 B.** Paragraph 3.04 B of the General Conditions is amended by the deletion of the following language at the end of such Paragraph:

. . . and on Owner, unless it objects.

**SC-4.01 A.** Paragraph 4.01 A. of the General Conditions is deleted in its entirety and in lieu thereof the following is inserted:

The award of the Contract, if made, shall be to the lowest responsible bidder, or, if applicable, to the proposer whose proposal has been accepted, within ninety (90) days after the opening of bids or proposals; however, in no event shall the award be made until any required investigations are made as to the responsibility of the bidder or proposer to whom it is proposed to award the Contract. ***Basis of award shall be either the Total Base Bid or Total Alternate Bid, at the sole discretion of the Owner.*** [ADD NO. 3] Following award and execution of this Agreement, and following receipt by Owner of the required bonds and certificates of insurance, Contractor shall commence Work within ten (10) days from the date specified in a written Notice to Proceed issued by Owner or Engineer. The Contract Time shall commence to run upon issuance to Contractor of such Notice to Proceed.

No work shall commence prior to the issuance of the Notice to Proceed or before delivery to Owner of the required bonds and certificates of insurance. Should Owner unreasonably delay issuance of the Notice to Proceed through no fault of Contractor, Contractor's sole and exclusive remedy shall be an extension of the Contract Time to the extent the time of performance has been reasonably delayed, but in no event, and under no circumstances, shall Contractor be entitled to an increase in the Contract Price.

**SC-4.02 A.** Paragraph 4.02 A. of the General Conditions is deleted in its entirety.

**SC-4.04 B.** Paragraph 4.04 B. of the General Conditions is amended by the addition of the following provision:

Strict compliance with all requirements of this Paragraph, and with all other scheduling requirements set forth in the Contract Documents, is a condition precedent for payment to Contractor, and any failure by Contractor to strictly comply with said requirements shall constitute a material breach of this Agreement.

**SC-4.05 C.2.** Paragraph 4.05 C. of the General Conditions is amended by adding the following subparagraphs:

#### 5. Weather-Related Delays

- a. If "abnormal weather conditions" as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled.
- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:

- 1) Every workday on which one or more of the following conditions exist will be considered a "bad weather day":
  - i. Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds 0.1-inch of precipitation.
  - ii. Ambient outdoor air temperature at 11:00 a.m. is equal to or less than the following low temperature threshold: 32 degrees Fahrenheit; or, at 3:00 p.m. the ambient outdoor temperature is equal to or greater than the following high temperature threshold: 100 degrees Fahrenheit.
- 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by NOAA National Weather Service weather monitoring station at Jonesboro, GA.
- 3) Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the Foreseeable Bad Weather Days table.

**Foreseeable Bad Weather Days**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6	6	6	6	5	6	6	5	4	4	5	7

- 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the Foreseeable Bad Weather Days table will be considered as "abnormal weather conditions." The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor's then-current Progress Schedule's critical path for the Project.

**SC-5.01 A.** Paragraph 5.01 A. of the General Conditions is amended by the addition of the following provision:

Prior to submission of its bid or proposal, Contractor shall inspect the Project site and shall include within its bid or price the cost of addressing all site conditions reasonably ascertainable from such inspection. Contractor shall also examine and inspect all easements and rights-of-way necessary for completion of its Work and shall comply with all conditions and stipulations of same. In no event shall Contractor enter upon the property of an adjacent landowner not under the control of Owner until such time as proper easements have been obtained and filed of record. Contractor shall in no event be entitled to damages, additional compensation, or any change in the Contract Price arising out of or relating to any failure by Owner to obtain any easement or rights-of-way.

**SC-5.03** Paragraph 5.03 of the General Conditions is deleted in its entirety and in lieu thereof the following provisions are inserted:

Reports, tests, and drawings relating to the Project site are not Contract Documents. They represent information available to Engineer in the design of the Project. Any conclusions drawn

from this information are the responsibility of Contractor, and neither Owner nor Engineer makes any representations or warranties concerning the accuracy or completeness of any such reports, tests or drawings. Upon written request, and to the extent available, the following reports, tests, and drawings will be made available for review by Contractor or its representatives:

- Report of Limited Hazardous Materials Assessment for Asbestos-Containing Materials and Protective Paint Coatings  
Willmer Engineering, July 2020
- Construction Drawings: Shoal Creek Water Treatment Plant  
Robert and Company, June 1983
- Construction Drawings: Additions to J.W. Smith Water Treatment Plant  
Robert and Company, July 1989
- Construction Drawings: Additions to J.W. Smith WTP Clearwell  
Robert and Company, January 1999
- Record Drawings for Construction of the J.W. Smith Water Production Plant Improvements, Volume 3 of 3, Drawings  
CH2M Hill, October 2011

**SC-5.04 A.1.** Paragraph 5.04 A.1. of the General Conditions is amended by the deletion of such provision.

**SC-5.06 B.** Paragraph 5.06 B. of the General Conditions is amended by the addition of the following language at the beginning of the first sentence thereof:

Except to the extent otherwise provided herein . . .

**SC-6.01 A.** Paragraph 6.01 A. of the General Conditions is amended by the deletion of the second sentence in said Paragraph and the insertion of the following sentence in lieu thereof;

These bonds shall remain in full force and effect for such time as provided by Georgia law or for such longer time as may be provided by the terms of said bonds

**SC-6.01 B.** Paragraph 6.01 B. of the General Conditions is amended by the addition of the following provision:

In addition to all other requirements set forth hereinabove, and in addition to all other insurance requirements set forth below, all bonds and policies of insurance required by the Contract Documents shall be issued by companies having a Best's rating of no less than A: VII. All such bonds and policies of insurance, as well as all required certificates of insurance, shall be executed or countersigned by a licensed resident agent of the surety or insurance company having its principal place of business in the State of Georgia, and in all ways complying with the laws of the State of Georgia.

**SC-6.01 G.** Paragraph 6.01 of the General Conditions is amended by the addition of subparagraph G. thereto which shall read as follows:

Upon request of Owner or Engineer, Contractor shall obtain and furnish to Owner and Engineer written consent of its performance bond surety to any Contract payment, proposed or executed Change Order, or such other action as may be taken or contemplated under the Contract Documents. Absence of such consent of surety, however, shall in no manner whatsoever relieve, release, or discharge any surety from any of its obligations under the performance bond, the payment bond, or otherwise.

**SC-6.03 K.** Paragraph 6.03 of the General Conditions is amended by the addition of subparagraph K. which provides as follows:

In addition to the insurance requirements set forth hereinabove, Contractor shall comply with any additional insurance requirements as set forth in the attached Exhibit "A." In the event of any conflict between the requirements of Paragraph 6.03 as set forth hereinabove, and the requirements as set forth in Exhibit "A," the requirements of Exhibit "A" shall govern and control.

**SC-6.03 I.3.** Paragraph 6.03. I.3 of the General Conditions is amended by the deletion of the phrase ". . . until at least 10 days prior written notice. . ." and the substitution in lieu thereof of the following phrase:

" . . . until at least 90 days prior written notice . . . "

**SC-6.05 B.** Paragraph 6.05 B. of the General Conditions is amended by the deletion of the phrase ". . . until at least 10 days prior written notice. . ." and the substitution in lieu thereof of the following phrase:

" . . . until at least 90 days prior written notice. . . "

**SC-7.01 B.** Paragraph 7.01 B. of the General Conditions is amended by the deletion of said paragraph in its entirety and the substitution in lieu thereof of the following provision:

At all times during the progress of the Work, Contractor shall assign an on-site, full-time, competent, and experienced superintendent to the Project who, so long as said superintendent remains in the employment of Contractor, shall not be replaced without the prior written consent of Owner. Such superintendent shall have no less than three years' experience as a superintendent on one or more projects similar in nature, size and scope to the Project. Contractor shall furnish Owner a detailed resume setting forth the qualifications of such superintendent prior to his or her assignment to the Project. The qualifications of such superintendent must be acceptable to Owner. The superintendent shall be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to, or received by, the superintendent shall be binding on Contractor.

**SC-7.01 C.** Paragraph 7.01 of the General Conditions is amended by the addition of subparagraph 7.01 C. which shall read as follows:

Contractor shall prepare and submit to Owner and Engineer a daily report setting forth for each day of Work the weather conditions; the number of workers present by craft; the identity of all management and supervisory personnel on site; a list of all active and inactive equipment on site; work accomplished by scheduled activity; all problems and issues impacting the Work in whole or in part; an identification of any visitors to the site; and such other information as may be relevant to the status of performance of this Agreement. This report shall be signed by the Project superintendent of Contractor or Contractor's other designated representative and shall be delivered to Owner and Engineer on or before 10:00 a.m. of the day following the day which is the subject matter of the report.

**SC-7.02 B.** Paragraph 7.02 B. of the General Conditions is amended by the deletion of the second sentence in said Paragraph and the substitution in lieu thereof of the following provision:

Contractor may perform Work outside regular business hours or on Saturdays, Sundays, or legal holidays only with the prior written consent of Owner which Owner may grant or withhold in its sole discretion. Before performing any authorized work on any of these days, or before performing authorized work outside regular business hours, Contractor shall provide Engineer and Owner not less than seventy-two (72) hours prior written notice.

**SC-7.02 B.** Paragraph 7.02 B. of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with the prior written consent of Owner which Owner may grant or withhold in its sole discretion. Before performing any authorized work on any of these days, or before performing authorized work outside regular working hours, Contractor shall provide Engineer and Owner not less than seventy-two (72) hours prior written notice. Regular working hours shall be defined as 7:00 AM to 7:00 PM. Working hours are not to exceed 40 hours per week without obtaining permission for overtime work from the Engineer and Owner.

**SC-7.06 F.** Paragraph 7.06 F. of the General Conditions is amended by the deletion of the phrase "If Owner requires the replacement of any Subcontractor . . ." and in lieu thereof the substitution of the following phrase:

"If without good cause, Owner requires the replacement of any Subcontractor. . ."

**SC-7.06 K.** Paragraph 7.06 K. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision herein, Contractor acknowledges and agrees that Owner or Engineer may communicate directly with Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work for the purpose of determining whether or not any of said entities have been, or are being, timely paid by Contractor or whether or not Contractor is otherwise complying with its obligations under this Agreement.

**SC-7.06 L.** Paragraph 7.06 L. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision herein, Contractor shall perform not less than twenty-five percent (25%) of all on-site labor with employees of Contractor.

**SC-7.06 P.** Paragraph 7.06 of the General conditions is amended by the addition of subparagraph P. thereto which shall read as follows:

In the event any Subcontractor or Supplier makes claim against Contractor for any increase in the subcontract price due such Subcontractor or Supplier, or for an increase in the time to perform any of the Work, or for any other compensation or relief, Contractor shall assert any and all available contractual, legal, and equitable defenses to any such claim or claims. Such defenses include, but are not limited to, any and all notice and claim defenses arising under the applicable subcontract or supplier agreement and all defenses arising under this Agreement as incorporated therein. Contractor shall not agree to "pass through" any such claim to Owner, or to pay any such claim, if it is subject to any of the defenses as set forth hereinabove. Contractor's duty to defend against any invalid claims includes, but is not limited to, the duty to defend such claims in a court of competent jurisdiction or in arbitration, if applicable. Failure of Contractor to defend against any invalid Subcontractor or Supplier claims as required herein shall constitute a complete and unequivocal waiver of any right of Contractor to seek reimbursement from Owner or Engineer. Contractor shall furthermore indemnify and hold Owner harmless from any and all cost and expense, including attorneys' fees and expert witness fees and cost, incurred in defending any Subcontractor or Supplier claims to which a valid contractual, legal or equitable defense was available to Contractor.

**SC-7.06 Q.** Paragraph 7.06 of the General Conditions is amended by the addition of subparagraph Q. thereto which shall read as follows:

Contractor shall require all Subcontractors, Suppliers, and others performing or furnishing any of the Work to maintain insurance coverages as set forth in Exhibit "A" hereto including, but not limited to, completed operations coverage at the minimum level stated in said Exhibit. Contractor shall maintain certificates of insurance from all such entities and said certificates shall be available upon request for inspection by Owner or Engineer.



**SC-7.08 A.** Paragraph 7.08 A. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision herein, Owner agrees that any fees for permits or licenses, or any inspection fees, obtained from, or payable directly to, Owner are waived. Contractor, however, shall pay for all other permits, licenses, and inspection fees required by any other governmental entity or agency.

**SC-7.10 D.** Paragraph 7.10 of the General Conditions is amended by the addition of subparagraph D. thereto which shall read as follows:

While not intended to be inclusive of all Laws and Regulations for which Contractor is or may be responsible, the following Laws or Regulations are included herein by reference and compliance with same by Contractor is mandated by this Agreement:

- (1) Contractor shall not pay less than the prevailing rate of wages in accordance with O.C.G.A. § 34-4-3;
- (2) Qualified employees may be relieved from work for up to two hours to vote as provided by O.C.G.A. § 21.2-404;
- (3) Contractor and its Subcontractors, as well as others for whom they are responsible, shall not engage in discrimination as prohibited by O.C.G.A. § 34-1-2 or as prohibited by any other state or federal Law or Regulation;
- (4) Contractor shall comply with all notification requirements for excavators as required by O.C.G.A. § 25-9-6;
- (5) Contractor shall register and participate in the electronic verification ("E-Verify") of work authorization operated by the United States Department of Homeland Security or any equivalent federal work authorization program. The Contractor shall verify that its employees, and the employees of its Subcontractors, are in compliance with the Immigration Reform and Control Act of 1986, as required by applicable state law, including O.C.G.A. § 13-10-91 *et. seq.* Contractor shall provide Owner and Engineer with executed affidavits verifying such employees' compliance with the federal and state laws identified hereinabove. Contractor shall secure similar affidavits from all of its Subcontractors verifying their compliance with said federal and state laws. At all times applicable to this Agreement, and for not less than three years after final completion of the Project or for such longer time as may be required by law, Contractor shall maintain detailed records demonstrating compliance by it and its Subcontractors with these legal requirements.

**SC-7.10 E.** Paragraph 7.10 of the General Conditions is amended by the addition of the following subparagraph E. which shall read as follows:

Contractor shall cooperate with Owner in securing any tax refunds, credits, or rebates due Owner or in utilizing any tax exemptions available to Owner. Such cooperation shall include, but shall not be limited to, the execution of any required or necessary documentation.



**SC-7.11 A.** Paragraph 7.11 A. of the General Conditions is amended by the addition of the following provision:

Receipt by Engineer of the record documents required herein is an express condition precedent for final payment to Contractor.

**SC-7.12 H.** Paragraph 7.12 of the General Conditions is amended by the addition of the following subparagraph H. which shall read as follows:

Contractor shall provide, erect, maintain and finally remove all barricades and detour signs necessary to properly protect and divert traffic. Such barricades and signs shall be illuminated at night. Contractor shall be responsible for all damage, including any damage to the Work, resulting from any failure of the signs or barricades to protect the Work or related property from traffic, pedestrians, and animals, or from other sources. All barricades shall be acceptable to Owner and same shall comply with any and all rules, regulations, or other legal mandates of any governmental authorities having applicable jurisdiction.

**SC-7.18 B.** Paragraph 7.18 B. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision herein, no claim whatsoever shall be made by Contractor against any officer, employee, board member, or agent of Owner, on account of anything done or alleged to be done in breach of this Agreement.

**SC-8.03 B.** Paragraph 8.03 B. of the General Conditions is amended by the addition of the following provision:

Furthermore, in the event the remaining contract balance is not sufficient to satisfy the damages due Owner after the set-off provided herein, Contractor shall promptly, upon demand of Owner, pay to Owner the remaining amount necessary to compensate Owner for said damages.

**SC-8.03 C.** Paragraph 8.03 C. of the General Conditions is amended by the addition of the following provision:

Furthermore, in the event the remaining contract balance is not sufficient to satisfy the damages due Owner after the set-off provided herein, Contractor shall promptly, upon demand of Owner, pay the remaining amount necessary to compensate Owner for said damages.

**SC-9.01 A.** Paragraph 9.01 A. of the General conditions is amended to read as follows:

Except as otherwise provided in the Contract Documents, or unless the Owner in its discretion determines to communicate otherwise, the Owner shall issue communications to Contractor through Engineer.

**SC-9.02 A.** Paragraph 9.02 A. of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

In case of termination of the Engineer, Owner may appoint a substitute Engineer whose status under the Contract Documents shall be that of the former Engineer.

**SC-9.04 A.** Paragraph 9.04 A. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision of the Contract Documents, Owner and Contractor expressly agree that the terms of payment, payment period, and rates of interest set forth in this Agreement shall control to the exclusion of any provisions set forth in the Georgia Prompt Pay Act, O.C.G.A. § 13-11-1 *et. seq.* and the provisions of said Act are expressly waived.

**SC-10.01 A.** Paragraph 10.01 A of the General Conditions is amended to read as follows:

Engineer will be Owner's representative during construction unless otherwise directed in writing by Owner. Engineer shall not, however, be authorized to increase the Contract Price or the Contract Time, or to approve any Change Order, without Owner's express written consent. The duties and responsibilities of the Engineer are as set forth in the Contract Documents and will not be changed without written notice by Owner to Contractor.

**SC-10.02 A.** Paragraph 10.02 A. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision herein, nothing contained in the Contract Documents shall limit or restrict any duty or obligation owed by Engineer to Owner arising out of, or related to, the Engineer's contract with Owner for engineering services.

**SC-10.06 A.** Paragraph 10.06 A. of the General Conditions is amended by the addition of the following provision;

Owner, however, shall have the express right to challenge any such determination for good cause and may submit any such challenge in accordance with the claims provisions of this Agreement.

**SC-10.07 A.** Paragraph 10.07 A. of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

Engineer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as Engineer may determine necessary which shall be consistent with the intent and reasonably inferable from the Contract Documents. Such written clarifications shall be binding on Owner and Contractor unless either notifies the Engineer within 10 days of receipt of same. Any dispute concerning entitlement to additional compensation or time arising out of any such clarifications or interpretations, shall be submitted for determination in accordance with the claims provisions of this Agreement. If Owner requires, Contractor shall submit any claims, disputes or other matters relating to the Work, or to the requirements of the Contract Documents, to Engineer in writing for an initial decision. Such submission, if required by Owner, shall be a condition precedent to exercise by Contractor of any other rights or remedies provided by the Contract Documents or by law or equity with respect to any such claims, disputes or other matters.

**SC-10.08 B.** Paragraph 10.08 B. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision of this Paragraph, and notwithstanding any other provision of the Contract Documents, nothing contained in this Agreement nor in any provision of the Contract Documents, shall limit or restrict in any manner whatsoever the duties, obligations or responsibilities of the Engineer to Owner as set forth in the contract by and between Owner and Engineer or as provided by law or equity.

**SC-10.08 E.** Paragraph 10.08 E. of the General Conditions is amended by the addition of the following provision:

Furthermore, it is expressly agreed that any Resident Project Representative shall not have authority to authorize any deviation from the Contract Documents or approve any substitution of materials or equipment; undertake any of the responsibilities of the Contractor, the Contractor's superintendent, or of any Subcontractor; accept submittals from anyone other than Contractor; authorize Owner to occupy the Project in whole or in part; or participate in specialized tests or inspections conducted by others except as expressly authorized by the Engineer.

**SC-11.09 A.** Paragraph 11.09 A. is added to the General Conditions and said Paragraph shall read as follows:

Notwithstanding any other provision herein, Contractor acknowledges and agrees that some Change Orders (as determined by Owner in its discretion) shall require approval of Owner's Board of Directors. Contractor further agrees that Owner shall have not less than 60 days to submit any such Change Orders to its Board of Directors for approval or rejection. In no event and under no circumstances shall Contractor make any claim for delay, acceleration, interference, or other claim for damages, cost, or expense arising out of, or relating to, the time required to secure approval or rejection of any Change Order, so long as said approval or rejection is made by the Board of Directors within 60 days after submission of the applicable Change Order by Contractor.

**SC-12.01 B.** Paragraph 12.01 B. of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

Owner shall notify Contractor in writing of any claim by Owner against Contractor and Owner may furnish Engineer a copy of such notice. Within 20 days after receipt of Owner's notice of claim, Contractor shall notify Owner and Engineer in writing that (i) Contractor is in agreement with the claim in its entirety and affirms that it will execute a Change Order confirming such agreement; or, (ii) Contractor is in agreement with the claim in part, affirms that it will execute a Change Order confirming such partial agreement, and identifies with specificity any part or parts of the claim with which it disagrees and states the facts and circumstances which it contends supports such disagreement; or, (iii) Contractor is in disagreement with the claim in its entirety and states the facts and circumstances which it contends supports such disagreement. Failure by the Contractor to respond as required herein shall constitute full and complete acceptance of Owner's claim and agreement by Contractor with same in its entirety. Any claim by Contractor against Owner shall be initiated by written notice to Owner and Engineer within seven days after occurrence of the event, or the first appearance of the condition, giving rise to such claim. Such notice must be specifically identified as a "Notice of Claim." If required, such notice shall be on a form specified by Owner. Furthermore, within 20 days after submission of the notice required herein, Contractor shall submit in writing a detailed statement of the claim which shall be in such form, and which shall include such supporting documentation, as Owner or Engineer may require. Any such claim by Contractor shall be signed under oath and under penalty of perjury. Any claim shall state with specificity any damages claimed or proposed increases to the Contract Price. In the event Contractor requests any increase in the Contract Time, it shall submit, as part of its written claim, a detailed critical path method schedule showing with specificity how the critical path of the Project has been impacted as a result of the items set forth in the claim. FAILURE BY CONTRACTOR TO SUBMIT ANY CLAIM IN STRICT CONFORMITY WITH THE REQUIREMENTS OF THIS PROVISION SHALL CONSTITUTE AN ABSOLUTE AND UNEQUIVOCAL WAIVER OF SUCH CLAIM. Contractor may not reserve in any claim, or in any Change Order, any rights or remedies to make claim for additional money or time arising out of the occurrence, events, or conditions giving rise to the claim. Reservation of the right to claim future impact damages is expressly and unequivocally prohibited. Pending final resolution of any claim of Contractor or Owner, Contractor shall diligently proceed with performance of this Agreement unless directed otherwise by Owner in writing, and Owner shall continue to make payment of all sums due Contractor in accordance with this Agreement. The resolution of any claim under this Paragraph shall be documented by Change Order executed by the parties.

**SC-12.01 D.; E.; F.; and G.** Paragraphs 12.01 D., E., F., and G of the General Conditions are deleted in their entirety.

**SC-12.02 A.** Paragraph 12.02 A. is added to the General Conditions and said Paragraph shall read as follows:

The Superior Court of Clayton County, Georgia, shall have sole and exclusive jurisdiction and venue over any action arising out of, or relating to, this Agreement and the parties expressly waive jurisdiction and venue in any other court and waive any right of removal to any federal court. Furthermore, in the event Owner institutes any action against Contractor arising out of, or relating to, this Agreement, and the event Owner prevails in whole or in part in any such action, or in the event Contractor asserts any claim against Owner in any legal proceeding and such claim is determined to be invalid in whole or in part, Contractor shall pay all of Owner's costs and expense incurred in prosecuting or defending any such action or proceeding including, but not limited to, all attorneys' fees and expenses, expert and consultants' fees and expenses, and court costs.

**SC-13.01 C.** Paragraph 13.01 C. of the General Conditions is amended by the addition of subparagraph 6. which shall read as follows:

Notwithstanding any other provision of this Agreement, in no event, and under no circumstances, shall "costs" include, nor shall Contractor make claim for or be entitled to recover, any home office overhead expense; loss of capital; loss of profit on other projects; loss of efficiency or productivity; loss of bonding capacity; or any consequential damage of any kind or nature.

**SC-13.03 F.** Paragraph 13.03 of the General Conditions is amended by the addition of subparagraph F. thereto which shall read as follows:

Notwithstanding any other provision herein, in the event of any adjustment to unit prices as set forth hereinabove, such adjustment shall only apply to variations above 125 percent or below 75 percent of the estimated units set forth in the Contract Documents. Contractor shall make no claim for an increase in the Contract Time based on an increase in units unless the number of units actually installed exceeds 125 per cent of those estimated in the Contract Documents.

**SC-14.03 B.** Paragraph 14.03 B. of the General Conditions is amended by the addition of the following provision:

Furthermore, Owner shall likewise have the right to determine and reject defective work.

**SC-14.03 G.** Paragraph 14.03 of the General Conditions is amended by the addition of subparagraph G. thereto which shall read as follows:

Notwithstanding any other provision of this Agreement, Contractor acknowledges and agrees that any failure of Owner or Engineer to notify Contractor of defective Work, or any lack of receipt by Contractor of any such notice, shall in no manner whatsoever relieve or discharge Contractor from its obligation to perform the Work in conformity with the Contract Documents or its obligation to remove, repair, or correct defective Work.

SC-14.06 A. Paragraph 14.06 A of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

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, or Contractor otherwise is in material breach of this Agreement, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

**SC-15.01 B.** Paragraph 15.01 B. of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

At least 30 days before the date established for each progress payment (but not more than once each month), Contractor shall submit to Owner and Engineer for review an Application for Payment filled out and signed by Contractor covering Work completed as of the date of the Application and accompanied by such supporting documentation as required by the Contract Documents or as may be otherwise specified by Owner or Engineer. In its Application for Payment, Contractor may request payment for 90 percent of that portion of the Contract Price properly applicable to Contract requirements properly provided, labor, materials and equipment properly incorporated in the Work, plus 90 percent of that portion of the Contract Price properly allocable to materials or equipment properly stored on-site (or elsewhere if approved in advance in writing by Owner) for subsequent incorporation in the Work, less the total amount of previous payments received from Owner. Payment for stored materials and equipment shall be conditioned upon proof of appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner. Each Application for Payment shall constitute Contractor's representation that the Work has progressed to the level for which payment is requested in accordance with the schedule of values, that the Work has been properly installed or performed in full accordance with the requirements of the Contract Documents, and the Contractor knows of no reason why payment should not be made as requested. Thereafter the Engineer shall review the Application for Payment and may also review the Work at the Project site or elsewhere to determine the quantity and quality of the Work as represented in the Application for Payment and as required by the Contract Documents. Engineer shall determine and recommend to Owner the amount owing to Contractor. Owner shall make partial payments on account of the Contract Price to Contractor within 30 days following Owner's receipt of each Application for Payment with Engineer's approval. The amount of each partial payment shall be in the amount recommended by Engineer less such amounts, if any, otherwise owing by Contractor to Owner or which Owner shall have the right to withhold as authorized by this Agreement. Any recommendation by Engineer for payment to Contractor shall not preclude Owner from the exercise of any of its rights as set forth in this Agreement. Provided, however, that when 50 percent of the contract value, including Change Orders and other additions to the contract value, provided for by the Contract Documents is due, and the manner of completion of the Contract Work and its progress are reasonably satisfactory to Owner, Owner shall withhold no more retainage. At the discretion of Owner, and with the approval of Contractor, the retainage

of any Subcontractor may be released separately as the Subcontractor completes its work. If after discontinuing the retainage, Owner determines that the Work is unsatisfactory or Contractor has fallen behind schedule, Owner may resume retainage at the rate set forth hereinabove. Retainage shall be invested at the current market rate and any interest earned on the retained amounts shall be paid to Contractor upon completion of the Project within the time specified and for the Contract Price as same may have been amended by Change Order. For purposes of this Agreement, the terms and conditions of O.C.G.A. § 13-10-20 are herein incorporated by reference and shall take precedence over, and shall control, any other terms or conditions in the Contract Documents.

**SC-15.01 D.** Paragraph 15.01 D. of the General Conditions is amended by the deletion of the phrase “Ten days” and the substitution in lieu thereof of the phrase “Thirty days”. Additionally, the following provision is added to said Paragraph and shall state as follows:

Within three days of receipt of payment from Owner, Contractor shall pay all Subcontractors and Suppliers whose work or products was included in the partial payment. If Owner fails to make any payment as provided herein, or as required elsewhere in the Contract Documents, interest shall accrue on any such payment, to the extent it is late, at a rate to be negotiated between Owner and Contractor.

**SC-15.01 E.** Paragraph 15.01 E. of the General Conditions is amended by the addition of the subparagraph 4. Thereto which shall state as follows:

In addition to the right to reduce or withhold payment as set forth hereinabove, Owner may furthermore demand return of some or all of the amounts previously paid to Contractor in order to protect Owner from the risk of loss arising from any of the items set forth in this Paragraph 15.01 E. In the event Owner makes demand upon Contractor for the return of any such amounts, Contractor shall promptly comply with such demand.

**SC-15.03 A.** Paragraph 15.03 A. of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

When Contractor believes that the Work is Substantially Complete, it shall submit to Engineer and Owner a list of items to be completed or corrected prior to Final Completion. When Engineer, on the basis of an inspection, determines that the Work is in fact Substantially Complete, it will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the responsibilities of Owner and Contractor for Project security, maintenance, utilities, damage to Work, and insurance, and shall fix the time in which Contractor shall complete the items listed therein or any other items required for Final Completion. The Certificate of Substantial Completion shall be submitted to Owner and Contractor for their written acceptance of the responsibilities assigned to them in such certificate. Upon Substantial Completion of the Work, and after execution by both Owner and Contractor of the Certificate of Substantial Completion, Owner shall pay Contractor an amount sufficient to increase total



payments to Contractor to 100 percent of the Contract Price less 200 percent of the reasonable costs as determined by Owner, with advice of the Engineer, for completing all incomplete Work, correcting and bringing into conformance all defective and nonconforming Work, handling all unsettled claims, and performing any other remaining obligations of Contractor under the Contract Documents.

**SC-15.03 B.** Paragraph 15.03 B. of the General Conditions is deleted in its entirety.

**SC-15.03 C.** Paragraph 15.03 C. of the General Conditions is deleted in its entirety.

**SC-15.04 A.2.** Paragraph 15.04 A.2. of the General Conditions is deleted in its entirety.

**SC-15.06 D.** Paragraph 15.06 D. of the General Conditions is amended by the addition of the following provision:

Notwithstanding any other provision herein, Owner shall not be required to make payment of amounts which are the subject of a good faith dispute by and between Owner and Contractor.

**SC-16.02 E.** Paragraph 16.02 E. of the General Conditions is amended by the deletion of the following provision:

Such claims, costs, losses, and damages incurred by the Owner will be reviewed by the Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order.

**SC-16.02 G.** Paragraph 16.02 G. of the General Conditions is deleted in its entirety.

**SC-16.03.** Paragraph 16.03 of the General Conditions is deleted in its entirety and in lieu thereof the following provision is inserted:

- A. Owner may for any reason terminate performance under this Agreement by Contractor for convenience. Owner shall give written notice of such termination to Contractor specifying when termination becomes effective. Contractor shall incur no further obligations in connection with the Work and Contractor shall stop work when such termination becomes effective. Contractor shall also terminate outstanding orders and subcontracts unless instructed otherwise by Owner. Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders. Owner may direct Contractor to assign Contractor's right, title, and interest under any subcontracts to Owner or its designee. Contractor shall transfer title and deliver to Owner such completed or partially completed Work and materials, equipment for installation, parts, fixtures, information and contract rights which Contractor has or possesses.
- B. Contractor shall submit a written termination claim to Owner and Engineer specifying the amounts due because of the termination for convenience together with costs, pricing, or other data as may be required by Owner or Engineer. If Contractor fails to file a



termination claim within 60 days from the effective date of termination, Owner may in its sole discretion deem any such claim to be waived by Contractor, and Owner shall owe no further sums of any kind or nature to Contractor. Absent agreement to the amount due Contractor, and absent a waiver as set forth hereinabove, Owner shall pay Contractor, within 60 days after submission of a proper and verified claim, with such reasonable documentation as Owner or Engineer may require, the following amounts which shall constitute full and complete compensation to Contractor for all sums due under this Agreement, including all sums arising out of, or relating to, the termination for convenience: (1) contract prices for labor, materials, equipment and other services accepted under this Agreement; (2) reasonable costs incurred in preparing to perform and in performing the terminated portion of the Work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for overhead and profit thereon (such profits do not include anticipated profits, anticipated overhead, or consequential damages of any kind or nature); provided, however, if it appears that Contractor would not have profited, or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of any compensation shall be reduced to reflect the anticipated rate of loss, if any; (3) reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders as required hereinabove. The total sum to be paid Contractor under this Paragraph shall not exceed the Contract Price, as properly adjusted by Change Orders, reduced by the amount of payments otherwise made, and shall in no event include any duplication of payment.

- C. In the event the employment of Contractor is terminated for cause pursuant to Paragraph 16.02 of this Agreement hereinabove, and in the further event it is subsequently determined by a Court of competent jurisdiction, or by an arbitrator or arbitration panel, that such termination was without cause, such termination shall thereupon be deemed and treated as a termination for convenience under this Paragraph 16.03 and the provisions of this Paragraph shall apply.

**SC-17.01.** Paragraph 17.01 of the General Conditions is deleted in its entirety.

**SC-18.01 A.** Paragraph 18.01 A. of the General Conditions is amended by the addition of the following subparagraph 3. which shall state as follows:

Regardless of how it is sent or delivered, written notice shall be effective for all purposes of this Agreement if same is received by an officer or designated representative of the party to whom such notice was addressed.

**SC-19.01 A.** The General Conditions are amended by the addition of Paragraph 19.01 A. which shall read as follows:

No official of Owner who is authorized in such capacity and on behalf of Owner to negotiate, make, accept, or approve, or to take any part in negotiating, making, accepting, or approving any

architectural, engineering, inspection, construction or material supply contract or any interested personally in this Agreement or any part thereof. No officer, employee, architect, attorney, engineer or inspector of or for Owner who is authorized in such capacity and on behalf of Owner to exercise any legislative, executive, supervisory or similar functions in connection with construction of the Project shall become directly or indirectly interested personally in this Agreement or in any part thereof or in any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

## **ARTICLE 1 – SUPPLEMENTS**

1.01 The supplement listed below, following “END OF SECTION”, is part of this Specification.

A. Exhibit ‘A’ – Additional Insurance Requirements

**END OF SECTION**

## EXHIBIT "A"

### ADDITIONAL INSURANCE REQUIREMENTS

1.01 In addition to any other coverage required by the Contract Documents, Contractor shall provide, and shall require its Subcontractors to provide, unless otherwise agreed by Owner in writing, the following insurance coverage:

Workers' Compensation and Employers Liability:

Workers' Compensation  
Statutory Limits

Employers Liability  
\$1,000,000 Each Accident  
\$1,000,000 Disease Employee Limit  
\$1,000,000 Each Employee

The policy will include an "Alternate Employer Endorsement" naming Owner as the Alternate Employer. The policy will be amended to provide 90 days' notice to Owner in the event of cancellation or nonrenewal. The policy will include Terrorism Peril Coverage.

Commercial General Liability:

The Policy will be on an Occurrence Form with no less than the following limits:

\$1,000,000 Per Occurrence Limit  
\$1,000,000 Personal and Advertising Injury Limit  
\$1,000,000 Fire Damage  
\$5,000 Medical Expense Limit Per Person  
\$2,000,000 General Aggregate  
\$2,000,000 Products / Completed Operations – Per Occurrence and Aggregate

The policy will include the following:

- (1) Contractual Liability covering this Contract;
- (2) The policy will cover explosion, collapse and underground coverage;
- (3) The General Aggregate will be per project;
- (4) The policy will include Cross Liability (Separation of Insureds) coverage;
- (5) The policy will be amended to require 90 days' notice to Owner and Engineer in the event of cancellation or nonrenewal;
- (6) The policy will be amended by naming the Owner and Engineer as additional insureds for Primary Coverage and the Additional Insured Endorsement will cover Operations and Products and Completed Operations;
- (7) The policy will be amended to provide that the Owner's Protective Liability policy will be in excess to this policy;
- (8) The Contractor shall furnish a certificate of continuing Products and Completed Operations coverage for a period of five years after completion or amend the current policy to include an Extended Reporting Period of five years after completion;
- (9) This policy will include Terrorism Peril Coverage.

Automobile Liability:

Automobile Liability Coverage including Owned, Hired, and Non-owned vehicles with a Combined Single Limit (CSL) of \$1,000,000. The policy will be amended to provide 90 days' notice to Owner in the event of cancellation or nonrenewal. This policy will include Terrorism Peril Coverage.

Umbrella Liability (Occurrence Form):

An Umbrella or Excess Liability policy will be provided. Such policy will be excess over Employers Liability, Commercial General Liability, and Automobile Liability. The policy will include Cross Liability (Separation of Insureds) and 90 days' notice to Owner in the event of cancellation or nonrenewal. The total limit of coverage, when combined with the underlying, will be not less than \$5,000,000 per Occurrence and Aggregate. The certificate of insurance will include a copy of the endorsement providing that the policy is excess to the underlying coverage with coverage exceptions identified. This policy will include Terrorism Peril Coverage.

Owner's Protective Liability:

The Contractor will furnish Owner's Protective Liability with a limit of \$2,000,000. Coverage should be project specific, stand-alone policy, naming project owner and principal as named insured. This policy will include Terrorism Peril Coverage.

Contractor's Pollution Liability (Occurrence Form):

The Contractor will provide a Contractor's Pollution Liability policy written on an "occurrence form" with an occurrence limit of not less than \$2,000,000 per Occurrence. The Owner, and such others as Owner shall designate, will be named as additional insureds. This policy will include Terrorism Peril Coverage.

1.02 In addition to the coverage requirements set forth hereinabove, the following insurance requirements shall be applicable unless provided otherwise in the Contract Documents:

- A. Contractor shall purchase and maintain property insurance upon the Work at the Project Site in the amount of the Contract Price, including as may be adjusted by Change Order, or for full replacement cost, whichever is greater. The property insurance shall contain no partial occupancy restriction for utilization of the Project by Owner for its intended purpose;
- B. With respect to all insurance policies and all insurance coverage required to be furnished by Contractor, Contractor shall provide Owner and Engineer prior to performing any Work on the Project certificates of insurance indicating the applicable coverage and all required endorsements. Upon request by Owner or Engineer, Contractor shall furnish a complete copy of any required policy;

- C. Unless otherwise agreed in writing, the Owner, Engineer, and Engineer's Consultants shall be named as additional insureds on all policies of insurance required to be furnished by Contractor. The additional insureds shall be listed by endorsement which shall include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of such additional insureds, and the insurance afforded to these additional insureds shall provide primary and noncontributory coverage for all claims covered thereby;
- D. To the extent any of the policies of insurance furnished by Contractor contain deductibles in any amount, Contractor shall be liable for, and shall pay, any such deductible amounts;
- E. With respect to all insurance required from Contractor by any of the Contract Documents, Contractor waives, and will require by endorsement its insurance carriers to waive, any and all rights of subrogation against Owner, Engineer and each additional named insured on any applicable policy;
- F. Nothing contained in any policy of insurance, nor any of the insurance requirements set forth in the Contract Documents, shall in any way limit, restrict, or release Contractor from any of its duties, obligations, or liabilities arising under or relating to the Contract Documents.

**END OF EXHIBIT**

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# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

1/28/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Yates Insurance Agency 2800 Century Parkway NE Suite 300 Atlanta GA 30345	<b>CONTACT NAME:</b>	<b>FAX (A/C, No):</b> 404-633-1312	
	<b>PHONE (A/C, No, Ext):</b> 404-633-4321	<b>E-MAIL ADDRESS:</b> certs@yatesins.com	
<b>INSURED</b> Lakeshore Engineering, LLC 1259 Ellsworth Dr Atlanta GA 30318 LAKEENG-02	<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
	<b>INSURER A:</b> Cincinnati Indemnity Company		23280
	<b>INSURER B:</b> Old Republic Insurance Company		24147
	<b>INSURER C:</b> Evanston Insurance Company		35378
	<b>INSURER D:</b>		
	<b>INSURER E:</b>		
<b>INSURER F:</b>			

**COVERAGES****CERTIFICATE NUMBER:** 194309245**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR VVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:	Y	Y	EPP0118126	12/28/2018	12/28/2021	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
A	<input checked="" type="checkbox"/> <b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY	Y	Y	EBA0118126	12/28/2020	12/28/2021	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0	Y	Y	EPP0118126	12/28/2018	12/28/2021	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$
B	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y	N/A	MWC30410721	1/1/2021	1/1/2022	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C C A	Pollution Liability Professional Liability Installation	Y	Y	MKL2ENV101468 MKL2ENV101468 EPP0118126	12/28/2020 12/28/2020 12/28/2018	12/28/2021 12/28/2021 12/28/2021	Ded \$5,000 \$2,000,000 Occ Ded \$1,000/Special \$7,000,000

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

Subject to policy terms, conditions, forms and exclusions, the insurance coverages afforded by the policies above include the following when required by written contract for the certificate holder and/or entities listed below: Blanket Additional Insured in regards to General Liability for ongoing and completed operations, Lessors of Leased Equipment, Automobile Liability, Pollution Liability and Umbrella Liability; Blanket Primary and Non-Contributory in regards to General Liability, Automobile Liability, Pollution Liability and Umbrella Liability; Blanket Waiver of Subrogation in regards to General Liability, Automobile Liability, Pollution Liability, Umbrella Liability and Workers Compensation; Per Project Aggregate applies to the General Liability.

FORMS:  
GA101 12/04 Commercial General Liability Coverage Form  
See Attached...

**CERTIFICATE HOLDER****CANCELLATION**

Clayton County Water Authority  
1600 Battle Creek Road  
Morrow GA 30260

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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# **ADDITIONAL REMARKS SCHEDULE**

Page 1 of 1

AGENCY Yates Insurance Agency		NAMED INSURED Lakeshore Engineering, LLC 1259 Ellsworth Dr Atlanta GA 30318
POLICY NUMBER		
CARRIER	NAIC CODE	EFFECTIVE DATE:

## **ADDITIONAL REMARKS**

**THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,**

**FORM NUMBER:** 25 **FORM TITLE:** CERTIFICATE OF LIABILITY INSURANCE

GA233 09/17 Contractors' Commercial General Liability Broadened Endorsement  
 GA472 09/17 Contractors Additional Insured – Automatic Status When Required In Written Contract, Agreement, Permit or Authorization  
 AA288 01/16 CinciPlus Business Auto XC+ Endorsement  
 WCO00313 04/84 Waiver of Our Right to Recover  
 USD513 05/10 Commercial Umbrella Liability Coverage Part Declarations  
 US101 UM 12/04 Commercial Umbrella Liability Coverage Form  
 US4096 11/16 Automatic Non-Contributory Coverage Endorsement – Where Required By Written Contract  
 MEEI0007 11/17 Contractors Pollution Liability Coverage Form  
 MEEI2211 05/16 Waiver of Transfer of Rights of Recovery Against Others To Us – Written Contract Limitation  
 MEEI2274 05/16 Automatic Primary And Non-Contributory Insurance

Project: J.W. Smith WPP High Service Pump Station Upgrades.

Entities: Clayton County Water Authority, Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.



**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-selected Equipment and Materials
10. Sequence and Progress of Work
11. Contractor's Use of Site
12. Easements and Rights-of-Way
13. Notices to Owners and Authorities of Properties Adjacent to the Work
14. Salvage of Equipment and Materials
15. Partial Utilization by Owner

**1.02 LOCATION AND DESCRIPTION OF WORK**

A. The Work is located at the following Site:

1. J.W. Smith Water Production Plant  
82 Northbridge Road  
Hampton, GA 30228

061713

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. Replace existing High Service Pumps Nos. 1-4.
2. Replace existing pump discharge piping and valves at each High Service Pump with new piping and valves including, but not limited to, automatic electric check pump control valves.
3. Provide new miscellaneous valves, including, but not limited to, combination air-vacuum valves, surge anticipator valve, and pressure reducing valve.
4. Replace existing MCCs, panelboard, transformer, and electrical equipment.
5. Provide new motor controllers for new pumps (two RVSS constant speed starters and two VFDs).
6. Provide air conditioning for electrical room.
7. Replace wiring and instrumentation as required.
8. Modify plant control system to enable control of pump speed.

### **1.03 CONSTRUCTION CONTRACTS, THIS PROJECT**

A. The Contracts under which the Project will be constructed are: [ADD NO. 1]

1. ~~Work specified in the Specifications.~~ **Work specified in Volume 1 – Procurement, Contracting, and General Requirements**
2. ~~Work shown on the Drawings.~~ **Work specified in Volume 2 – Technical Specifications**
3. **Work shown in Volume 3 – Drawings**

### **1.04 CONSTRUCTION CONTRACTS, OTHER PROJECTS (NOT USED)**

### **1.05 WORK BY OTHERS (NOT USED)**

### **1.06 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.

### **1.07 OWNER-FURNISHED EQUIPMENT AND MATERIALS (NOT USED)**

**1.08 OWNER ASSIGNED PROCUREMENT DOCUMENTS (NOT USED)**

**1.09 OWNER PRE-SELECTED EQUIPMENT AND MATERIALS (NOT USED)**

**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.

**1.11 CONTRACTOR'S USE OF SITE**

- A. Contractors' use of the Site shall be confined to the areas shown. Contractors shall share use of the Site with other contractors and others specified in this Section.
- 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 AND AUTHORITIES 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**

**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. Owner has the right, at any time, to resume their operations, without penalty, if the Contractor adversely affects the Owner's facility and/or operations.

6. 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.
7. **Contractor shall not enter any buildings on site except as required to complete the Work. Contractor shall not use Owner's facilities as an office. Contractor shall not use Owner's internet or restrooms.** [ADD NO. 2]
8. **Contractor may use existing bridge crane in the High Service Pump Station in accordance with Drawing M004, Note 2. Before Contractor's initial use of the crane, the crane will be inspected, proof-tested and certified by an independent third-party testing firm employed by the Engineer or Owner (Pre-Construction Test). After Contractor's final use of the crane, the crane will again be inspected, proof-tested and certified by an independent third-party testing firm employed by the Engineer or Owner (Construction Completion Test). Any damage and/or deficiencies from the Construction Completion Test shall be repaired or replaced by a certified and factory authorized trained technician. The Contractor shall be responsible for any and all costs related to any damages and deficiencies including but not limited to: any additional tests required to verify satisfactory completion of repairs and/or replacement and to achieve re-certification of the bridge crane. The Engineer and Owner shall make the final determination if any damage and/or deficiencies are to be repaired or replaced. The Engineer, Owner and Contractor shall be present to observe the bridge crane tests.** [ADD NO. 4]

C. Continuous Treatment Provision:

1. Contractor shall provide labor, equipment, materials, and incidentals necessary to ensure continuous treatment at the plant.

D. Related Sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 25 00 – Substitution Procedures
3. 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, or conduit, has to be temporarily suspended or taken out of service to perform the Work.

### **1.03 ADMINISTRATION PERIOD**

- A. The project Administration Period shall commence upon the issuance of the Notice to Proceed (NTP).
- B. The duration of the Administration Period is 90 consecutive calendar days.
- C. During the Administration Period the Contractor shall submit, revise as required by the Engineer and Owner, and obtain approval for, at a minimum, the following:
  - 1. Schedule of Values (Section 01 29 73 Schedule of Values).
  - 2. Progress Schedule (Section 01 32 00 Construction Progress Schedule), including Sequencing Plan and Schedule of Submittals.
  - 3. Technical submittals (Section 01 33 00 Submittal Procedures).
  - 4. Qualifications Statements (Section 01 32 00 Construction Progress Schedule and Section 01 33 00 Submittal Procedures).
  - 5. Temporary Utilities Plan (Section 01 51 00 Temporary Utilities).
  - 6. Temporary Construction Facilities Plan.
  - 7. Pre-construction photos and videos (Section 01 73 00 Execution of Work).
  - 8. List of Personnel and Emergency Contacts.
  - 9. Copies of permits and approvals for construction as required by Laws and Regulations and governing agencies.
  - 10. Example Application for Payment.
  - 11. Delivery schedule for major equipment or long-lead items.
  - 12. Any additional documents, plans, schedules, or the like, which will facilitate the Contractor’s ability to immediately initiate construction activity upon issuance of the Notice of Mobilization.
- D. During the Administration Period the Contractor shall complete, as a minimum, the following:
  - 1. All administrative requirements as established in Division 1, General Requirements of these Contract Documents.

2. Installation of the Engineer's and Contractor's temporary field offices (if required), complete with all required utilities, internet, network, supplies, and furnishings required.
  3. Issuance of contracts, subcontracts, and purchase orders for all major products and systems.
- E. During the Administration Period the Contractor shall be limited in site access to only the following:
1. Nondestructive field verification of existing conditions.
  2. Construction of Engineer's and Contractor's temporary field offices.
- F. Provided all requirements of the Administration Period have been completed, submitted, and approved by the Engineer, and the Contractor has established that they are fully prepared for the Work to commence, the Engineer shall issue a Notice of Mobilization.
1. Notice of Mobilization will not occur earlier than 30 days after NTP, but not later than 90 days after NTP.
  2. The Contractor is advised that should the administrative conditions and requirements of the Contract not be met within this Administration Period, the Owner may pursue remedies pursuant to the terms under General Conditions Article 16 Suspension of Work and Termination.

#### **1.04 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. Pre-Shutdown Meetings:
1. Contractor shall schedule and conduct meeting with Owner and Engineer prior to scheduling shutdown.
  2. Meeting to occur a minimum of 14 days prior to scheduled shutdown.



3. Contractor to provide a description of what equipment, systems, or appurtenances shall be affected by the shutdown and the procedures required to perform start-up, functional, and performance testing to ensure that all systems are fully functioning upon completion of the shutdown.

C. Sequencing:

1. Perform the Work in the sequence specified in part 1.07..
2. The completion of preliminary sequencing tasks specified in the Progress Schedule will be required before any significant demolition.
3. Certain phases or stages of the Work may require working 24-hour days or work during hours outside of regular working hours.
4. 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.

D. 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 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.

## **1.05 SUBMITTALS**

### **A. Action/Informational Submittals:**

1. **Substitute Sequence Submittal:** When deviation from specified sequence is proposed, provide submittal explaining in detail the proposed sequence change and its effects, including evidence that Owner's operations will not be adversely affected by proposed change. List benefits of proposed sequence change, including benefits to Progress Schedule. Submit in accordance with Section 01 25 00 – Substitution Procedures.
2. **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.
3. **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 5 days in advance of each shutdown. Shutdowns shall not occur on Fridays, Saturdays, Sundays, or Mondays.

## **1.06 SITE CONDITIONS**

- A. **General Constraints:** Specified in the Contract Documents are the sequence and shutdown durations, where applicable, for Owner's equipment, systems, and conduits that are to be taken out of service temporarily for the Work. New equipment, materials, and systems may be used by Owner after the specified field quality controls and testing are successfully completed and the materials or equipment are Substantially Complete.
- B. The following constraints apply to coordination with Owner's operations:
  1. **Operational Access:** Owner's personnel shall have access to equipment and areas that remain in operation.
  2. **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: Unless otherwise specified, Owner will dewater process tanks and basins at beginning of each shutdown. Owner will flush and wash down tanks and basins with plant non-potable water. 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 vacuum truck, acceptable to Engineer.
6. Electrical, Control, Communication, and Monitoring Systems:
  - a. Owner's existing SCADA system and fiber optic network shall remain functional, subject to the constraints herein.
  - b. Fiber optic communications and network connectivity shall remain in continuous operation except for Owner-approved shutdowns required to complete the work. No shutdown shall exceed 8 hours per calendar day.

- c. Unless Contractor elects to use existing fiber and/or temporary fiber, at his/her discretion, at least one communication path through the new dual redundant fiber optic ring to all communication points shall be in place at all times until substantial completion.
- d. Each process area shall be permitted to have a single, non-concurrent, scheduled outage for the purpose of making PLC panel hardware modifications, loading the associated PLC logic, and its field testing/demonstration. Field testing and demonstration shall immediately follow modifications in an effort to keep scheduled shutdowns as short as possible. A 14-day day period of no SCADA outage shall proceed each scheduled shutdown.
- e. Time allotted for SCADA testing between shutdowns for each pair of High Service Pumps shall be 14 days.
- f. Construction activities related to that specific pump may be resumed before the end of the 14-day SCADA testing period, upon successful completion of the required SCADA task(s) and approval of the Engineer and Owner.
- g. Contractor shall not proceed with demolition and/or removal of subsequent High Service Pump and its appurtenances until the previous High Service Pump successfully completes all testing requirements and demonstrates compliance with all provisions of the Contract.
- h. Contractor shall ensure at all times that the minimum plant output flow is provided and maintained.
- i. Minimum plant output flow for J.W. Smith WPP High Service Pump Station Upgrades project is 7 million gallons per day.

#### **1.07 SUGGESTED SEQUENCE OF WORK**

- A. Perform the Work in the specified sequence or as otherwise approved by 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.
  - 1. Stage 1: Field verification and miscellaneous upgrades
  - 2. Stage 2: High Service Pumps 3 & 4 upgrades
  - 3. Stage 3: High Service Pumps 1 & 2 upgrades

## **1.08 TIE-INS (NOT USED)**

## **1.09 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. All shutdowns shall be in accordance with this Section. Work requiring service interruptions for tie-ins shall be performed during scheduled shutdowns.

### **B. Treatment Process Shutdown and Site Access Constraints:**

1. Owner shall have the following unit processes and equipment operational at all times during the Project, unless specified herein:
  - a. At least two (2) high service pumps shall remain operational at all times, with the exception of shutdowns scheduled in advance with the Owner. No shutdown shall exceed 8 hours per calendar day.
2. All four (4) high service pumps shall remain operational during Peak Demand Season from June 1st to September 30th. Contractor shall be fully responsible for scheduling the work to comply with this requirement. Owner shall have roadway access to the plant at all times.

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

D. Shutdowns of Communications, SCADA, and Networking:

1. Permissible SCADA outage includes connection of new fiber optic cable from High Service Pump Station.

**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. The clearwell will not be drained or taken out of service. Contractor shall install pumps from the pump room located above the clearwell.
- B. Prior to Typical Shutdown:
  1. Schedule and attend Pre-Shutdown Meeting (see 1.04B above)
  2. Obtain Engineer's acceptance of proposed shutdown planning submittal and shutdown notification submittal.
  3. Submittal and approval of all shop drawings required.
  4. Coordinate with plant operations on timing of shutdown and provide required notice to Owner.
  5. Bring necessary piping, couplings, valves, equipment, and appurtenances to the work areas.
  6. Assist Owner in preparing to take equipment, tanks, basins, and conduits temporarily out of service.
  7. Coordinate other tie-ins to be performed simultaneously.
  8. Install and ensure functionality of temporary systems as applicable.
- C. During Typical Shutdown:
  1. Remove existing equipment, piping, and accessories as required.
  2. Verify operation of new equipment, materials, and systems.

3. Following approval from Engineer, return equipment and system to operation with Owner.

D. Following Typical Shutdown:

1. Verify functionality of equipment and system.
2. Verify operation of new equipment, systems, and appurtenances; verify that joints in piping are watertight or gastight as applicable.
3. Repair joints that are not watertight or gastight as applicable.
4. Perform start-up, functional tests and performance tests as needed for all equipment and systems effected by the shutdown. Tests to be approved and accepted by Engineer.
5. Remove temporary systems as applicable.

- E. ***Contractor shall complete 14-day Operating Test Period for the first set of two pumps before taking the second set of two pumps out of service for demolition. For requirements of the 14-day Operating Test Period see Section 01 91 13 General Commissioning Requirements.*** [ADD NO. 4]

### 3.03 PROPOSED SHUTDOWN SEQUENCE

- A. A preliminary sequencing plan is provided below. Contractor may propose alternate sequencing plan subject to approval by Engineer and Owner. Stage 3 may be performed before Stage 2 at Contractor's option, but Contractor shall provide temporary power to existing low voltage panelboard if required to maintain 2 pumps in service at all times.
- B. Stage 1 – Field verifications and miscellaneous upgrades
1. Field Verifications
    - a. Before submitting shop drawings for the pumps, Contractor shall field-verify the available clearances. Confirm that the available clearance is adequate for installation and removal of the pumps submitted.
  2. Contractor may perform miscellaneous upgrades during Stage 1 as described below:
    - a. Install, startup, and test air conditioning unit for electrical room. If air conditioner is not yet complete when new pumps are installed, Contractor shall provide temporary air conditioning for electrical room.
    - b. Install, startup, and test miscellaneous valves that are not associated with a specific high service pump including surge anticipator valve, pressure

reducing valve, and their associated isolation valves. Surge anticipator valve shall be complete before the new pumps are installed.

- c. Install, startup, and test instrumentation that is not associated with a specific high service pump including pressure transmitter and clearwell level transmitter. Install LCP-HSPS.

C. Stage 2 - High Service Pumps 3 & 4 (P3 & P4) upgrades

1. One (1) shutdown not to exceed 8 hours will be allowed for completion of the following tasks:
  - a. Owner will close 24" header isolation valve.
  - b. Contractor shall remove water from 24" header and trench as required to perform the work. Temporary pump(s) may be required.
  - c. Replace 12" butterfly valve (BFV) and piping downstream of BFV at P3 and P4. Provide temporary blind flange or other means as required to prevent leakage from 12" BFV into the pump room.
  - d. Owner will then reopen 24" header isolation valve and place P1 and P2 back in service.
2. P3 and P4 remain out of service. Proceed with upgrades on P3 and P4.
3. Perform P3 and P4 electrical upgrades in parallel with P3 and P4 mechanical upgrades. P3 and P4 electrical upgrades require both pumps to be out of service at the same time because the entire MCC will be replaced.

D. Stage 3 - High Service Pumps 1 & 2 (P1 & P2) upgrades

1. One (1) shutdown not to exceed 8 hours will be allowed for completion of the following tasks:
  - a. Owner will close 24" header isolation valve.
  - b. Contractor shall remove water from 24" header and trench as required to perform the work. Temporary pump(s) may be required.
  - c. Replace 12" butterfly valve (BFV) and piping downstream of BFV at P1 and P2. Provide temporary blind flange or other means as required to prevent leakage from 12" BFV into the pump room.
  - d. Owner will then reopen 24" header isolation valve and place P3 and P4 back in service.
2. P1 and P2 remain out of service. Proceed with upgrades on P1 and P2.



3. Perform P1 and P2 electrical upgrades in parallel with P1 and P2 mechanical upgrades. P1 and P2 electrical upgrades require both pumps to be out of service at the same time because the entire MCC will be replaced.

E. Small diameter connections to 24-inch PW

1. Small diameter connections to the 24-inch PW pipe shall be accomplished during either of the two shutdowns described above. Small diameter piping connections to 24-inch PW include 3/8" and 3/4" tubing shown on Sheet M004, Section B.

## **PART 4 – SUPPLEMENTS**

### **4.01 THE SUPPLEMENT LISTED BELOW, FOLLOWING “END OF SECTION”, IS PART OF THIS SPECIFICATION.**

A. Tie-In Plan

### **END OF SECTION**

## TIE-IN PLAN

To:	From:
Submitted Date:	Please review and return executed plan to Construction Manager by Date:
<b>TIE-IN PLAN PROCEDURE</b>	
1.	<div style="display: flex;"> <div style="width: 30%; padding-right: 10px;"><b>Meet to Review &amp; Finalize Plan</b></div> <div>Contractor Superintendent, Construction Manager meet with Engineer and Owner's Representative to "Collectively" review and to finalize the Tie-In Plan.</div> </div>
2.	<div style="display: flex;"> <div style="width: 30%; padding-right: 10px;"><b>Complete Form</b></div> <div>Contractor Superintendent &amp; Construction Manager complete the form and review the previously established Tie-In Plan with the Engineer for final endorsements. A copy should be attached to that day's Project Quality Report.</div> </div>
3.	<div style="display: flex;"> <div style="width: 30%; padding-right: 10px;"><b>Execute Plan</b></div> <div>Execute Tie-In Plan.</div> </div>
<b>TIE-IN COORDINATION PLAN</b>	
Contract Number and Title:	
Contractor:	
Proposed Tie-In Date:	Proposed Outage Duration:
Tie-In Activity / Location:	
Pipe Size and Designation:	Schedule Activity ID No.:
Contract Drawing No(s):	
Utilized Knowledge of Owner and Engineer On-Site Personnel:	
Submittal / Vendor Drawing(s)	
Special Requirements:	
Isolation Capabilities:	
(What Valves / Where Located?)	
Attached Location Sketch as Required	
Spill Control (Planned remedial actions that could contain a spill):	

**TIE-IN PLAN**

Responsible Supervisor: \_\_\_\_\_

PERSONNEL	EQUIPMENT	MATERIALS

**Description of Work** (use additional pages or sketches as required):

TIE-IN PLAN

ENDORSEMENTS:		DATE
Responsible Contractor Superintendent:		
General Contractor Superintendent:		
Construction Manager:		
Remarks:		

Form Routing: Return Original completed Form to General Superintendent for filing, Copy to Construction Manager.

**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 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:

1. Bid Item 1: Lump Sum:

a. Lump sum for Bid Item 1 will be full compensation for administration and completion of the Work, as shown on the Drawings and specified in the Contract Documents.

2. Bid Item 2: Cash Allowances

a. The Owner has pre-negotiated the scope of supply and services with various equipment manufacturers listed under Bid Items 2.1 through 2.2. A copy of each vendor's proposal is included in the referenced Specification Section.

b. The Owner's pre-selection and pre-negotiation of this equipment shall in no way be construed to change, in any material way, Contractor's responsibilities under the terms and conditions of this Contract.

c. All costs for compliance with the terms of the Contract, which are different than or not covered under the pre-negotiated scope and price shall be included in the Contractor's Lump Sum Bid (Bid Item 1, Lump Sum).

d. Payment for Bid Item 2 shall be made in accordance with Section 00 72 00, Section 00 73 00, and Section 01 20 00.

3. Bid Item 3: Contingency Allowances

a. Contingency allowances will be administered in accordance with the General Conditions.

b. Any unspent contingency allowances remaining at final completion shall revert to the Owner.

c. Unforeseen Work Elements 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. Contingency allowances are further described below:

- 1) Bid Item 3.1 – Unforeseen Work Elements: 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.

4. Bid Item 4: Unit Price Work

- a. Payment for unit price items covers all the labor, materials, and services necessary to furnish and install the following items for additional work not shown on the plans or in the specifications, except where explicitly stated below, and if ordered by the Engineer.
- b. Bid Item 4.1 – Fiber Optic Cable: Payment for Bid Item 4.1 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide 12-strand multi-mode fiber optic cable ~~installation with terminations~~ installed in ~~existing~~ conduit which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. ***A portion of the fiber optic cable is to be installed in existing conduit and the remainder shall require new conduit as shown on the Communication Block Diagram on Drawing E008. All fiber optic cable on the project will be included in Bid Item 4.1. The new conduit and Innerduct described on Drawing E008 shall be included in Bid Item 1: Lump Sum. For additional information on existing conditions, refer to Section 00 73 00, Part SC-5.03, "Construction Drawings: Shoal Creek Water Treatment Plant, Robert and Company, June 1983", electrical drawings 810095-04-E2 and 810095-04-E29.*** [ADD NO. 4] Bid Item 4.1 shall include all materials, equipment, labor, indirect costs, and profit to provide, place, and connect, meeting all requirements of the Bidding Documents. Fiber Optic Cable is further specified in Section 40 66 00, Paragraph 2.06. Measurement for Bid Item 4.1 will be by linear foot of Fiber Optic Cable installed.
- c. Bid Item 4.2 – Galvanized Rigid Steel (GRS) Conduit with Conductors: Payment for Bid Item 4.2 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide 1-inch GRS conduit with 12 conductors of #14AWG installation which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.2 shall include all materials, equipment, labor, indirect costs, and profit to provide, place, and connect, meeting all requirements of the Bidding Documents. GRS Conduit with Conductors is further specified in Section 26 05 33.13, Paragraph 2.02. Measurement for Bid Item 4.2 will be by linear foot of GRS conduit with conductors installed.

- d. Bid Item 4.3 – Uninstalled Spare Electric Actuator: Payment for Bid Item 4.3 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide spare 12-inch open/close electric actuator and limit switch for automatic electric check pump control valve which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.3 shall include all materials, equipment, labor, indirect costs, and profit to provide, meeting all requirements of the Bidding Documents and Section 40 05 65.21, Paragraph 2.01/J and Section 40 05 57, Paragraph 2.03. Measurement for Bid Item 4.3 will be by each uninstalled spare electric actuator provided.
- e. Bid Item 4.4 – Uninstalled Spare Pump Bowl Assembly: Payment for Bid Item 4.4 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide an uninstalled spare pump bowl assembly which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.4 shall include all materials, equipment, labor, indirect costs, and profit to provide, meeting all requirements of the Bidding Documents and Section 43 21 47, Paragraph 2.07 Vertical Turbine Pumps. Measurement for Bid Item 4.4 will be by each uninstalled spare pump bowl assembly provided. ***Uninstalled spare pump bowl assembly shall be factory tested as part of a complete pump assembly.*** [ADD NO. 4]
- f. Bid Item 4.5 – Uninstalled Spare Pump Motor: Payment for Bid Item 4.5 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide an uninstalled spare pump motor which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.5 shall include all materials, equipment, labor, indirect costs, and profit to provide, meeting all requirements of the Bidding Documents and Section 43 21 47, Paragraph 2.13 Vertical Turbine Pumps. Measurement for Bid Item 4.5 will be by each spare pump motor provided. ***Uninstalled spare pump motor shall be factory tested as part of a complete pump assembly.*** [ADD NO. 4]
- g. Bid Item 4.6 – Uninstalled Spare Butterfly Valve: Payment for Bid Item 4.6 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide an uninstalled spare 12-inch flanged butterfly valve which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.6 shall include all materials, equipment, labor, indirect costs, and profit to provide, meeting all requirements of the Bidding Documents and Section 40 05 64. Measurement for Bid Item 4.6 will be by each uninstalled spare butterfly valve provided.
- h. Bid Item 4.7 – Uninstalled Spare Bias / Non-slam Air Valve: Payment for Bid Item 4.7 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide uninstalled spare 4-inch



bias/non-slam air valves which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.7 shall include all materials, equipment, labor, indirect costs, and profit to provide, meeting all requirements of the Bidding Documents and Section 40 05 68.23, Paragraph 2.03. Measurement for Bid Item 4.7 will be by each uninstalled spare bias/non-slam air valve provided.

- i. Bid Item 4.8 – Additional Copper Utility Water Piping: Payment for Bid Item 4.8 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide additional 1-inch copper utility water piping which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.8 shall include all materials, equipment, labor, indirect costs, and profit to provide, place, and connect, meeting all requirements of the Bidding Documents. Measurement for Bid Item 4.8 will be by linear foot of additional copper utility water piping provided.
- j. Bid Item 4.9 – Additional PVC Process Drain Piping: Payment for Bid Item 4.9 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide additional 2-inch PVC process drain piping which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.9 shall include all materials, equipment, labor, indirect costs, and profit to provide, place, and connect, meeting all requirements of the Bidding Documents. Measurement for Bid Item 4.9 will be by linear foot of additional PVC process drain piping provided.
- k. Bid Item 4.10 – Additional Ductile Iron Fittings: Payment for Bid Item 4.10 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide additional ductile iron fittings which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.10 shall include all materials, equipment, labor, indirect costs, and profit to provide, place, and connect, meeting all requirements of the Bidding Documents and Section 40 05 19. Measurement for Bid Item 4.10 will be by ton of additional ductile iron fittings provided.
- l. Bid Item 4.11 – Additional Ductile Iron Pipe: Payment for Bid Item 4.11 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide ductile iron pipe, 24-inch diameter, flange x flange segments of 3-foot length, which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.11 shall include all materials, equipment, labor, indirect costs, and profit to provide, place, and connect, meeting all requirements of the Bidding Documents and Section 40 05 19. Measurement for Bid Item 4.11 will be by linear foot of additional ductile iron pipe provided.

- m. Bid Item 4.12 – Additional Pipe Coating: Payment for Bid Item 4.12 will be made according to the unit price in the Bid Schedule of the Bid Form, which shall constitute full payment to provide additional pipe coating which, in the sole judgment of the Engineer, could not have been determined from the Bidding Documents. Bid Item 4.12 shall include all materials, equipment, labor, indirect costs, and profit to provide additional pipe coating, meeting all requirements of the Bidding Documents and Section 09 90 00. Measurement for Bid Item 4.12 will be by square foot of additional pipe coating provided.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

**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 the Effective Date of the Agreement. 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 the Effective Date of the Agreement, 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)**

**END OF SECTION**

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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**

Field Order No.

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

Work Change Directive No. \_\_\_\_\_

---

Date of Issuance:	Effective Date:
Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

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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:

By: \_\_\_\_\_  
Engineer (Authorized  
Signature)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

AUTHORIZED BY:

By: \_\_\_\_\_  
Owner (Authorized  
Signature)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

RECEIVED:

By: \_\_\_\_\_  
Contractor (Authorized  
Signature)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Approved by Funding Agency (if applicable)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

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Change Order No. \_\_\_\_\_

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]

CHANGE IN CONTRACT PRICE  Original Contract Price:  \$	CHANGE IN CONTRACT TIMES [note changes in Milestones if applicable] Original Contract Times: Substantial Completion: Ready for Final Payment: days or dates
[Increase] [Decrease] from previously approved Change Orders No. to No. :  \$	[Increase] [Decrease] from previously approved Change Orders No. to No. : Substantial Completion: Ready for Final Payment: days
Contract Price prior to this Change Order:  \$	Contract Times prior to this Change Order: Substantial Completion: Ready for Final Payment: days or dates
[Increase] [Decrease] of this Change Order:  \$	[Increase] [Decrease] of this Change Order: Substantial Completion: Ready for Final Payment: days or dates
Contract Price incorporating this Change Order:  \$	Contract Times with all approved Change Orders: Substantial Completion: Ready for Final Payment: days or dates

RECOMMENDED:

By: \_\_\_\_\_  
Engineer (if required)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

ACCEPTED:

By: \_\_\_\_\_  
Owner (Authorized  
Signature)

Title \_\_\_\_\_

Dat \_\_\_\_\_

ACCEPTED:

By: \_\_\_\_\_  
Contractor (Authorized  
Signature)

Title \_\_\_\_\_

Dat \_\_\_\_\_

Approved Funding Agency (if required)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

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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. If Record Documents are not updated on a monthly basis, the Owner as its sole discretion has the right to delay the Contractor's payment without penalty.
3. Identify each line item with a unique number corresponding to the associated Specification Section. List sub-items of major products or systems, as appropriate or when requested by Engineer. The unique identifier shall precede the Schedule of Values' written description and have no more than 32 characters.
4. Include in Schedule of Values unit price payment items with their associated quantity. Provide in the Schedule of Values detailed breakdown of unit prices when required by Engineer.
5. Include in Schedule of Values itemized list of Work for each major part of the Contract, for each payment item specified in 00 72 00 General Conditions. 1.05 Site Conditions B. 6.

6. 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 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.
  - b. Demobilization shall be at least one percent of the Contract Price and shall be included with the Application for Payment following Substantial Completion, or other schedule accepted by Engineer.
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:
  - a. Up to three percent of total cost of each item (including overhead and profit), including materials and equipment, and installation, may be apportioned to testing and included in the Application for Payment following Engineer's acceptance of the associated written Site testing report(s).

- b. The Contractor is to submit the record drawings in the latest ACAD version in addition to the hard copies that the owner will receive.
- 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 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.
- 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 one electronic original of each complete Application for Payment and other documents to accompany the Application for Payment.
  - 3. Engineer will act on request for payment in accordance with the General Conditions and Supplementary Conditions.
- C. Requirements:
  - 1. Use AIA forms G702 and G703 for Application for Payment. Application for Payment details and format must be suitable to the Engineer and Owner.
  - 2. 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.
  - 3. Stored materials summary shall differentiate on-site stored materials from off-site stored materials. For Contractor to receive payment for off-site stored materials, in addition to requirements of Paragraph 1.02C.3 below, RPR must verify Contractor is in possession of materials.

4. 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.
  5. An updated Progress Schedule meeting the requirements of Section 01 32 00 shall accompany each Application for Payment.
  6. Beginning with the second Application for Payment, Interim and/or Final Waiver and Release forms are required to be submitted with each Application for Payment.
  7. For payment requests that include payment for Work under an allowance, submit documentation acceptable to Owner of the authorization of allowance Work.
  8. For payment requests (other than request for final payment) that include reduction or payment of retainage in an amount greater than that required in the Contract Documents, submit on form acceptable to Owner consent of surety to partial release or reduction of retainage.
- D. Requirements for request for final payment are in the General Conditions, as modified by the Supplementary Conditions, and Section 01 77 19 – Closeout Requirements.

### **1.03 SUPPLEMENTS**

- A. The supplements listed below, following “END OF SECTION”, are part of this Specification.
1. Interim Waiver and Release Upon Payment
  2. Waiver and Release Upon Final Payment

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**



**STATE OF GEORGIA**  
**COUNTY OF CLAYTON**

**INTERIM WAIVER AND RELEASE UPON PAYMENT**

The undersigned mechanic and/or materialman has been employed by the Clayton County Water Authority to furnish \_\_\_\_\_  
\_\_\_\_\_ [describe materials and/or labor];  
for the construction of improvements known as: \_\_\_\_\_  
[title of the project or building]; which is located in the City of \_\_\_\_\_, County of  
\_\_\_\_\_, and is owned by the Clayton County Water Authority at the following address:  
\_\_\_\_\_  
\_\_\_\_\_

and more particularly described by the following metes and bounds description, land lot district,  
or block and lot number:

See Attachment:      ☐ yes ☐ no

Upon the receipt of the sum of: \$ \_\_\_\_\_,  
the undersigned mechanic and/or materialman waives and releases any and all liens or claims of  
liens it has upon the foregoing described property through the date signed below and excepting  
those rights and liens that the mechanic and/or materialman might have in any retained amounts,  
on account of labor or materials, or both, furnished by the undersigned to or on account of said  
contractor for said building or premises.

In addition to the release and waiver of all liens or claims of lien as set forth hereinabove,  
upon receipt of the aforesaid payment, the undersigned agrees and acknowledges that it has  
been paid in full all sums due for labor or materials furnished for the aforesaid Project (save and  
except for any retained amounts which may have been withheld by the Clayton County Water  
Authority) as of the date of this Interim Waiver and Release Upon Payment. The undersigned  
does furthermore waive and release any and all other claims it has, or may have, against the  
Clayton County Water Authority or against its officers, directors, agents, employees, or others

acting on its behalf, arising out of, or related to construction of the Project, including but not limited to, the furnishing of any work or materials for the aforesaid Project save and except for any claim for the payment of any retained amounts previously withheld by said Authority.

The undersigned herein represents and affirms that the proceeds previously received from the said Authority pursuant to any prior Application for Payment have been applied on account to discharge the undersigned's legitimate obligations associated with such Application for Payment.

**NOTICE: WHEN YOU EXECUTE AND SUBMIT THIS DOCUMENT, YOU SHALL BE CONCLUSIVELY DEEMED TO HAVE BEEN PAID IN FULL THE AMOUNT STATED ABOVE, EVEN IF YOU HAVE NOT ACTUALLY RECEIVED SUCH PAYMENT, 60 DAYS AFTER THE DATE STATED ABOVE UNLESS YOU FILE EITHER AN AFFIDAVIT OF NONPAYMENT OR A CLAIM OF LIEN PRIOR TO THE EXPIRATION OF SUCH 60 DAY PERIOD.**

\_\_\_\_\_(L.S.)  
(Signature of Deponent)

\_\_\_\_\_  
(Printed/Typed Name and Title)

Deponent, individually, and as duly authorized agent and duly elected and acting officer of Contractor

\_\_\_\_\_  
(Company Name)

**PERSONALLY APPEARED BEFORE ME**, a Notary Public in and for said State and County, the Deponent, who, being personally known to the undersigned and being duly sworn and on oath deposed and said that the within and foregoing statements are true and correct this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Notary Public \_\_\_\_\_

Commission Expiration Date: \_\_\_\_\_ (NOTARY SEAL)

\_\_\_\_\_  
(Witness)

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

**STATE OF GEORGIA**  
**COUNTY OF CLAYTON**

**WAIVER AND RELEASE UPON FINAL PAYMENT**

The undersigned mechanic and/or materialman has been employed by the Clayton County Water Authority to furnish \_\_\_\_\_

\_\_\_\_\_ [describe materials and/or labor];

for the construction of improvements known as: \_\_\_\_\_

[title of the project or building]; which is located in the City of \_\_\_\_\_, County of

\_\_\_\_\_, and is owned by the Clayton County Water Authority at the following address:

\_\_\_\_\_

\_\_\_\_\_

and more particularly described by the following metes and bounds description, land lot district, or block and lot number:

See Attachment:      ☐ yes ☐ no

Upon the receipt of the sum of: \$ \_\_\_\_\_,  
the mechanic and/or materialman waives and releases any and all liens or claims of liens or any right against any labor and/or material bond it has upon the foregoing described property.

THE MECHANIC AND/OR MATERIALMAN WAIVES AND RELEASES ANY AND ALL LIENS OR CLAIMS OF LIENS IT HAS UPON THE FOREGOING DESCRIBED PROPERTY OR ANY RIGHTS AGAINST ANY LABOR AND/OR MATERIAL BOND ON ACCOUNT OF LABOR OR MATERIALS, OR BOTH, FURNISHED BY THE UNDERSIGNED TO OR ON ACCOUNT OF SAID CONTRACTOR FOR SAID PROPERTY.

**NOTICE: WHEN YOU EXECUTE AND SUBMIT THIS DOCUMENT, YOU SHALL BE CONCLUSIVELY DEEMED TO HAVE BEEN PAID IN FULL THE AMOUNT STATED ABOVE, EVEN IF YOU HAVE NOT ACTUALLY RECEIVED SUCH PAYMENT, 60 DAYS AFTER THE DATE STATED ABOVE UNLESS YOU FILE EITHER AN AFFIDAVIT OF NONPAYMENT OR A CLAIM OF LIEN PRIOR TO THE EXPIRATION OF SUCH 60 DAY PERIOD.**

IN ADDITION TO THE RELEASE AND WAIVER OF ALL LIENS AND CLAIMS OF LIEN AS SET FORTH HEREINABOVE, UPON RECEIPT OF THE AFORESAID FINAL PAYMENT, THE UNDERSIGNED AGREES AND ACKNOWLEDGES THAT IT HAS BEEN PAID IN FULL ALL SUMS DUE FOR LABOR OR MATERIALS FURNISHED FOR THE AFORESAID PROJECT. THE UNDERSIGNED FURTHERMORE HEREIN WAIVES AND RELEASES ANY AND ALL OTHER CLAIMS OF EVERY KIND AND NATURE THAT IT HAS, OR MAY HAVE, AGAINST THE AUTHORITY, OR ITS AGENTS OR REPRESENTATIVES, ARISING OUT OF, OR RELATED TO, THE CONSTRUCTION OF THE PROJECT, INCLUDING BUT NOT LIMITED TO, ANY CLAIMS FOR PAYMENT FOR LABOR OR MATERIALS FURNISHED FOR THE PROJECT.

**PERSONALLY APPEARED BEFORE ME**, the undersigned attesting officer, duly authorized by law to administer oaths (the "Deponent"), who being duly sworn according to law, deposes and says on oath:

1. That Deponent is the duly authorized agent and duly elected and acting officer of \_\_\_\_\_ (the "Contractor"), and is duly authorized to execute this Final Contractor's Affidavit, Lien Waiver and Indemnification (this "Affidavit") in a representative capacity on behalf of Contractor, as well as in Deponent's individual capacity, and Deponent has made diligent inquiry into and is personally familiar with and has full knowledge of all facts set forth herein.
2. That Contractor acted as the sole general contractor in charge of and directly responsible for the building and construction of all improvements (the "Work") located as reflected above (the "Property"), all of which Work was performed pursuant to the terms of that certain agreement dated \_\_\_\_\_ (the "Agreement") by and between Contractor and the Clayton County Water Authority as the owner or agent of the owner of the Property (the "Owner"). The Work includes, without limitation, all Work under or related to the Agreement and all change orders to the Agreement, and all supplemental contracts and subcontracts, whether oral or written, for any extra, additional or replacement labor or materials. Contractor is, and performed the Work as, an independent general contractor and Contractor is not an agent of Owner, and all of the Work was furnished and performed at the instance of Contractor as general contractor.
3. That the Work has been fully and finally completed in strict accordance with the terms of the Agreement, and Contractor has at all times since the commencement of the Work been in direct charge of all aspects of the Work, and Contractor has obtained a current valid permanent

certificate of occupancy for the Property and the Work, and the Work has been completed within the boundary lines of the Property.

4. Upon receipt of the sum reflected above, Contractor acknowledges that Owner has paid in full to Contractor the full contract price under the Agreement (the "Contract Price"), which Contract Price includes, without limitation, all amounts and bills for all labor, materials, fixtures and supplies of any type whatsoever used in the Work. Upon receipt of these monies, all contractors, subcontractors, subcontractors of subcontractors, materialmen, suppliers and laborers will be paid in full the agreed price or reasonable value for all materials and supplies ordered, used or furnished and services and labor rendered in connection with or as a part of the Work, and none of such parties have or will have any claim, demand or lien against the Property, and all of the amounts paid by Owner to Contractor under the Agreement have been and will be used to pay for labor or materials used in the Work when no liens or claims of lien were filed or outstanding. There are no disputes regarding the Agreement or any other contracts or subcontracts with respect to the Work or the Property, and, except for bills associated with these final monies, there are no amounts due or unpaid bills of any nature, either for labor or services related to the Work or the Property or any materials which have been or may have been placed upon, or applied or delivered to the Property, and Contractor does hereby unconditionally agree to hold harmless and indemnify Owner from and against all claims for mechanic's or materialman's liens or claims of lien, including, without limitation, any attempted foreclosure thereof, which in any way arise out of or are related to the Work or the Property, including, without limitation, any attorney's fees incurred in connection therewith.

5. That Contractor does hereby for itself, and its employees, suppliers, subcontractors, mechanics and materialmen and all other persons acting for, through, or under Contractor, waive, remise, relinquish and release all right to file or to have filed or to maintain any materialman's or mechanic's lien or liens or claim or claims against the Property or arising out of or related to the Work. This Affidavit is executed and given in favor of and for the benefit of, and may be relied upon by, Owner and each and every party legally or equitably, now or hereafter, owning or holding any interest in the Property.

6. That this Affidavit is a sworn statement made under the provisions of Official Code of Georgia Annotated Section 44-14-361.2, and is made for the purpose of inducing Owner to pay to Contractor the balance of the Contract Price pursuant to the terms of the Agreement.

\_\_\_\_ (L.S.)  
(Signature of Deponent)

\_\_\_\_\_  
(Printed/Typed Name and Title)

Deponent, individually, and as duly authorized agent and duly elected and acting officer of Contractor

\_\_\_\_\_  
(Company Name)

**PERSONALLY APPEARED BEFORE ME**, a Notary Public in and for said State and County, the Deponent, who, being personally known to the undersigned and being duly sworn and on oath deposed and said that the within and foregoing statements are true and correct this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Notary Public \_\_\_\_\_

Commission Expiration Date: \_\_\_\_\_ (NOTARY SEAL)

\_\_\_\_\_  
(Witness)

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

**SECTION 01 31 19**  
**PROJECT MEETINGS**

**PART 1 – GENERAL**

**1.01 SUMMARY**

A. Section includes:

1. Pre-Construction Meeting:
  - a. Purpose of conference is to designate responsible personnel, establish working relationships, discuss preliminary schedules submitted by Contractor, and review administrative and procedural requirements for the Project. Matters requiring coordination will be discussed and procedures for handling such matters will be established.
  - b. Date, Time and Location: Conference 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.
2. Progress Meetings:
  - a. Progress meetings will be held throughout the Project. Contractor shall attend each progress meeting prepared to discuss in detail all items on the agenda.
  - b. Engineer will preside at progress meetings and will prepare and distribute minutes of progress meetings to all meeting participants and others as requested.
  - c. Date, Time and Location:
    - 1) Regular Meetings: Every month on a day and time agreeable to Owner, Engineer, and Contractor.
    - 2) Engineer's Field Office at the Site or other location mutually agreed upon by Owner, Contractor, and Engineer.
  - d. Additional meetings may be conducted as progress of Work requires at a mutually agreed date, time and location.

**1.02 ADMINISTRATIVE REQUIREMENTS**

A. Pre-Construction Meeting:

1. Contractor shall provide pre-construction meeting submittals with sufficient number of copies for each attendee:
2. Required Attendees:
  - a. Contractor
    - 1) Project manager.
    - 2) Site superintendent.
    - 3) Safety representative.
    - 4) Major Subcontractors.
  - b. Owner.
  - c. Engineer.
  - d. Resident Project Representative (RPR).
  - e. Representatives of governmental or other regulatory agencies.
3. 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.
4. Agenda, minimum:
  - a. Procedural requirements:
    - 1) Designation of responsible personnel
    - 2) Use of Site and Owner's requirements, including general regards for community relations
    - 3) Delivery of materials and equipment to the Site
    - 4) Safety and first aid procedures
    - 5) Confined space entry plan
    - 6) Security procedures
    - 7) Housekeeping procedures
  - b. Administrative requirements:



- 1) Distribution of Contract Documents.
  - 2) Shop Drawing submittal procedures.
  - 3) Maintaining record documents at the Site.
  - 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 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 maintenance during the project, including cleaning and removal of trash and debris.
  - 11) Site restoration.
- d. Schedules
- 1) Preliminary construction schedule
  - 2) Critical work sequencing
  - 3) Preliminary Shop Drawing submittal schedule
  - 4) Preliminary Schedule of Values

B. Progress Meetings:

1. Progress meetings frequency shall be conducted as specified in this Section, unless modified and agreed upon by Owner, Contractor, and Engineer. 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, and representatives of Subcontractors and Suppliers as required.
  - b. Engineer, including project manager (or designated representative), Resident Project Representative (if any), others as required by Engineer.
  - c. Owner.
  - d. Subcontractors, only with Engineer's approval or request, as required in the agenda.
4. Agenda, minimum:
  - a. Review, comment, and amendment (if required) of minutes of previous progress meeting.
  - b. Review of progress since the previous progress meeting.
  - c. Planned progress through next 30 – 60 days.
  - d. Review of Progress Schedule
    - 1) Contract Times, including Milestones (if any)
    - 2) Critical path.
    - 3) Schedules for fabrication and delivery of materials and equipment.
    - 4) Corrective measures, if required.
  - e. Submittals:
    - 1) Review of status of critical submittals.
    - 2) Review revisions to schedule of submittals.
  - f. 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.
- g. Applications for progress payments.
  - h. Problems, conflicts, and observations.
  - i. Quality standards, testing, and inspections.
  - j. Coordination between parties.
  - k. Site management issues, including access, security, maintenance and protection of traffic, maintenance, cleaning, and other Site issues.
  - l. Safety.
  - m. Permits.
  - n. Record documents status.
  - o. Punch list status, as applicable.
  - p. Other business.

### **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. Progress Meeting Submittals:

1. List of Work accomplished since the previous progress meeting.
2. Up-to-date Progress Schedule.
3. Up-to-date Schedule of Submittals.
4. Detailed "look-ahead" schedule of Work planned through the next progress meeting, with specific starting and ending dates for each activity, including shutdowns, deliveries of important materials and equipment, Milestones (if any), and important activities affecting the Owner, Project, and Site.
5. When applicable, list of upcoming, planned time off (with dates) for personnel with significant roles on the Project, and the designated contact person in their absence.

**1.04 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.
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)**

**END OF SECTION**

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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, 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.
- 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 QUALITY ASSURANCE**

- A. Oracle Primavera P6™ Project Management (or Engineer-approved equivalent) shall be used to develop the Progress Schedule.
- B. The Contractor shall submit a Primavera training certification and resume for the proposed project schedule preparer for review by the Engineer. Progress schedule preparer must have five years minimum of professional experience in developing and updating construction schedules for infrastructure projects similar in nature to this project.

### **1.04 ADMINISTRATIVE REQUIREMENTS**

- A. 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.
    - 6) The minimum number and type of activities that are to comprise the schedule include mobilization, submittals for early procurement, submittals for long lead time items, work sequence and constraints, weather days, milestones, delivery dates, mechanical process work, mechanical - HVAC, electrical work, instrumentation and control work, equipment and start-up, and performance testing activities.
2. Preliminary Progress Schedule:
- a. Contractor shall submit to Engineer the preliminary Progress Schedule with associated Network Diagrams within 10 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.
  - d. The Contractor shall not begin any on-site field activities without all Administrative Activities being approved by the Engineer. Administrative Activities, shall include, but not be limited to, approval of Contractor's preliminary Progress Schedule (baseline Progress Schedule). The Contractor shall not be entitled to any delay claims due to the Contractor's inability to submit an approvable 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. Monthly Progress Schedule shall include the following:
  - a. Cost Report by Schedule of Values
  - b. Longest Path Report
  - c. Schedule Report sorted by Total Float
  - d. Near Term Schedule (NTS),
  - e. Critical Work List - Provide a list of critical work items to be performed prior to the next monthly construction meeting.
  - f. Trend Chart - Provide a trend chart showing projected completion dates of significant areas of the project.



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**

### **A. General:**

1. Prepare and submit a time impact analysis when one or more of the following occurs:
  - a. Change Order proposal is prepared
  - b. Work Change Directive is issued that will affect the Progress Schedule
  - c. When delays are experienced.
2. Time impact analysis shall illustrate the influence of each Change Order, Work Change Directive, or delay.
3. Each time impact analysis shall include a sketch (fragnet) demonstrating how Contractor proposes to incorporate the changes in the Project or, as applicable, delays into the Progress Schedule. Fragnet shall include all logic, and additions required as result of said Change Order, Work Change Directive, or delay.
4. Fragnet shall show all CPM logic revisions for the Work associated with the Change Order, Work Change Directive, or delay and its relationship to other Activities in the Network Diagram.
5. Timing of Time Impact Analysis:
  - a. Submit each time impact analysis within 7 days after the following, as applicable:
    - 1) Start of the delay.
    - 2) After the submittal of Change Order proposal to Engineer
    - 3) After Contractor's Receipt of Work Change Directive.
  - b. Failure to Submit Time Impact Analysis: When General Contractor does not submit time impact analysis for a specific change or delay under the General Contract, within the specified period of time for such submittal, such non-submittal shall be construed that no extension of the Contract Times is required

### **B. Evaluation by Engineer and Acceptance:**

1. Engineer's evaluation of each time impact analysis comprised of complete information will be completed in timely manner after Engineer's receipt. Changes in the Contract Times will be made only by Change Order.

2. When mutual agreement is reached between the parties, on effect of the change or delay in the Project, incorporate into the next Progress Schedule update the associated fragnets illustrating the influence of changes and delays.

## **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 progress meeting. If a Progress Schedule remains unchanged from one progress meeting to the next, submit a written statement to that effect.

#### **3. Time Impact Analyses: Submit in accordance with this Section.**

#### **4. Recovery Schedule: Submit in accordance with this Section.**

#### **5. Qualifications: Progress Schedule preparer, and other personnel that will assist Progress Schedule preparer in preparing and maintaining the Progress Schedule.**

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

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**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 78 23 – Operation and Maintenance Data.
3. Section 01 78 39 – Project Record Documents.
4. Section 01 78 43 – Spare Parts and Extra Material.
5. Section 01 79 00 – Instruction of Owner's Personnel.

**1.02 REFERENCES**

A. Definitions:

1. Action Submittal: Written and graphic information submitted by Contractor that requires Engineer's approval.
2. Deferred Submittal : Information submitted by Contractor for portions of design that are to be submitted to permitting agency for approval prior to installation of that portion of the Work, along with Engineer's review documentation that submittal has been found to be in general conformance with Project's design.

3. Informational Submittal: Information submitted by Contractor that requires Engineer's review and determination that submitted information is in accordance with the Conditions of the Contract.
- B. 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 test and evaluation reports, such as reports on pilot testing, subsurface investigations, potential Hazardous Environmental Condition, and similar 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.
- 3. Maintenance Material Submittals:
  - a. Maintenance materials schedule and checklist.
  - b. Spare parts.
  - c. Extra stock materials.
  - d. Tools.
- 4. Quality Assurance Submittals:
  - a. Performance affidavits.
  - 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. Qualifications statements.

### **1.03 ADMINISTRATIVE REQUIREMENTS**

#### **A. Statement of Personnel Qualifications:**

- 1. Credentials of Contractor's proposed project manager and superintendent. Credentials shall demonstrate experience with projects similar in nature to this project and shall include brief resume' and specific details of personnel's experience relative to the specific role the personnel are intended to fulfill.

#### **B. 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 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.

C. 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. Partial submittals are not allowed and consequently will not be reviewed by the Engineer if submitted.

#### **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.
  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.

#### **1.05 IDENTIFY AND COORDINATE SUBMITTALS THAT ARE EXPECTED TO HAVE LONG REVIEW TIMES. 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/technical data
  - 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 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.
- c. 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.
  - 5. Software programming and 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
GADOT	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)**

**END OF SECTION**

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**SECTION 01 45 16.13**  
**CONTRACTOR QUALITY CONTROL**

**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. Maintain an adequate inspection system and perform such inspections as will ensure that the Work conforms to the Contract Documents.
- B. Maintain complete inspection records on a cloud-based document management system and make them available at all times to Owner and Engineer.
- C. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the Contract Documents. The system shall cover all construction and demolition operations, both onsite and offsite, including Work by subcontractors, fabricators, suppliers and purchasing agents, and shall be keyed to the proposed construction sequence.

**1.02 DEFINITIONS**

- A. Quality Assurance (QA): The means by which Contractor ensures that the construction, to include that performed by subcontractors and suppliers, complies with the requirements of the Contract.
- B. Quality Control (QC): The Contractor's definition of how the project quality will be managed during construction of the project

**1.03 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination Meeting
  - 1. After the Preconstruction Conference, but before start of construction, and prior to acceptance of the QA Plan, schedule a meeting with Engineer and Owner to discuss the quality control system.
  - 2. Develop a mutual understanding of the system details, including the forms for recording the QA operations, control activities, testing, administration of the system for both onsite and offsite Work, and the interrelationship of Contractor's management and control with the Owner's Quality Assurance.
  - 3. There may be occasions when subsequent conferences may be called by either party to reconfirm mutual understandings and/or address deficiencies in the QA system or procedures that may require corrective action by Contractor.
- B. Quality Control Organization

1. QA Manager:
  - a. Designate an individual within Contractor's organization who will be responsible for overall management of QA and have the authority to act in QA matters for the Contractor.
  - b. QA Manager may perform other duties on the Project, but may not be the Contractor's Project Manager.
  - c. QA Manager shall be an experienced construction person, with a minimum of 3 years construction experience on similar type Work.
  - d. QA Manager shall report to the Contractor's project manager or someone higher in the organization. Project manager in this context shall mean the individual with responsibility for the overall quality and production management of the Project.
  - e. Identify an alternate for QA Manager to serve with full authority during the Manager's absence. The requirements for the alternate will be the same as for designated QA Manager.
2. QA Staff:
  - a. Designate a QA staff, available at the Site at all times during progress, with complete authority to take any action necessary to ensure compliance with the Contract. QA staff members shall be subject to acceptance by Engineer.
  - b. QA staff shall take direction from QA Manager in matters pertaining to QC.
  - c. QA staff must be of sufficient size to ensure adequate QC coverage of Work phases, work shifts, and work crews involved in the construction. These personnel may perform other duties but must be fully qualified by experience and technical training to perform their assigned QC responsibilities and must be allowed sufficient time to carry out these responsibilities.
  - d. The actual strength of the QA staff may vary during any specific Work period to cover the needs of the Project. Add additional staff when necessary for a proper QA organization.
3. Organizational Changes: Obtain Engineer's acceptance before replacing any member of the QA staff. Requests for changes shall include name, qualifications, duties, and responsibilities of the proposed replacement.

#### **1.04 SUBMITTALS**

- A. Submittals shall be as specified in Section 01 33 00, Submittal Procedures.
- B. QA Action Submittal:

1. QA Plan: Submit no later than 30 days after receipt of Notice to Proceed.
  2. Contractor's Statement of Responsibility, for any Contractor or Subcontractor responsible for the construction or fabrication of a seismic system or seismic component.
- C. Informational Submittal:
1. QA Report: Submit weekly.

#### **1.05 OWNER'S QUALITY ASSURANCE**

- A. All Work is subject to Owner's quality assurance inspection and testing at all locations and at all reasonable times before acceptance to ensure strict compliance with the terms of the Contract Documents.
- B. Owner's quality assurance inspections and tests are for the sole benefit of Owner and do not:
  1. Relieve Contractor of responsibility for providing adequate quality control measures;
  2. Relieve Contractor of responsibility for damage to or loss of the material before acceptance;
  3. Constitute or imply acceptance; or
  4. Affect the continuing rights of Owner after acceptance of the completed Work.
- C. The presence or absence of a quality assurance inspector does not relieve Contractor from any Contract requirement.
- D. Promptly furnish all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by Engineer.
- E. Owner may charge Contractor for any additional cost of inspection or test when Work is not ready at the time specified by Contractor for inspection or test, or when prior rejection makes re-inspection or retest necessary. Quality assurance inspections and tests will be performed in a manner that will not unnecessarily delay the Work.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION**

#### **3.01 QUALITY CONTROL PHASING**

A. QA shall include at least three phases of control to be conducted by QA Manager for all definable features of Work, as follows:

1. Preparatory Phase:

- a. This phase shall include a meeting conducted by the QA Manager and attended by the superintendent, other QA personnel (as applicable), and the foreman responsible for the definable feature. The QA Manager shall instruct applicable QA staff as to the acceptable level of workmanship required in order to meet Contract requirements.
- b. Document the results of the preparatory phase meeting by separate minutes prepared by the QA Manager and attached to the QC report.
- c. Perform prior to beginning Work on each definable feature of Work:
  - 1) Review applicable Contract Specifications.
  - 2) Review applicable Contract Drawings.
  - 3) Verify that all materials and/or equipment have been tested, submitted, and approved.
  - 4) Verify that provisions have been made to provide required control inspection and testing.
  - 5) Examine the Work area to verify that all required preliminary Work has been completed and is in compliance with the Contract.
  - 6) Perform a physical examination of required materials, equipment, and sample Work to verify that they are on hand, conform to approved Shop Drawing or submitted data, and are properly stored.
  - 7) Review the appropriate activity hazard analysis to verify safety requirements are met.
  - 8) Review procedures for constructing the Work.
  - 9) Document construction tolerances and workmanship standards for that phase of the Work.
  - 10) Check to verify that the plan for the Work to be performed, if so required, has been accepted by Engineer.

2. Initial Phase:

- a. Accomplish at the beginning of a definable feature of Work:



- 1) Notify Owner at least 48 hours in advance of beginning the Initial Phase.
  - 2) Perform prior to beginning Work on each definable feature of Work:
    - a) Review minutes of the preparatory meeting.
    - b) Check preliminary Work to verify compliance with Contract requirements.
    - c) Verify required control inspection and testing.
    - d) Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Comparison with samples as appropriate.
    - e) Resolve all differences.
    - f) Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
  - 3) Separate minutes of this phase shall be prepared by the QA Manager and attached to the QC report. Minutes shall be used for future reference and comparison with Follow-Up phases.
  - 4) The Initial Phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.
3. Follow-up Phase:
- a. Perform daily checks to verify continuing compliance with Contract requirements, including control testing, until completion of the particular feature of Work.
  - b. Daily checks shall be made a matter of record in the QA documentation and shall document specific results of inspections for all features of Work for the day or shift.
  - c. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of Work that will be affected by the deficient Work. Constructing upon or concealing nonconforming Work will not be allowed.
4. Additional Preparatory and Initial Phases: Additional Preparatory and Initial Phases may be conducted on the same definable features of Work as determined by Owner if the quality of ongoing Work is unacceptable; or if there are changes in the applicable QC staff or in the onsite production supervision or work crew; or if

work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

### **3.02 CONTRACTOR QUALITY CONTROL PLAN**

#### **A. General:**

1. Plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used to carry out Contractor's quality assurance and quality control responsibilities. Coordinate with Contractor's construction schedule.
2. An interim plan for the first 60 days of operation will be considered.
3. Construction will be permitted to begin only after acceptance of the QA Plan or acceptance of an interim plan applicable to the particular feature of Work to be started.
4. Work outside of the features of Work included in an accepted interim plan will not be permitted to begin until acceptance of a QA Plan or another interim plan containing the additional features of Work to be started.

#### **B. Content:**

1. Plan shall cover the intended QA organization for the entire Contract and shall include the following, as a minimum:
  - a. Organization: Description of the quality control organization, including a chart showing lines of authority and acknowledgment that the QA staff will implement the three-phase control system (see 3.01) for all aspects of the Work specified.
  - b. QA Staff: The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a QC function.
  - c. Letters of Authority: A copy of a letter to the QA Manager signed by an authorized official of the firm, describing the responsibilities and delegating sufficient authorities to adequately perform the functions of the QA Manager, including authority to stop Work which is not in compliance with the Contract. The QA Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities and responsibilities.
  - d. Submittals: Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers and purchasing agents.
  - e. Inspections: description for each specific inspection to include the inspection name, frequency, specification paragraph containing the inspection

requirements, entity responsible for the inspection, and a schedule of inspections.

- f. Testing: Description, control, verification and acceptance testing procedures for each specific test to include the test name, frequency, specification paragraph containing the test requirements, the entity, personnel, and laboratory responsible for each type of test, and an estimate of the number of tests required, and a schedule of tests.
  - g. Procedures for tracking Preparatory, Initial, and Follow-Up control phases and control, verification, and acceptance tests, including documentation.
  - h. Procedures for tracking deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.
  - i. Reporting procedures, including proposed reporting formats; include a copy of the QA report form.
- C. Acceptance of Plans: Acceptance of the Contractor's basic and addendum QA plans is required prior to the end of the Administration Period. Acceptance is conditional and will be predicated on satisfactory performance during the construction. Owner reserves the right to require Contractor to make changes in the QA plan and operations including removal of personnel, as necessary, to obtain the quality specified.
- D. Notification of Changes: After acceptance of the QA plan, Contractor shall notify Engineer, in writing, a minimum of 7 calendar days prior to any proposed change. Proposed changes are subject to acceptance by Engineer.

### **3.03 CONTRACTOR QUALITY CONTROL REPORT**

- A. As a minimum, prepare a QA report for every 7 calendar days. Account for all days throughout the life of the Contract. Reports shall be signed and dated by QA Manager. Include copies of test reports and copies of reports prepared by QC staff.
- B. Maintain current records of quality control operations, activities, and tests performed, including the Work of subcontractors and suppliers.
- C. Records shall be on an acceptable form and shall be a complete description of inspections, the results of inspections, daily activities, tests, and other items, including but not limited to the following:
  - 1. Contractor/subcontractor and their areas of responsibility.
  - 2. Work performed today, giving location, description, and by whom. Indicate a description of trades working on the Project; the number of personnel working; weather conditions encountered; and any delays encountered. When a network

schedule is used, identify each phase of Work performed each day by activity number.

3. Test and/or control activities performed with results and references to specifications/plan requirements. Report to include control phase (Preparatory, Initial, Follow-up), photos, interpretation of results, and recommendations for acceptance, retesting, or reinspecting. List deficiencies noted along with corrective action.
4. Material received with statement as to its acceptability and storage.
5. Identify submittals reviewed, with Contract reference, by whom, and action taken.
6. Offsite surveillance activities, including actions taken.
7. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
8. List instructions given/received and conflicts in Drawings and/or Specifications.
9. These records shall cover both conforming and deficient features and shall include a statement that the equipment and materials incorporated into the work and the workmanship comply with the Contract.
10. Contractor's verification statement.

### **3.04 TESTING QUALITY CONTROL**

#### **A. Testing Procedure:**

1. Perform tests specified or required to verify that control measures are adequate to provide a product which conforms to Contract requirements. Procure services of a licensed testing laboratory as required. Perform the following activities and record the following data:
  - a. Verify testing procedures comply with contract requirements.
  - b. Verify facilities and testing equipment are available and comply with testing standards.
  - c. Check test instrument calibration data against certified standards.
  - d. Verify recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
  - e. Documentation:

- 1) Record results of all tests taken, both passing and failing, on the QA report for the date taken.
  - 2) Include specification paragraph reference, location where tests were taken, and the sequential control number identifying the test.
  - 3) Actual test reports may be submitted later, if approved by Engineer, with a reference to the test number and date taken.
  - 4) Provide directly to Engineer an information copy of tests performed by an offsite or commercial test facility. Test results shall be signed by an engineer registered in the state where the tests are performed.
  - 5) Failure to submit timely test reports, as stated, may result in nonpayment for related Work performed and disapproval of the test facility for this Contract.
- B. Testing Laboratories: Laboratory facilities, including personnel and equipment, utilized for testing soils, concrete, asphalt and steel shall meet criteria detailed in ASTM D3740 and ASTM E329, and be accredited by the American Association of Laboratory Accreditation (AALA), National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP), the American Association of State Highway and Transportation Officials (AASHTO), or other approved national accreditation authority. Personnel performing concrete testing shall be certified by the American Concrete Institute (ACI).

### **3.05 COMPLETION INSPECTION**

- A. QA Manager shall conduct an inspection of the Work at the completion of all Work or any milestone established by a completion time stated in the Contract.
- B. Punchlist:
1. QA Manager shall develop a punchlist of items which do not conform to the Contract requirements.
  2. Include punchlist in the QA report, indicating the estimated date by which the deficiencies will be corrected.
  3. QA Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected and so notify the Owner.
  4. These inspections and any deficiency corrections required will be accomplished within the time stated for completion of the entire Work or any particular increment thereof if the Project is divided into increments by separate completion dates.

**END OF SECTION**

09/02/20

**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. Cement
  - 2. Concrete aggregate
  - 3. Structural and reinforcing steel
- D. **See Drawing S001, Structural Note S14 for additional requirements of field quality control tests.** [ADD NO. 3]

**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. Cooperate with Contractor and Engineer and provide qualified personnel promptly when notified.
2. Perform specified inspections, sampling, and testing of materials and methods of construction; comply with applicable standards; ascertain compliance with requirements of the Contract Documents.
3. Promptly notify Engineer and Contractor of irregularities or deficiencies in the Work observed during performance of services.
4. Submit specified quantity of report copies of inspections and tests to Contractor and Engineer.
5. 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)**

**END OF SECTION**

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**SECTION 01 51 00**  
**TEMPORARY UTILITIES**

**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. Contractor shall provide 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 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. Telephone and communications.
  2. First-aid facilities.
  3. 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.

### **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. Telephone and communications: Contractor shall provide temporary telephone and communications required for its operations at the Site and for summoning emergency medical assistance.
- C. 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.
- D. 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.
- 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 ACTIVITIES**

- 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.

**END OF SECTION**



**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 sheds and storage containers.
  - 2. Contractor's field office provided with specified temporary utility services.

**1.02 FACILITY DESCRIPTION**

- A. Contractor's sheds and storage containers:
  - 1. Provide sheds and storage containers as required to protect stored materials in accordance with manufacturers' written instructions.
- B. Contractor's field office:
  - 1. Contractor shall provide and maintain a field office at the Site, including temporary utility services specified. Temporary utilities shall be provided in accordance with Section 01 51 00 Temporary Utilities.
  - 2. Location shall be coordinated with the Owner. It is anticipated that the area directly north of the clearwell can be used for Contractor's field office. No vehicles or equipment shall be allowed on the top slab of the clearwell.
  - 3. Contractor shall provide and maintain the field office from one month prior to mobilization until Substantial Completion.
  - 4. 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.
  - 5. Requirements:
    - a. Separate structure with a minimum of 720 sq ft of total floor area.
    - b. Central meeting room shall be provided within the field office with minimum floor area of 360 sq ft. The central meeting room shall be available for project meetings with the Owner, Engineer, and Contractor.

- c. Separate covered porch shall be provided with a minimum of 72 sq ft of floor area at main entrance to structure. Cover shall have separate roof and rainproof seal to main structure.

6. Minimum furnishings:

10	Straight chairs
1	23-gallon metal or heavy-duty plastic waste baskets with lids
2	Wall-mounted fire extinguishers
4	Metal/plastic office folding table, 30 x 96 inches (minimum)
1	First aid cabinet (conforms with OSHA requirements for construction site of up to five people)
1	Router networked for up to 4 personnel with high speed Internet

- 7. Cleaning services shall include qualified, professional cleaning services to clean the field office on a daily basis, at a minimum.
- 8. Contractor shall respond and address maintenance issues that occur at the field office with 24 hours notification.
- 9. Contractor shall provide sanitary facilities for Contractor's employees, subcontractors, visitors, Engineer, and Owner. Sanitary facilities for this project shall include a functional, totally enclosed restroom within the field office.

a. Restroom shall include the following, at a minimum:

- 1) Water closet
- 2) Lavatory
- 3) Mirror
- 4) Liquid soap dispenser
- 5) Hand sanitizer dispenser
- 6) Waste basket

10. Minimum temporary utilities requirements shall include the following:

- a. Heating: Maintain 68°F in winter.
- b. Cooling: Maintain 75°F in summer.
- c. Electrical service:
  - 1) Connect to Owner's existing electrical service on site.
  - 2) Interior electrical outlets: minimum one outlet per wall of structure

- 3) Interior and exterior lighting
- d. Individual, direct high-speed Internet service (DSL or cable), at minimum 50 Mbps up and down Internet speed, with WiFi access for Owner, Engineer, and Contractor.
- e. Potable water service to water closet and lavatory
  - 1) Connect to Owner's existing potable water service on site.
- f. Sanitary sewer service to water closet and lavatory
  - 1) Connect to Owner's existing sanitary sewer service on site. There is an existing sanitary sewer manhole on the north side of the clearwell.
- 11. Consumables shall be provided including, but not limited to, the following:
  - a. Waste basket heavy-duty liners
  - b. Floor entry mats
  - c. Paper towels
  - d. Toilet paper
  - e. Antibacterial liquid hand soap
  - f. Hand sanitizer

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

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**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.
  - a. Contractor shall submit written documentation to the Engineer for Contractor secured easements across privately held property.
  - b. Easement agreements shall specify terms and conditions of use and provisions for Site restoration.
  - c. Written release from property owner certifying that terms of the easement agreement have been complied by the Contractor shall be furnished to the Engineer prior to final payment.

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.
2. Contractor shall construct and maintain parking area at the Site.

D. 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.

E. 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. Employ watchmen as required to provide required security and prevent unauthorized entry.
3. Costs for security required under this Section shall be paid by Contractor.
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) Personnel Identification: All Contractor personnel shall wear at all times on-Site a badge bearing Contractor's name, employee's name and, as applicable, employee number.
    - 2) 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.

## **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 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.
- 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 roads.
- B. Contractor shall remove spillage of excavated materials, debris and dust from public roads by methods approved by Engineer.
- C. Contractor shall provide temporary dust-proof partitions where required to protect unaltered portions of existing structures and facilities and as directed by Engineer or Owner. Temporary partitions shall be provided where demolition Work is required, to protect equipment and material, and shall consist of the following:
  - 1. Wood studs with plywood on both sides and extend from floor to ceiling.
  - 2. Closure plate at floor and ceiling.
  - 3. One door (minimum) with hardware.

- D. 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.

**END OF SECTION**

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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 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.

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.

#### **1.04 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.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**



**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.

## **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 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. Contractor shall be fully responsible for loss or damage (including theft) to stored materials and equipment.
- F. Do not open manufacturer's containers until time of installation, unless recommended by the manufacturer or otherwise specified in the Contract Documents.
- G. Do not store materials or equipment in structures being constructed unless approved by Engineer in writing.
- H. Do not use lawns or other private property for storage without written permission of the owner or other person in possession or control of such premises.

- I. 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.
- J. 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.
  - 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**

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**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. 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.
  4. Rectifying all Work improperly installed because of not maintaining, not protecting, or removing without authorization established reference points, stakes, marks, and monuments.
  5. 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 at the Site 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, at the Site 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 CLOSEOUT ACTIVITIES**

- A. Contractor shall provide Project record documents for field engineering and surveying in accordance with Section 01 78 39 – Project Record Documents.

**END OF SECTION**

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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 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, 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 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 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 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, 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. 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.

**END OF SECTION**

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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, 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

**1.02 REFERENCES**

**A. Definitions:**

- 1. “Manufacturer’s installation instructions” includes manufacturer’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 ADMINISTRATIVE 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~~ See Section 01 11 00 for salvage of equipment and materials [Add No. 6].

- ~~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 CONSTRUCTION ELECTRONIC DOCUMENTATION**

#### **A. Pre-Construction Documentation**

1. Contractor shall take photographic and video documentation of the Site where Work is being performed. Engineer and Owner reserve the right to be present during documentation.
2. Contractor shall provide both photographic and video documentation at grade-level and aerial of the Site prior to commence Work.



3. Contractor shall submit pre-construction documentation to Engineer and Owner for review. Contractor, Engineer, and Owner shall visit Site to field verify electronic documentation prior to commencing the Work. Site visit verification shall establish existing conditions prior to commencing Work.

**B. Construction Progress Documentation**

1. Contractor shall document Work progress at locations and construction as directed by Engineer, at a minimum.
2. Contractor shall provide electronic documentation prior to and following any shutdown, switchover, demolition, de-commissioning, cutting, patching, repair, etc. Engineer and Owner reserve the right to be present during documentation.
3. Contractor shall document following exposure of buried utilities, piping, valve, appurtenance and other underground elements.
4. Engineer reserves the right to provide construction progress documentation to confirm Contractor electronic documentation.

**C. Post-Construction Documentation**

1. Contractor shall take photographic and video documentation of the Site where Work has been completed and prior to Substantial Completion or partial utilization by Owner. Engineer and Owner reserve the right to be present during documentation.
2. Contractor shall provide both photographic and video documentation at grade-level and aerial of the Site following completion of the Work.

**D. Submittal Requirements:**

1. Documentation shall be time stamped for verification, including date and time.
2. Documentation shall be organized in a logic manner, such as by structure, building, physical site location, etc. for easy of comparison.
3. Photographic documentation shall be high resolution electronic versions.
4. Documentation shall be submitted to Engineer for review and approval prior to commence Work and at completion of the Work.

### **3.02 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 demolition of the Work.

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, 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. Supports, pedestals and anchors shall be removed with the equipment and piping unless otherwise noted in the Contract Documents.
  - d. 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.
  - e. 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.
  - f. 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.
  - g. 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.
- l. 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.

### 3.03 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 ***if required in accordance with Section 01 14 00 and Contractor's proposed sequencing plan*** [Add No. 2] 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.

### **3.04 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.

### **3.05 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**

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**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 40 05 00 – Basic Mechanical Requirements
- B. Section 23 00 00 – Basic HVAC Requirements
- C. Section 26 05 00 – Basic Electrical Requirements
- D. Division 40– Process Interconnections
- E. 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.
    - b. Vertical turbine pumps and associated piping systems and electrical components.
- 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 35 Qualifications of Post-Installed Mechanical Anchors in Concrete
10. ACI 35 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.

## 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 shall conform to the International Building Code and ACI 318 Appendix D requirements, as applicable, including seismic test requirements.
- 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 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 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
- 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. Removing temporary protective coatings.
  - 3. 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.
  - 4. 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:

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1. Coordinate checkout and start-up with other contractors, as necessary.
2. Do not start up system or subsystem for continuous operation until all components of that system or subsystem, including 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.

C. Contractor's Requirements Prior to Owner's Responsibility:

1. Owner will assume responsibility for the equipment upon 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 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~~ **Certificate of Proper Installation:** [ADD NO. 3]
    - 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

- A. Stationary rotating equipment, products and materials shall have vibration testing performed at the Site with a rated horsepower exceeding 40 horsepower.
- B. Vibration testing shall be performed by ~~an experienced factory-trained and authorized third-party analysis expert shall be provided for and paid for by the Contractor as a part of Cash Allowances~~ *a third-party testing firm employed by the Engineer or Owner. Contractor shall be charged for the cost of any additional tests on work performed which does not meet the specifications* <sup>[ADD NO. 4]</sup>. Each unit or pump system shall be tested separately without duplicate equipment running. All field testing shall be done in the presence of the Engineer. The Engineer shall be furnished with seven (7) certified copies of vibration test data for each test performed.
- C. General testing requirements:
1. Variable speed drives – Tests shall be conducted at various speeds between maximum and minimum.
  2. Two-speed drives – Tests shall be conducted at both speeds.
  3. Constant-speed drives – Tests shall be conducted under various loading conditions as determined by the Engineer.
  4. Frequency of vibration, in cycles per minute (cpm), shall be determined when vibration exceeds specified levels or as otherwise necessary. Vibration shall be measured on the bearing housing, unless other locations are deemed necessary by the Engineer.
  5. Vibration shall be checked in the radial and axial directions. Unless otherwise specified elsewhere, axial vibration shall not exceed 0.1 in/sec; and radial vibration shall not exceed 0.2 in/sec. For pumps radial vibration shall not exceed that permitted by the Hydraulic Institute Standards except that, at vibration frequencies in excess of 8,000 cpm, the velocity shall not exceed 0.2 in/sec.
  6. Noise or vibration in any rotating equipment which the Engineer judges to be excessive or damaging, shall be cause for rejection.
- D. Test results:
1. Contractor shall correct deficiencies within thirty days when vibration field test results exceed source quality control tests results, Manufacturer's recommendations, or the limits specified in the Contract Documents.
  2. After corrections have been completed, the vibration testing shall be re-run at the Contractor's expense and the results re-submitted to the Engineer for review.



### 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 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, 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, and electrical 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**

**SECTION 01 77 19**  
**CLOSEOUT REQUIREMENTS**

**PART 1 – GENERAL**

**1.01 SUMMARY**

- A. Section Includes:
1. Substantial Completion.
  2. Final inspection.
  3. 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. Final inspection procedures for requesting and documenting are in the General Conditions, as modified by Supplemental Conditions.

**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.
  - f. The Contractor is responsible for submitting fully completed sales tax reimbursement documentation for the Engineer's approval. The documentation shall include, but not necessarily be limited to: all applicable State forms, invoices, receipts, electronic spreadsheets and any other forms that are required from the State of Georgia.
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. Instrumentation and control devices
    - d. Electrical gear
  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.
    - b. Electronic Copies: One copy.

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- 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: Two copies.
    - b. Electronic Copies: One copy.

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.

- 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.
- 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", ".dwf", or ".dwg". Submit files in a separate directory on the CD.

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**

### **3.01 SCHEDULE**

- A. Include operations and maintenance data submittals in Contractor's Schedule of Submittals. See Section 01 33 00 for additional requirements

**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, minimum. If record documents are not updated on a monthly basis, the Owner as its sole discretion has the right to delay the Contractor's payment without penalty.
  - 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: Drawings.

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 one year 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.
- 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 date of Substantial Completion for equipment or system associated with the spare parts and extra materials. 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)**

**END OF SECTION**

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**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. Contractor shall retain the services of a commercial video recording service to record each training session. After taping, the material may be edited and supplemented by the Contractor with professionally produced graphics to provide a permanent record.
- 2. Contractor shall provide a training specialist for a minimum of one (1) day, for each item of equipment specified, to meet with the Engineer to prepare training scripts and to participate in video recording of training. Video recorded training sessions shall be conducted separately from training sessions held for the Owner's personnel.
- 3. Manufacturer shall confer the ownership rights to one unedited and one edited copy of the video recorded training.
- 4. As an alternative to video recording training at the Site, the Manufacturer may submit pre-recorded digital media covering the equipment supplied for approval. Submitted pre-recorded digital media shall meet the intent of this Section for



approval consideration. If approved, Owner shall have the right to permanent ownership and use of at least one complete copy.

### **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. Video-recorded training sessions, electronic version.

##### **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 CLASS-ROOM TRAININGS**

- A. Contractor's instructor shall provide class-room instruction as required by the Training Schedule.
- B. Classroom equipment training shall include, at a minimum:
  1. Theory of operation.
  2. Description and function of equipment.
  3. Startup and shutdown procedures.
  4. Normal and major repair procedures.
  5. Equipment inspection and troubleshooting procedures, including the use of applicable test instruments and the 'pass' and 'no pass' test instrument readings.
  6. Routing and long-term calibration procedures.
  7. Safety procedures.
  8. Preventative maintenance such as routing lubrication; normal maintenance such as belt, seal, and bearing replacement; and up to major repairs such as replacement of major equipment part(s) with the use of special tools, bridge cranes, welding jigs, etc.
  9. Parts
  10. Local Representatives
  11. Operation and Maintenance Manuals

**3.02 "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. Hands-on equipment training shall include, at a minimum:
  1. Locate and identify equipment components.
  2. Review the equipment function and theory of operation.
  3. Review normal repair procedures.
  4. Perform startup and shutdown procedures.
  5. Review and perform the safety procedures.
  6. Perform Owner-approved practice maintenance and repair job(s), including mechanical and electrical adjustments and calibration and troubleshooting equipment problems.
- C. Contractor shall furnish tools and appurtenances required for demonstrations.

### 3.03 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.
- D. Training Schedule:

Spec. Section	Specification Title	Staff	Class-room Hours	Hands-On Hours	Total Session Hours	Number of Sessions	TOTAL HOURS
43 21 47	Vertical Turbine Pumps	Maintenance and Operations	2	2	4	4	16
		Electrical and Instrumentation	2	2	4	2	8

**END OF SECTION**

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**SECTION 01 91 13**  
**GENERAL COMMISSIONING REQUIREMENTS**

**PART 1 – PART 1 – GENERAL**

**1.01 SCOPE**

- A. The work under this Section defines the minimum scope of services to be provided by the Contractor during equipment pre-start-up maintenance, equipment inspection, equipment testing, equipment functional testing, and the facility operational test period.
- B. Furnish all labor, materials, tools, equipment, and services for completion, as determined by the Owner and or the Engineer, of all equipment pre-start-up maintenance, all equipment inspection and testing to determine if the equipment is installed in accordance with the manufacturers recommendations, all equipment functional testing to determine if the equipment is capable of meeting the design intent, and the facility operational test period.
- C. Although such work may not be explicitly specifically indicated elsewhere, furnish all labor, materials, tools, equipment, and services necessary for the installation of all supplementary or miscellaneous items, appurtenances, piping, valves, electrical, instrumentation, and devices, etc. incidental to or necessary for completion of all equipment pre-start-up maintenance, all equipment inspection, all equipment testing, all equipment functional testing, and the facility operational test period.

**1.02 DEFINITIONS**

- A. Facility: Entire Project, or an agreed-upon acceptable portion, including its entire unit processes.
- B. Field Quality Control: Term, as used in individual specification sections, which refers to specified on-site functional and performance testing of equipment.
- C. Functional Test: Test or tests in presence of Engineer to demonstrate that installed equipment meets manufacturer's installation, calibration, and adjustment requirements and other requirements as specified.
- D. Performance Test: A test performed in presence of Engineer and Owner and after any required functional test, to demonstrate and confirm that individual equipment meets the performance requirements specified in individual specification sections.
- E. Source Quality Control: Term, as used in individual specification sections, which refers to specified testing performed on specified equipment at manufacturer's facility prior to shipment.

- F. Unit Process: As used in this section, a unit process is a portion of the facility that performs a specific process function, such as filtration, pumping, and chemical storage/feed.

### **1.03 SUBMITTALS:**

#### **A. Administrative Submittals**

1. Functional and performance test schedules, test plan, procedures, and log format: Submit at least ninety (90) days prior to start of related testing.
2. Facility Startup and Performance Evaluation Plan: Submit at least ninety (90) days prior to commencement of startup.

#### **B. Quality Control Submittals**

1. Completed Manufacturer's Certificate of Proper Installation as required by individual specification sections. Submit prior to beginning Facility Startup procedures.
2. Test Reports: Functional and performance testing, in format acceptable to Engineer.
3. Written documentation, signed by Engineer, of functional and performance test for each piece of equipment tested.
4. Certification of calibration for testing equipment, when so specified.
5. Documentation of HVAC systems balancing results, when so specified.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION**

### **3.01 CONTRACTOR'S TESTING AND STARTUP REPRESENTATIVE(S)**

- A. Contractor shall coordinate testing and facility startup. Personnel at testing and facility startup shall include at a minimum Mechanical Foreman, I&C/Electrical subcontractor coordinator, and Vendor representative.
- B. Such personnel shall be present during equipment testing and facility startup meetings specified in Section 01 31 19 and shall be available at all times during the testing and the facility startup and performance evaluation period.



### **3.02 14-DAY OPERATING TEST PERIOD**

#### **A. General**

1. Support Owner's operations personnel throughout the 14-Day Operating Test Period (facility startup and performance evaluation period).
2. Equipment shall be accepted by Engineer as having met requirements of specified functional testing prior to facility startup.
3. Sequence each unit process to the point that the complete facility is operational for evaluation of unit process and complete facility performance.
4. Demonstrate proper operation of required interfaces within and between individual unit processes.
5. Include equipment furnished by Owner.
6. Provide the Subcontractor and equipment manufacturers' staff adequate time to prevent delays.
7. Schedule ongoing Work so as not to interfere with or delay the completion of facility startup.
8. After the facility is operating, complete performance testing of those items of equipment not previously tested.

#### **B. Facility Startup and Performance Evaluation Plan**

1. Develop a plan in conjunction with Owner's operations personnel detailing step-by-step instructions for startup of each unit process and the complete facility.
2. Include a method of evaluation and overall performance report for each unit process, and the complete facility.
3. Plan shall consist of bound copies of Startup and Performance Evaluation Forms. Use one form for each unit process; use example form attached, or one designed by Contractor.
4. Startup and Performance Evaluation Form will minimally include the following:
  - a. Description of unit process being started.
  - b. All equipment and devices included in the unit process.
  - c. Unit process startup procedures (i.e., valves to be open/closed, order of equipment startup, etc.).

- d. Requirements for water, power, chemicals, etc. needed for startup.
- e. Tools and measurement devices required, including torque wrench with calibration certificate.
- f. Contractor and Vendor Certifications that each unit process is capable of performing its intended function(s), including fully automatic operation.
- g. Space for evaluation comments.

C. Owner's Responsibilities

- 1. Assist Contractor in developing a Facility Startup and Performance Evaluation Plan before initial submittal, detailing step-by-step instructions for startup of each unit process and the complete facility.
- 2. Provide water, power, chemicals, and other items as required for testing and facility startup, unless otherwise indicated.
- 3. Operate process units and devices, with support of Contractor. Contractor shall maintain responsibility for protection of the Work at all times during commissioning and shall provide specific instructions to direct the Owner's operation of the equipment. Any damage caused by Owner's operation of the equipment in accordance with the specific instructions provided by the Contractor shall be remedied by Contractor at their expense. See Section 00 72 00, General Conditions, Part 7.12-E. Contractor's responsibilities for protection shall continue until such time as all the Work is complete and Engineer has issued notice in accordance with General Conditions Part 15.06-B.
- 4. Provide labor and materials as required for sampling and laboratory analyses.

D. 14-Day Operating Test Period

- 1. Make adjustments, repairs, and corrections necessary to complete facility startup.
- 2. Startup of entire facility or any portion thereof shall be considered complete when, in opinion of Engineer, facility or designated portion has operated in manner intended for fourteen (14) continuous days without significant interruption. This period is in addition to training, functional and performance test.
- 3. Significant Interruption: May include any of the following events:
  - a. Failure of Contractor to provide and maintain qualified onsite startup personnel as scheduled.
  - b. Failure to meet specified performance for more than two (2) consecutive hours.

- c. Failure of any critical equipment or unit process that is not satisfactorily corrected within five (5) hours after failure.
  - d. Failure of any noncritical equipment or unit process that is not satisfactorily corrected within eight (8) hours after failure.
  - e. As may be determined by Engineer.
4. A significant interruption will require the startup then in progress to be stopped and restarted after corrections are made.

E. Facility Performance Evaluation

- 1. During the 14-Day Operating Test Period, conduct a performance evaluation for purpose of evaluating full capabilities of facility and performance of computer system, until all unit processes are operable and under control of computer system.
- 2. Certify, on the Facility Performance Evaluation Form, that each unit process is capable of performing its intended function(s), including fully automatic and computerized operation.

**3.03 SUPPLEMENT**

- A. Supplement listed below is a part of this Specification:
- 1. Startup and Performance Evaluation Form.

**END OF SECTION**

## STARTUP AND PERFORMANCE EVALUATION FORM

OWNER: \_\_\_\_\_ PROJECT: \_\_\_\_\_

Unit Process Description: (Include description and equipment number of all equipment and devices):

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Startup Procedure (Describe procedure for sequential startup and evaluation, including valves to be opened/closed, order of equipment startup, etc.):

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Startup Requirements (Water, power, chemicals, etc.): \_\_\_\_\_

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Evaluation Comments: \_\_\_\_\_

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CONTRACTOR Certification that Unit Process is capable of performing its intended function(s), including fully automatic operation:

Firm Name: \_\_\_\_\_

Startup Representative: \_\_\_\_\_ Date: \_\_\_\_\_, 20\_\_\_\_

*(Authorized Signature)*