



**REQUEST FOR PROPOSAL  
FOR  
Loosahatchie Interceptors Evaluation**

**Proposal No. 179821.78.0012**

**November 25th, 2014**



**City of Memphis, Tennessee**

Black & Veatch and Overland Contracting Inc. (OCI), a subsidiary of Black & Veatch, are the Program Manager and Construction Manager respectively, for the SARP10 Program for the City of Memphis.

SARP10 Black & Veatch / OCI  
3485 Poplar Avenue, Suite 230, Memphis, TN, 38111

## Table of Contents

<b>00180 - Request for Proposal</b> .....	<b>1</b>
00180.1 Introduction .....	1
00180.2 Project Overview.....	1
00180.3 Scope of Work .....	1
00180.4 Proposal Submission Instructions .....	2
00180.5 Request for Proposal Definitions .....	2
00180.6 Not Used.....	2
00180.7 Proposal Format .....	2
00180.8 Clarification of Proposal.....	4
00180.9 Acceptance of Proposal Content.....	4
00180.10 Responsiveness .....	4
00180.11 Examination of Request for Proposal Documents.....	4
00180.12 Interpretations and Addenda .....	5
00180.13 Modification or Withdrawal of Submittals.....	5
00180.14 Rejection of Responses.....	5
00180.15 Other Items .....	6
00180.16 Selection Process .....	6
00180.17 Selection Schedule .....	6
00180.18 Selection Criteria .....	7
00180.19 Mandatory Pre-Proposal Meeting.....	7
<b>00280 - Instructions to Bidders</b> .....	<b>8</b>
00280.1 Bidder's Compliance with Request for Proposal .....	8
00280.2 General Proposal Parameters .....	8
00280.3 Proposal Pricing.....	8
00280.4 Supplemental Proposal Information .....	8
00280.5 Schedule Compliance.....	9
00280.6 Compliance with Request for Proposal .....	9
00280.7 Nondiscrimination .....	9
00280.8 Equal Business Opportunity Program (EBO) .....	10
<b>00380 – Commercial Proposal Form (8 pages)</b> .....	<b>11</b>
<b>00581 - Supplementary Terms and Conditions</b> .....	<b>12</b>
00581.1 Notices and Correspondence .....	12
00581.2 Not Used.....	13
00581.3 Liquidated Damages.....	13
00581.4 Taxes .....	13
<b>00582 - General Terms and Conditions</b> .....	<b>15</b>
00582.1 Definitions .....	15
00582.2 Interpretation.....	16
00582.3 Service Contractor's Representations and Status.....	17
00582.4 Service Contractor Scope of Work .....	17
00582.5 Safety and Work Requirements.....	17
00582.6 Payment.....	18
00582.7 Schedule.....	18
00582.8 Waivers of Lien .....	19
00582.9 Subcontracting.....	19
00582.10 Assignment .....	19
00582.11 Quality Control .....	20
00582.12 Inspection .....	20
00582.13 Passage of Title .....	20
00582.14 Standards of Performance.....	20
00582.15 Compliance with Laws .....	21
00582.16 Business Practices .....	21
00582.17 Claims and Service Contract Revisions .....	22
00582.18 Intellectual Property .....	23

00582.19 Non-Disclosure .....	23
00582.20 Suspension of Work.....	23
00582.21 Termination for Cause .....	24
00582.22 Termination Without Cause .....	24
00582.23 Indemnity .....	25
00582.24 Insurance Requirements .....	26
00582.25 Audit.....	27
00582.26 Governing Law and Disputes .....	27
00582.27 Hazardous Conditions .....	28
00582.28 Force Majeure.....	28
<b>00585 - Safety, Health and Accident Prevention.....</b>	<b>29</b>
00585.1 Project Safety and Health Program .....	29
00585.2 Safety, Health, and Accident Prevention Program .....	29
00585.3 Hazardous Waste Project Health and Safety Plan.....	29
00585.4 Protective Clothing, Equipment and Instrumentation .....	29
00585.5 Safety and Health Representative.....	29
00585.6 Safety and Health Goal.....	29
00585.7 Drug Prevention Program.....	30
00585.8 Fall Protection.....	30
00585.9 Confined Spaces .....	31
<b>00681 - Service Contract Attachments .....</b>	<b>32</b>
00681.1 – Sample Task Order.....	32
1. General .....	32
2. Effective Date .....	32
3. Scope of Work .....	32
4. Deliverables .....	32
5. Schedule .....	32
6. Payment Terms .....	32
00681.2a Partial Waiver and Release .....	33
00681.2b Final Waiver and Release .....	35
00681.3 Not Used.....	37
00681.4 Loss Control Manual.....	38
00681.5 Certificate of Nondiscrimination (1 page) .....	39
00681.6 Equal Business Opportunity Program Compliance Form (1 page) .....	41
00681.7 Not Used.....	43
00681.8 Report of Disadvantaged Business Enterprise Participation Form (1 page).....	44
<b>Technical Specifications .....</b>	<b>45</b>

## 00180 - Request for Proposal

### 00180.1 Introduction

This Request for Proposal ("RFP") is comprised of the documents listed below:

- 179821.78.0012 Complete RFP // pdf Format
- 179821.78.0012 00380 Proposal Fill-In Form // xls Format
- 179821.78.0012 Maps posted to the City of Memphis website

### 00180.2 Project Overview

The Program consists of the management of the capital program needed to bring the city's wastewater and sewer system into compliance with federal and state regulations per The City of Memphis Wastewater Collection and Transmission System (WCTS) Condition Assessment and Rehabilitation Program Consent Decree signed on September 21, 2012, including the procurement of studies, design and construction services associated with the City of Memphis SARP10 Program.

### 00180.3 Scope of Work

The scope of work for this RFP is as follows:

The project consists of performing assessment activities along large diameter, sanitary sewer interceptor pipes with diameters between 24-inches and 84-inches. Assessment activities shall include combination closed-circuit (CCTV) and sonar inspections for all sewer diameters, laser inspection for sewers 48-inches in diameter and larger, manhole inspections, flow monitoring & rain gauge services, easement clearing to gain access to assets to perform assessment, and spot cleaning of sewer assets to facilitate assessment. Interceptors to be assessed include the Old Loosahatchie interceptor (Old Loos), the New Loosahatchie interceptor (New Loos), and portions of the Mud Island interceptor.

Many of these interceptors are located off of pavement in unimproved easements. Large portions of the Old and New Loos interceptors are located in bottomland hardwood forests that hold water during prolonged wet seasons. Much of these unimproved easements have little or no maintained access and will require clearing and access activities, performed in accordance with the site preparation and restoration specifications, to perform the work.

The Old Loos interceptor consists of 36-inch to 54-inch diameter pipes and is located in north Memphis just to the south side of the Loosahatchie River. The New Loos interceptor consists of 24-inch to 84-inch diameter pipes and is located in Shelby County, TN, just north of the Loosahatchie River. Assessment activities shall include combination closed-circuit (CCTV) and sonar inspections for all pipe diameters, laser inspections for pipes 48-inches and larger, manhole inspections, flow monitoring & rain gauge services, easement clearing to gain access to assets to perform assessment, and spot cleaning of sewer assets to facilitate assessment. Portions of the easement access to the Old and New Loosahatchie interceptors (referenced in the mapping) necessary to perform the investigation is intended to be left in place.

The portions of the Mud Island interceptor to be assessed consist of 24-inch to 60-inch pipes located at the north end of Wolf River Harbor in Memphis, TN. The investigation includes combination closed-circuit (CCTV) and sonar inspections for all pipe diameters, laser inspections for pipes 48-inches and larger, manhole inspections, easement clearing to gain access to assets to perform assessment, and spot cleaning of sewer assets to facilitate assessment. No flow monitoring or rain gauges services are required for the Mud Island interceptor.

## 00180.4 Proposal Submission Instructions

### Digital Submission:

Proposals will be received at the office of SARP10 (Black & Veatch / OCI), Attn: Bently Green Program Manager, 3485 Poplar Avenue, Suite #230, Memphis TN, 38111. Proposals must be submitted in a digital format via CD, DVD, or flash drive. The digital submission must include one PDF document that includes all pages and documents of the proposal, and one Excel file of the Proposal Fill-In form. (Reference: Loosahatchie Interceptors Evaluation Project, PROPOSAL No. 179821.78.0012)

### One electronic copy shall be prepared and emailed to:

Program Mailbox: [MemphisWCTS@bv.com](mailto:MemphisWCTS@bv.com)

(Reference: Loosahatchie Interceptors Evaluation Project, PROPOSAL No. 179821.78.0012)

**PROPOSAL DUE DATE:** 5:00 PM (local time), Tuesday, January 6<sup>th</sup>, 2015

**\*\*Responses will NOT be accepted after 5:00 PM\*\***

The Sealed Envelope or other container containing the PROPOSAL shall be marked at a minimum with the Respondent's name, the name of the Project and the PROPOSAL number. Sealed Statements that are sent through the mail or other such delivery service shall be sent in such a manner so as to allow the opening of the "Mailing Container" and still have intact the sealed PROPOSAL. On the Mailing Container the sender shall state the words that a "**SEALED RESPONSE IS ENCLOSED**" and the PROPOSAL number.

**Firms desiring to submit a Proposal should carefully review these instructions. Compliance with all requirements will be solely the responsibility of the Respondent.**

## 00180.5 Request for Proposal Definitions

Terms used in this Request for Proposal documents are defined and have the meanings assigned to them as follows. The term "B&V/OCI", "Purchaser" or "Program Manager" means Black & Veatch / Overland Contracting Inc. The term "Respondent", "Firm", "Company", "Service Contractor" or "Bidder" means one who submits a Response directly to B&V/OCI for the purpose stated in this Solicitation Request for Proposal documents. The terms "Proposal", "Response", "PROPOSAL", or "Respondent's Response" mean all submittal documents provided by the Respondent as required by this Request for Proposal. The terms "Request for PROPOSAL" or "PROPOSAL Documents" mean the documents included in this Request for Proposal.

Every effort has been made to use industry-accepted terminology in this Request for Proposal. Any statement in this document, which uses words such as "must", "shall", "should", "provide for" or "have/provide the capability of/for", means that compliance with the intent of the statement is mandatory and that failure by the Respondent to satisfy that intent may be cause for the Response to be rejected.

## 00180.6 Not Used

## 00180.7 Proposal Format

Proposals should be concise. Excessive language or unclear responses may jeopardize your Firm's point accumulation for the project. Proposals must comply with the format and content described in the following Sections. Dividers with tabs should separate each Section, and the tabs should be labeled with the Section numbers listed below. Proposals shall be limited to a maximum of 35 pages total for Sections I through IV (not including the front and back covers and the dividers). Section V shall be limited to 00380 Proposal Fill-In Form only. Do not include any information in your Proposal that is not specifically requested. Scoring methodology is identified in Section 00180.18. Failure of a respondent to include all listed items may result in the rejection of respondent's proposal.

### **Section I – Project Approach**

In this section, the respondent shall describe in detail its plans and approach for fulfilling the requirements reflected in the RFP. The RFP describes the minimum level of services to be provided by the respondent. The respondent must present respondent's understanding of the requirements and respondent's ability to fulfill all requirements successfully. The approach proposed by the respondent should demonstrate the respondent's ability to minimize costs, ensure compliance with the Consent Decree, and meet the proposed project schedule.

The respondent's Project Approach section should also set forth a summary of any problems and challenges anticipated during the term of the project. The respondent should identify and submit proposed solutions for each of the anticipated problems and challenges.

### **Section II – Project Team and Experience**

This section should describe at a minimum the respondent's experience in successfully completing projects of a similar size and scope and include the following:

Identify the key roles, definitions of the identified roles and the personnel proposed for each role of the respondent's team.

Include an organizational chart depicting the entire organizational structure. This chart should demonstrate the relationship of the individuals performing under the agreement to the overall organizational structure.

Detailed resumes should be submitted for all management, supervisory, and key personnel who will be acting under the agreement. Resumes should be structured to emphasize the relevant qualifications and experience of these individuals in successfully completing projects of similar size and scope.

State the name(s) of all prime contractors and subcontractors that will assist respondent in completing the project.

State the level of participation of local prime contracts and subcontracts that will assist in completing the project.

### **Section III – Ability to Meet the Proposed Project Schedule**

This section should describe respondent's ability to meet the proposed project schedule as indicated in Table 00380.5.1 Milestone Completion Dates and Applicable Liquidated Damages from notice to proceed (Effective Date), the anticipated challenges in meeting the schedule and what the respondent proposes in order to mitigate those challenges.

The submittal requirements of the project schedule portion are as follows:

Provide a realistic calendar day Work schedule as a Gantt Chart for each project with a Notice To Proceed date assumed to be within three weeks of the proposal submission date. Any proposed schedule which can realistically be achieved in less time will be duly considered.

List all appropriate assumptions.

List three references of projects you have performed with similar size, scope, and duration. Please list client, project name, contact name, and contact's phone number/email.

#### **Section IV – M/WBE Participation**

This section shall set forth the respondent's M/WBE Participation Plan that must be submitted and include: (1) the level and dollar amount of participation your firm anticipates to achieve in the performance of the contract resulting from this RFP; (2) the type of work to be performed by the M/WBE firms participating; and (3) the names of the M/WBE firms the Respondent plans to utilize in the performance of the project Service Contract resulting from this RFP.

Note that State Revolving Fund loans will be procured to finance this program, and that DBE requirements corresponding to federal and state regulations for SRF financing state a minimum goal of 5.2% for Minority Business Enterprises and a minimum goal of 5.2% for Women Business Enterprises. To meet the requirements for SRF loan compliance firms must be registered with the TENNESSEE DEPARTMENT OF TRANSPORTATION (TDOT); Certified Disadvantaged Business Enterprises (DBE) List prior to submitting a proposal. Below is the link to the Tennessee Department of Transportation (TDOT) Web Page for the Certified DBE List. This certified list is periodically updated by TDOT.

Link: <http://www.tdot.state.tn.us/dbedirectinternet/Vendor.aspx>

The SARP10 combined MWBE goal is 30% for this project. Firms meeting the requirements for the SARP10 MWBE goals must be registered on the City's Equal Business Opportunity (EBO) list. Note that firms that are registered to both TDOT Certified Business Enterprise (DBE) List and the City of Memphis Equal Business Opportunity (EBO) List may satisfy the requirements of both goals simultaneously. Firms registered to only one list may only satisfy the goal pertaining to that registry.

#### **Section V - Cost Information**

This section captures all cost information submitted for this Proposal and shall include the completed 00380 Proposal Fill-in Form included with this RFP.

#### **00180.8 Clarification of Proposal**

B&V/OCI reserves the right to obtain clarification of any point in a Response or to obtain additional information as necessary to properly evaluate a particular Response. Failure to respond to such a request for additional information or clarification in a timely manner may result in rejection of the Response.

#### **00180.9 Acceptance of Proposal Content**

The contents of any PROPOSAL submitted for consideration will become, at B&V/OCI's option, a part of any future contract agreement. Failure to accept this condition may result in rejection of the Response.

#### **00180.10 Responsiveness**

Respondents should respond to all requirements of the PROPOSAL to the maximum extent possible and are required to clearly identify any limitations or exceptions to the requirements.

#### **00180.11 Examination of Request for Proposal Documents**

Before submitting a Response, each Respondent must:

- A. Consider federal, state and local laws, ordinances, and any other rules and regulations that may in any manner affect the Response, including but not limited to: Executive Orders 11625, 11246, as amended, 12138 and 12432.
- B. Study and carefully correlate the Respondent's observations and responses with the PROPOSAL Documents.
- C. Notify B&V/OCI, of all conflicts, errors and discrepancies, if any, in the PROPOSAL document submitted.

Respondents by and through the submission of their Response, agree that they shall be held responsible for having therefore familiarized themselves with the nature and extent of the requirements in the PROPOSAL Documents.

OCI is an affirmative action employer. Accordingly, the parties hereby incorporate by reference the requirements of Executive Order 11246, as amended, and the applicable regulations contained in 41 C.F.R. Parts 60-1 through 60-60; 29 U.S.C. Section 793 and the applicable regulations contained in 41 C.F.R. Part 60-741; 38 U.S.C. Section 4212 and the applicable regulations contained in 41 C.F.R. Part 60-250 and/or 60-300; and 29 C.F.R. Part 471, Appendix A to Subpart A.

#### **00180.12 Interpretations and Addenda**

If any prospective Firm is in doubt as to the true meaning of any part of the Requirements For Preparing and Submitting Proposal for the requested services, they may submit a written request (verbal requests will not be accepted) for an interpretation up to five (5) business days prior to the due date of the submittal. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum transmitted to each party receiving a set of such documents. B&V/OCI will not be responsible for any other explanations or interpretations of the proposed documents. Any requests not submitted within this time period will be deemed waived.

#### **SUBMIT ALL QUESTIONS IN WRITING OR BY E-MAIL TO:**

SARP10 (Black & Veatch / OCI)

Attn: Bently Green

3485 Poplar Avenue, Suite #230

Memphis, TN 38111

E-Mail: [MemphisWCTS@bv.com](mailto:MemphisWCTS@bv.com)

CC: [KinkelaarAB@bv.com](mailto:KinkelaarAB@bv.com)

Reference: Loosahatchie Interceptors Evaluation Project, PROPOSAL No. 179821.78.0012

Each written request must reference the Proposal name and number "Loosahatchie Interceptors Evaluation Project PROPOSAL No. 179821.78.0012" in the subject line and mailed (or e-mailed) to the attention of Bently Green, Program Manager. All requests or questions should be clearly marked and must be received no later than the date and time listed in the Selection Schedule herein.

A response will be returned via addendum to all Firms along with the original question(s). There shall be no communication between the Firm, their employees or subcontractors concerning this Proposal to anyone within Black & Veatch, OCI, Allen & Hoshall, Allworld Project Management, Gresham Smith and Partners, Carter-Malone Group, TAMCO, Integrated Circle Technologies or City of Memphis employees or any such person's spouse, child, parent, brother, sister, dependent or person assuming a relationship being the substantially equivalent of the above except through Bently Green. Selection Committee members, other B&V/OCI personnel, are not to be contacted prior to B&V/OCI's decision to approve or reject the Selection Committee's recommendation. **Failure to comply with this requirement will be grounds for disqualification.**

#### **00180.13 Modification or Withdrawal of Submittals**

Responses may be modified or withdrawn by an appropriate document duly executed (in the same manner that a Response must be executed) and delivered to the place where Responses are to be submitted at any time prior to the submission deadline. A request for withdrawal or a modification must be in writing and signed by an authorized person. Evidence of such authority must accompany the request for withdrawal or modification. Withdrawal of a Response will not prejudice the rights of a Responder to submit a new Response prior to the Response deadline. After expiration of the period for receiving Responses, only B&V/OCI may request clarifications or additional information.

#### **00180.14 Rejection of Responses**

To the extent permitted by applicable local, state and federal laws and regulations, B&V/OCI reserves the right to reject any and all Responses, to waive any and all informalities not involving price, time, or changes in the work with the successful Respondent, and the right to disregard all non-conforming, non-



responsive, unbalanced or conditional Responses. Also, B&V/OCI reserves the right to reject a Response, in its sole discretion, if the City of Memphis believes that it would not be in its best interest to make an award to that Respondent.

B&V/OCI reserves the right to reject any Response if the evidence submitted by the Responder or if the investigation of such Respondent fails to satisfy B&V/OCI that such Respondent is properly qualified to carry out the obligations and to complete the work contemplated therein. All Responses will be rejected if there is reason to believe that collusion exists among Respondents. Responses will be considered irregular and may be rejected if they show serious omissions, alterations in form, additions not called for, conditions or unauthorized alterations, or irregularities of any kind.

**00180.15 Other Items**

This PROPOSAL does not commit B&V/OCI to enter into a contract, nor does it obligate B&V/OCI to pay for any costs incurred in the preparation and submission of Responses or in anticipation of a contract. Costs of preparing the Proposal in response to this request are solely the responsibility of the Respondent.

By responding to this solicitation, the respondent attests that no employee of Black & Veatch, OCI, Allen & Hoshall, Allworld Project Management, Gresham Smith and Partners, Carter-Malone Group, or City of Memphis employee or any such person's spouse, child, parent, brother, sister, dependent or person assuming a relationship being the substantially equivalent of the above, has an existing or pending, direct or indirect, financial interest in the respondent's business.

No Respondents to this solicitation shall discriminate against any employee or applicant for employment because of race, religion, color, sex, age, or national origin.

**00180.16 Selection Process**

B&V/OCI intends to select one or more firm(s) based on experience and ability, including successful completion of similar projects; qualifications of personnel; and general construction performance; available bonding capacity; service experience including record keeping/administrative ability, critical path scheduling, cost control, quality control, and safety record, as described in the Selection Criteria below. Proposals will be reviewed based on the selection criteria and one or more firms will be selected to perform the work contained in the outlined scope of work.

**00180.17 Selection Schedule**

The following schedule will be adhered to during the selection process. It is subject to change at the sole discretion of B&V/OCI.

<b>Event</b>	<b>Completed By</b>
RFP Advertising Date, RFP Available, Vendor Registration for Prequalification is open	November 25, 2014
Pre-Proposal Meeting	December 4, 2014
Last date for receipt of questions, Registration for Prequalification Information Deadline	December 11, 2014
Issue Final Addendum to answer questions	December 18, 2014
Receive Proposals	January 6, 2015 by 5:00 pm local time
Public Notice of Award	January 19, 2015
Preconstruction Meeting with Subcontractor	February 3, 2015
Tentative Notice to Proceed	February 5, 2015

**00180.18 Selection Criteria**

The criteria that will be used to rank the firms will be based on a 100 point system and require applicable information as follows:

<b>Selection Criteria</b>	<b>Points</b>
Project Approach	15
Project Team & Experience	20
Ability to Meet Project Schedule	20
M/WBE Participation	20
Cost of Scope of Work	25

**00180.19 Mandatory Pre-Proposal Meeting**

A mandatory pre-proposal meeting will be held from 10:00 A.M. to 11:30 A.M. (**local time**) at the **Benjamin Hooks Central Library 3030 Poplar Avenue Memphis, TN 38111** on **December 4, 2014**. Bidders are required to attend at their own cost. Attendance shall be limited to three representatives per Bidder. Contact Purchaser at least two calendar days before the pre-proposal meeting in order to coordinate your attendance.

## 00280 - Instructions to Bidders

### 00280.1 Bidder's Compliance with Request for Proposal

Provide the information requested and any supporting information necessary to permit a complete analysis of your proposal. You acknowledge that preparation and submission of a proposal will be at your sole cost and that you will treat this RFP and any resulting discussions as confidential. If you do not agree to treat this RFP and associated discussions as confidential, return the complete RFP to Purchaser and delete or destroy any copies you made.

Purchaser may base its decision to award a subcontract solely on the initial proposal received by Purchaser without any discussion or clarification. Therefore, your initial proposal should include the most favorable commercial and technical terms you can offer for the duration of the proposal validity period identified in Article 00280.4.4. Purchaser reserves the right to: (a) award a subcontract solely on the initial proposal received by Purchaser without any discussion or clarification; (b) reject or accept a proposal that is not submitted in strict compliance with the RFP requirements; (c) make an award to other than the low bidder; and (d) issue multiple requests for proposals. Purchaser reserves the right to take the actions identified in the immediately preceding sentence without discussion or prior notification to you.

### 00280.2 General Proposal Parameters

Provide the information requested in Section 00280 and Section 00380 in the appropriate fields of Section 00380. Complete each line of Section 00380 in its entirety and submit it with your proposal in accordance with Article 00180.4. Do not alter Section 00380 forms in any way or deviate from the terminology used or the unit of measure indicated when completing Section 00380. Submit Section 00380 forms in their original core application software, with no embedded programming and no permissive encoding restricting access to the data provided.

#### 00280.2.1 Bidder's Contact Information

Include contact information for your representative in Article 00380.2.1. Your representative must have the appropriate expertise and authority to negotiate on behalf of your company.

#### 00280.2.2 Addenda to Request for Proposal

In Article 00380.2.2, list all addenda received from Purchaser and indicate "Yes" to show your receipt of and incorporation of the listed addenda into the proposal. Address any exceptions or clarifications to addenda in accordance with Article 00280.6.

### 00280.3 Proposal Pricing

You must include numerical values in the applicable fields of Table 00380.3.1. Non-numerical values, such as "included" or "not applicable," are not acceptable. Purchaser will evaluate fields left blank or filled with a zero as scope included in your proposal at no cost.

#### 00280.3.1 Unit Pricing

Provide the unit prices to perform the Work in accordance with this RFP in Table 00380.3.1. A unit price is the total amount to be billed to Purchaser for a specific unit of work. Unit pricing includes all costs, overhead, profit and mark-up associated with delivering the complete unit.

### 00280.4 Supplemental Proposal Information

#### 00280.4.1 Company Status

In Article 00380.4.1, indicate the type of your organization's legal entity and the state and country in which it is organized.

#### 00280.4.2 Not Used

#### 00280.4.3 Not Used



#### **00280.4.4 Proposal Validity Period**

Indicate "Yes" in Article 00380.4.4 if your proposal is valid for ninety calendar days after the Proposal Due Date (the "Proposal Validity Period"). If you indicate "No" in Article 00380.4.4, provide the number of calendar days that your proposal is valid in Article 00380.4.4 and declare an exception in accordance with Article 00280.6. Purchaser may reject your proposal without prior notice if your proposal is not valid for the full Proposal Validity Period.

#### **00280.4.5 Firm Non-Escalatable Pricing**

Indicate "Yes" in Article 00380.4.5 if the proposal pricing is firm and not subject to escalation. If you indicate "No," declare an exception in accordance with Article 00280.6 and include the terms of escalation in your exception.

#### **00280.4.6 Taxes**

Tax requirements are identified in Article 00581.4. Indicate "Included" in Article 00380.4.6 if your proposal includes the tax requirements. If you indicate "Excluded" in Article 00380.4.6, declare an exception in accordance with Article 00280.6.

#### **00280.4.7 Work at Jobsite**

Identify the type of craft labor as "open shop," "merit shop," or "union shop."

If you plan to subcontract any of the Work, indicate "Yes" in the appropriate section of Article 00380.4.7.

#### **00280.5 Schedule Compliance**

Indicate "Yes" in Article 00380.5 if you can meet the schedule dates included in Table 00380.5. If you indicate "No," submit an alternative summary level schedule with your proposal.

#### **00280.6 Compliance with Request for Proposal**

##### **00280.6.1 Declared Exceptions to RFP Requirements**

An exception is any variation from an express RFP requirement. Declare all exceptions, whether commercial or technical in nature, in Table 00380.6.1. Provide specific exceptions and accurately reference the article number to which each exception applies. Exceptions of a general nature or that refer to your standard specifications or terms are not acceptable and may result in Purchaser rejecting your proposal without prior notice.

##### **00280.6.2 Declared Clarifications to RFP Requirements**

A clarification is the means by which you offer to meet an RFP requirement if the RFP does not identify the specific means by which the RFP requirement must be met. Declare any clarifications, whether commercial or technical in nature, in Table 00380.6.2. Reference the article number to which each clarification applies.

#### **00280.7 Nondiscrimination**

All entities contracting with the Purchaser agree to abide by and to take affirmative action when necessary to ensure compliance with the nondiscrimination clauses set out below, and agree to show proof of non-discrimination upon request and to post in conspicuous places available to all associate agents and their employees. In the event of non compliance with nondiscrimination clauses, or with provisions of Executive Orders 11141 (age), 11246, 11375 (women), 12086 (Vietnam veterans), 11478 (federal employees), 11625 (minority business) 11701 (veterans), Title 41, Chapter 60 (handicapped) and specifically the handicapped affirmative action clause in Section 60-741.6.9 of OFCCP Rules, and any and all other federal laws prohibiting discrimination, contracts may be canceled, terminated, or suspended in whole or in part by the Purchaser.

The Bidder shall execute the specified Nondiscrimination Certificate (see 00681.5) agreeing that, if awarded the Service Contract, he/she shall not discriminate against any subcontractor, employee, or applicant for employment on the grounds of race, color, national origin or sex, in accordance with the citations listed in the above paragraph; and shall require the execution of such a certificate for each



subcontractor prior to award of any subcontract with the further requirement that each subcontractor shall include identical requirements in any lower tier subcontracts which might in turn be made. FAILURE TO EXECUTE AND SUBMIT SUCH CERTIFICATE WITH THE PROPOSAL MAY CAUSE THE PROPOSAL TO BE REJECTED AS NON-CONFORMING. The successful Bidder and all subcontractors under the general contract shall maintain copies of their payrolls and all subcontracts for each weekly payroll period for the life of the construction and for a period of **SEVEN (7) YEARS** after final release and payment is made by the Purchaser to the contractor.

**00280.8 Equal Business Opportunity Program (EBO)**

The Bidder must complete and return the Equal Business Opportunity Program Compliance Form included in Article 00681.6 of this RFP.

**00380 – Commercial Proposal Form (8 pages)**



**00380 - Commercial Proposal Form**

**Bidder should refer to Section 00280, Instructions to Bidders, when completing this Proposal Form. Bidder shall complete this form entirely and return it with Bidder's Proposal.**

<b>00380.1 Proposal Submitted by</b>		<b>Bidder Response Column</b>
Company Name		
Mailing Address/Number, Street		
Mailing Address/State, Zip Code		
Country		
Taxpayer ID Number (or EIN)		
Bidder's Proposal Date		
Bidder's Proposal No.		
<b>00380.2 General Proposal Parameters</b>		
<b>Bidder is providing the information defined by the articles comprising Section 00280, INSTRUCTIONS TO BIDDERS, in the corresponding fields of this Section 00380, COMMERCIAL PROPOSAL FORM.</b>		
<b>00380.2.1 Bidder's Contact Information</b>		
Bidder's Representative Name		
Title		
Mailing Address/Number, Street		
Mailing Address/City		
Mailing Address/State, Zip Code		
Delivery Address/Number, Street		
Delivery Address/State, Zip Code		
Country		
Email Address		
Phone Number		( ) - ( )
Mobile Phone Number		( ) - ( )
Fax Number		( ) - ( )
<b>00380.2.2 Addenda to Request for Proposal</b>		
Bidder acknowledges receipt and inclusion of the following Addenda to the RFP - <b>Yes/No</b>		
	<b>Addenda Number</b>	<b>Date Issued</b>
		<b>Received and Incorporated</b>
<b>00380.3 Proposal Pricing Information</b>		
<b>00380.3.1 Proposal Prices</b>		<b>See Attached Pricing Table(s) 00380.3.1</b>
<b>00380.4 Supplemental Proposal Information</b>		
Bidder provides the following information to supplement the Bidder's Proposal pricing.		
<b>00380.4.1 Company Status</b>		
Bidder's company status is:(i.e., partnership, individual owned, joint venture, corporation, etc.)		
in State of		
in Country of		
<b>00380.4.2 Not Used</b>		
<b>00380.4.3 Not Used</b>		

<b>00380.4.4 Proposal Validity Duration</b>	
Bidder's Proposal is valid for acceptance by the Purchaser for a period of 90 days from the Proposal due date. - <b>Yes/No</b>	
If no, Bidder's Proposal is valid for indicated days from Proposal due date. - No. Days	
<b>00380.4.5 Firm Non-Escalatable Pricing</b>	
All of Bidder's prices herein proposed are firm and are non-escalatable for services conducted on or before June 30, 2015. - <b>Yes/No</b>	
If No, explanation is included as an Exception.	
<b>00380.4.6 Taxes</b>	
Bidder's prices included herein are inclusive of all applicable state or local sales, use, gross receipts, or excise taxes. - <b>Yes/No</b>	
If No, explanation is included as an Exception.	
<b>00380.4.7 Work at Jobsite</b>	
Bidder's source of craft labor to be utilized in the performance of the Work is. - <b>Open-Shop/Merit-shop/Union-shop</b>	
Bidder has accounted for all Jobsite existing and controlling conditions and limitations which may affect the Work performance and the Bidder's Proposal. - <b>Yes/No</b> If No, explanation is included in Exception.	
Bidder proposes that it will perform all the Work at the Jobsite with its own forces. - <b>Yes/No</b>	
Bidder proposes that it will perform the majority (over <b>75%</b> of total value) of the Work at the Jobsite with its own forces and that specific portions of the Work not performed by the Bidder will be sub-subcontracted. - <b>Yes/No</b>	
Bidder proposes that it will sub-subcontract the majority (over <b>50%</b> of total value) of the Work at the Jobsite. - <b>Yes/No</b>	
<b>00380.5 Schedule Compliance</b>	
Bidder agrees to meet the schedule dates indicated in the RFP documents: - <b>Yes/No</b> If No, explanation is included in Exception.	
If No, Bidder has completed and submitted an attached alternative summary level schedule: - <b>Yes/No</b>	
<b>00380.6 Compliance with Request for Proposal</b>	
NOTE: A Proposal based on Bidder's standard terms and conditions will not be considered. The Proposal must address specific exceptions, if any, to Purchaser's terms and conditions.	
Bidder certifies that its Proposal complies with all RFP commercial and technical requirements without exception and clarification. - <b>Yes/No</b>	
<b>00380.6.1 Exceptions</b>	
Bidder certifies that its Proposal complies with all RFP commercial and technical requirements except for the following:	
Proposal is based on acceptance of all commercial requirements of this RFP. - <b>Yes/No</b>	
If No, all Commercial Exceptions have been accurately defined and identified as "Commercial Exceptions" on the Purchaser provided and Bidder attached Exceptions Form: - <b>Yes/No</b>	
Proposal is based on acceptance of all technical requirements of this RFP. - <b>Yes/No</b>	
If No, all Technical Exceptions have been accurately defined and identified as "Technical Exceptions" on the Purchaser provided and Bidder attached Exceptions Form. - <b>Yes/No</b>	
<b>00380.6.2 Clarifications</b>	
Bidder certifies that its Proposal complies with all RFP commercial and technical requirements without clarification. - <b>Yes/No</b>	
If No, all Commercial Clarifications have been accurately defined and identified as "Commercial Clarifications" on the Purchaser provided and Bidder attached Clarification Form. - <b>Yes/No</b>	
If No, all Technical Clarification have been accurately defined and identified as "Technical Clarifications" on the Purchaser provided and Bidder attached Clarification Form. - <b>Yes/No</b>	



00380.7 Proposal Attachments	
In addition to this Commercial Proposal Form and Tables indicated herein, the Bidder's Proposal contains supplemental information and details attached to this Proposal consisting of the following:	
(Attachment 1)	
(Attachment 2)	
(Attachment 3)	
(Attachment 4)	
(Attachment 5) (Add additional lines as needed)	
00380.8 Declarations	
The Bidder declares that it has familiarized itself with the conditions affecting the Work. The Bidder also declares that only the persons or firms interested in the Proposal as principal or principals are named herein; that no other persons or firms have any interest in this Proposal or in the Service Contract to be entered into; that this Proposal is made without connection with any person, company, or party likewise submitting a Proposal; and that it is in all respects for and in good faith, without collusion or fraud. - <b>Yes/No</b>	
If written notice of acceptance of this Proposal is delivered to the Bidder within "Proposal Validity" days after the date set for receipt of Proposals, or any time thereafter before the Proposal validity expires, the Bidder will, within 5 days after receipt of a formal Service Contract for signature, exercise and deliver to Purchaser a signed Service Contract in the form provided by the Purchaser in accordance with the documents provided herein. - <b>Yes/No</b>	

**Table 00380.3.1 - Unit Price Proposal Form**

<b>Bidder should refer to Section 00280, Instructions to Bidders, when completing this Proposal Form. Bidder shall complete this form entirely and return it with Bidder's Proposal.</b>					
Proposal Submitted by (Company Name)					
<b>00380.3 Proposal Pricing Information</b>					
<b>00380.3.1 Unit Pricing</b>					
Bidder proposes to complete the RFP Work based on firm, fixed, unit prices (US dollars), which prices multiplied by the final Work quantities would represent the full consideration to Bidder for its complete and satisfactory performance of the Work in compliance with all the terms and conditions of the RFP Documents. The Unit Prices in this Table include the cost of all the work which is required or implied by the RFP documents or which may be inferred therefrom, and which is customarily provided in furnishing a complete and finished work item of its kind. Further, any and all alterations, modifications, and adjustments to the work item, which is reasonably foreseeable or customarily encountered in providing and installing equipment, material, and services of the work item kind, will be performed without additional compensation.					
In the event of a Purchaser-approved change in the scope of Work for which a unit price from this Table is not applicable, as determined by the Purchaser, the Service Contractor shall provide a new unit price for review and acceptance by the Purchaser. Service Contractor shall provide all information requested by the Purchaser to substantiate the value of the new unit price.					
<b>00380.3.1.1 Unit Prices</b>				<b>Bidder Response Columns</b>	
Item Number	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Extension Price
<b>Old &amp; New Loosahatchie and Mud Island Interceptor Assessment</b>					
<b>Interceptor &amp; Manhole Cleaning</b>					
00005-6.01	Hourly Crew Rate	Crew Hour	280	\$ -	\$ -
<b>Flow and Rainfall Monitoring Services</b>					
00006-6.01	Flow Monitoring Day Rate - Base Period	Meter Day	224	\$ -	\$ -
00006-6.02	Flow Monitoring Day Rate - Extended Period	Meter Day	56	\$ -	\$ -
00006-6.03	Rain Gauge Day Rate - Base Period	Gauge Day	112	\$ -	\$ -
00006-6.04	Rain Gauge Day Rate - Extended Period	Gauge Day	28	\$ -	\$ -
<b>Multi-Sensor Inspection of Interceptor Sewers</b>					
00007-6.01	Laser Inspection for Each 48-inch Diameter and Larger	LF	43,926	\$ -	\$ -
00007-6.02	CCTV & Sonar Inspection for Each 24-inch Diameter and Larger	LF	114,559	\$ -	\$ -
<b>Interceptor Manhole MACP Inspection</b>					
00009-6.01	MACP Level 2 Manhole Inspection	Each	240	\$ -	\$ -
<b>Site Preparation and Restoration</b>					
02630-5.01	Site Preparation and Restoration	Lump Sum	1	\$ -	\$ -
02630-5.02	CR-610 Limestone	Ton	6000	\$ -	\$ -
02630-5.03	Security Gate	Each	8		
	Mobilization and Demobilization (not to exceed 8% of the total of all other bid items or \$50,000)	Lot	1	\$ -	\$ -
<b>Old &amp; New Loosahatchie and Mud Island Interceptor Assessment</b>					<b>\$ -</b>

<b>00380.5 Schedule</b>			
<b>00380.5.1 Milestone Completion Dates and Applicable Liquidated Damages</b>			
<b>Item Number</b>	<b>Milestone Description</b>	<b>Milestone Completion Date</b>	<b>*LDs Apply?</b>
1	Flow Meters and Rain Gauges Installed, Calibrated, and Collecting Data	19 Calendar Days after Effective Date	Yes
2	Draft Final Report for Flow Monitoring an Rain Gauge Scope	96 Calendar Days after Effective Date	Yes
3	Project Completion	126 Calendar Days after Effective Date	Yes
*LD indicates that completion of the Work after the "Milestone Completion Date" is subject to liquidated damages per applicable Articles of Section 00581.			
Note: Service Contractor performance will directly impact future procurements for the SARP10 Program, schedule is critical and must be maintained.			

<b>00380.5.2 Schedule of Submittals and Applicable Liquidated Damages</b>							
Effective Date: <b>TBD</b>							
The list is not all-inclusive. There are more requirements for Service Contractor to "provide notice," to "advise," to "update," to "inform," etc., or to "submit" should a condition precedent occur. These have not been included in the list. It will however remain Service Contractor's responsibility to comply with the submittal requirements whether or not the submittal is actually included on the following:							
Item No.	Reference Document	Submittals Item	Submittal Dates			LDs Apply?	
			Calendar Days	Event	Due Date		
<b>Commercial Submittals</b>							
C01	00582	Initial Issue Service Contractor's Work Schedule	7	After	Effective Date		No
C02	00582	Updated Issue Service Contractor's Work Execution Schedule	Weekly	After	Initial Issue Service Contractor's Work Schedule		No
C03	00582	Initial Payment Estimate Breakdown	30	After	Effective Date or Prior to First Payment		No
C04	00582	Progress Payment Breakdown w/ Backup	Monthly	Prior to	Monthly Progress Payment		No
C05	00582	Workers Compensation and Evidence of Coverage and Current Contributions	14	Prior to	Mobilization Onsite		No
C06	00582	Insurance Certificates		Prior to	Mobilization Onsite		No
C07	00681.2 00681.9	Lien Waivers and M/WBE Form		With	Each Payment Invoice		No
C08	LCM	Purchaser approval of Subcontractor Safety Documentation		Prior to	Mobilization Onsite		No
C09	LCM	Subcontractor Safety Documentation		With	Proposal		No
C10	SRF/00581	W-9 of Service Contractor and Subcontractors		With	Proposal		No
C11	00681.5	Certificate of Nondiscrimination for Service Contractor and Subcontractor		With	Proposal		No
C12	00681.6	Equal Business Opportunity Program Compliance Form for Service Contractor and Subcontractor		With	Proposal		No
C13	00681.8	Subcontractor's Report of Disadvantaged Business Enterprise Participation		With	Each Payment Invoice		No
<b>Technical Submittals</b>							
Refer to Technical Specifications for Technical Submittal requirements.							

**Table 00380.6.1 - Exceptions Form**

<b>Bidder should refer to Section 00280, Instructions to Bidders, when completing this Form.</b>		
<b>Proposal Submitted by</b> (Company Name)		
<b>00380.6.1 Exceptions</b>		
The Bidder's specific Exceptions herein itemized and included with the quotation represent an exhaustive list of any and all explicit variations or deviations from the requirements of the RFP documents. Bidder confirms that otherwise, it is the intent of Bidder's quotation that the Work will be performed in strict accordance with the requirements of the RFP documents.		
<b>00380.6.1.1 Commercial Exceptions</b>		
<b>Count</b>	<b>Reference Article</b>	<b>Stated Commercial Exception</b>
CE1		
CE2		
CE3		
CE4		
CE5		
CE6		
CE7		
CE8		
CE9		
<b>00380.6.1.2 Technical Exceptions</b>		
<b>Count</b>	<b>Reference</b>	<b>Stated Technical Exceptions</b>
TE1		
TE2		
TE3		
TE4		
TE5		
TE6		
TE7		
TE8		
TE9		
TE12		
TE13		
TE14		
TE15		
TE16		
TE17		
TE18		
TE19		
TE20		

**Table 00380.6.2 - Clarifications Form**

<b>Bidder should refer to Section 00280, Instructions to Bidders, when completing this Form.</b>		
Proposal Submitted by (Company Name)		
<b>00380.6.2 Clarifications</b>		
All of Bidder's Clarifications herein itemized and included with the quotation <b>do not</b> constitute explicit variation or deviation from performance of the Work by the Bidder in strict accordance with the requirements of RFP documents.		
<b>00380.6.2.1 Commercial Clarifications</b>		
Count	Reference Article	Stated Commercial Clarification
CC1		
CC2		
CC3		
CC4		
CC5		
CC6		
CC7		
CC8		
CC9		

<b>00380.6.2.2 Technical Clarifications</b>		
Count	Reference	Stated Technical Clarification
TC1		
TC2		
TC3		
TC4		
TC5		
TC6		
TC7		
TC8		
TC9		
TC12		
TC13		
TC14		
TC15		
TC16		
TC17		
TC18		
TC19		
TC20		

## 00581 - Supplementary Terms and Conditions

### 00581.1 Notices and Correspondence

The Parties agree to send all notices arising out of or relating to this Service Contract by one of the following methods: (a) personal delivery; (b) certified mail with return receipt; (c) nationally recognized overnight mail or courier service, with delivery receipt requested; or (d) email. The Parties may send routine correspondence by email or first class mail, each without confirmation of receipt. The Parties agree to address correspondence as indicated in this article.

#### Electronic Technical Correspondence

**Addressed to Purchaser:**

To: Bently Green  
[MemphisWCTS@bv.com](mailto:MemphisWCTS@bv.com)  
Cc: Gary Older  
[OlderGS@bv.com](mailto:OlderGS@bv.com)

**Addressed to Service Contractor:**

To: [[ name ]]  
[[ email address ]]  
Cc: [[ name ]]  
[[ email address ]]

#### Non-Electronic Technical Correspondence

**Addressed to Purchaser:**

SARP10 (Black & Veatch / OCI)  
3485 Poplar Avenue, Suite 230  
Memphis, TN 38111  
Attention: Bently Green  
179821.78.0012

**Addressed to Service Contractor:**

[[ service contractor entity ]]  
[[ street address ]]  
[[ city, state, zip code ]]  
Attention:  
179821.78.0012

#### Electronic Commercial Correspondence (excluding invoices)

**Addressed to Purchaser:**

To: Aaron Kinkelaar  
[KinkelaarAB@bv.com](mailto:KinkelaarAB@bv.com)

**Addressed to Service Contractor:**

To: [[ name ]]  
[[ email address ]]  
Cc: [[ name ]]  
[[ email address ]]

#### Non-Electronic Commercial Correspondence (excluding invoices)

**Addressed to Purchaser:**

Black & Veatch  
8400 Ward Parkway  
Kansas City, MO 64114  
Attention: Aaron Kinkelaar  
179821.78.0012

**Addressed to Service Contractor:**

[[ service contractor entity ]]  
[[ street address ]]  
[[ city, state, zip code ]]  
Attention:  
179821.78.0012

### Electronic Invoices

Prior to Invoice submission to [BVAPMarkView@bv.com](mailto:BVAPMarkView@bv.com), Service Contractor will send a copy to [OlderGS@bv.com](mailto:OlderGS@bv.com) and [ChenJ2@bv.com](mailto:ChenJ2@bv.com) for review and approval. Once Gary Older approves the Invoice, the Service Contractor will submit the Invoice to [BVAPMarkView@bv.com](mailto:BVAPMarkView@bv.com).

#### Original Invoice:

To: Black & Veatch

[BVAPMarkView@bv.com](mailto:BVAPMarkView@bv.com)

Fax (866) 941-9458

Attention: BVAP

179821.78.0012

#### With a Copy to:

To: Julia Chen

[ChenJ2@bv.com](mailto:ChenJ2@bv.com)

### 00581.2 Not Used

### 00581.3 Liquidated Damages

#### 00581.3.1 General

Service Contractor's failure to meet the requirements identified in this Article 00581.3 will cause Purchaser to incur harm that will be very difficult to ascertain with certainty. The Parties therefore agree the liquidated damages specified in this Article 00581.3 represent a reasonable estimate of Purchaser's harm and are not intended as a penalty. Service Contractor's obligation to pay liquidated damages for breach of one specified requirement does not relieve Service Contractor of its obligation to pay liquidated damages for breach of another specified requirement. Service Contractor's payment of liquidated damages for breach of the specified requirement is Purchaser's sole and exclusive remedy with regard to Service Contractor's breach of that requirement, except for any other express remedies stated in the Service Contract. If Purchaser terminates this Service Contract for cause, liquidated damages will cease to accrue after the termination date and Service Contractor's remaining liability will be calculated in accordance with Article 00582.21.

#### 00581.3.2 Not Used

#### 00581.3.3 Milestone Completion

Each milestone subject to liquidated damages for late completion is listed in the article titled "Construction Milestone Completion Dates and Applicable Liquidated Damages". If all portions of the Work comprising the milestone do not meet the Service Contract requirements on the milestone completion date, liquidated damages will accrue for each failure as shown below.

Beginning on the first calendar day after the specified milestone completion date for each milestone and continuing for thirty calendar days or until the milestone is completed, whichever is earlier, delay liquidated damages will be assessed at the rate of five hundred dollars (\$500.00) per calendar day.

Beginning on the thirty first calendar day after the specified milestone completion date for each milestone and continuing until the milestone is completed, delay liquidated damages will be assessed at the rate of one thousand dollars (\$1,000.00) per calendar day.

### 00581.4 Taxes

Service Contractor shall pay all payroll and other related employment compensation taxes for Service Contractor's employees, federal, state and other taxes which may be assessed on Service Contractor's income from the Project, engineering and business license costs (collectively, the "Service Contractor Taxes"). Service Contractor shall administer and pay all sales, use, gross receipts and excise taxes (collectively, the "Project Taxes"). Service Contract price includes Service Contractor Taxes and all Project Taxes. Purchaser will not be responsible for any additional charges related to tax that were not





included as part of the Service Contract Price. Where applicable, Purchaser shall furnish to Service Contractor a certificate complying with state and local governmental laws, regulations and ordinances identifying any components of the Work to be considered exempt from the Project Taxes. Service Contractor shall cooperate with Purchaser to establish appropriate procedures and minimize the amount of such taxes to the extent reasonable and practical. Service Contractor is responsible for all property taxes on the construction equipment; Owner is responsible for property taxes on all other items incorporated into the project. Service Contractor shall notify Purchaser, and Purchaser shall have the right to review prior to Service Contractor's response to such document, of any correspondence with a federal or local taxing authority as it relates to sales and use, gross receipts, or excise taxes.

## 00582 - General Terms and Conditions

### 00582.1 Definitions

The terms below have the following definitions when used in this Service Contract:

"Applicable Law" means all laws, statutes, regulations, codes, rules, treaties, ordinances, judgments, permits, decrees, approvals, interpretations, injunctions, writs, orders, or other legal requirements of a Governmental Authority having jurisdiction over the Jobsite or performance of the Work.

"Claim" means claims, actions, suits, liabilities, demands, damages, losses, costs, expenses (including reasonable attorneys' fees), impacts to price, impacts to schedule, awards, fines and judgments, of every kind and nature.

"Consent Decree" means the negotiated plan between Owner, Department of Justice, Environmental Protection Agency, Tennessee department of Environment and Conservation, and the Tennessee Clean Water Network that requires Owner to develop and implement plans to improve its wastewater systems.

"Engineer" means the entity providing engineering services to Purchaser for this Project.

"Governmental Authority" means any governmental body entitled to exercise any administrative, executive, judicial, legislative, police, regulatory or taxing power.

"Indemnified Parties" means Owner and its officials, Purchaser, Engineer, and the parent companies, related companies, affiliated companies, subsidiaries, successors, and assigns of each, including the shareholders, officers, directors, partners, employees, and agents of each of the above firms.

"Indemnified Parties" does not include Service Contractor or any Subcontractor.

"Jobsite" means the parcel of land upon which the Project is constructed, and includes any surrounding property required to access the Project.

"Owner" means the City of Memphis, Tennessee.

"Parties" means Purchaser and Service Contractor.

"Party" means Purchaser or Service Contractor.

"Prime Agreement" means the agreement between Owner and Purchaser.

"Program Manager" means Black & Veatch Corporation (B&V) or Overland Contracting Inc. (OCI).

"Project" means the project undertaken by Owner for which Purchaser is procuring the Work.

"Project Acceptance Date" means the date the Project is fully complete and accepted by Owner.

"Purchaser" means the Party so identified in the Service Contract Agreement.

"Purchaser's Engineer" means "Engineer".

"Service Contract" means the agreement between Purchaser and Service Contractor consisting of: (a) the Service Contract Agreement; (b) the documents listed in the Service Contract Agreement; (c) Service Contract Revisions; (d) attachments, appendices and exhibits to the Service Contract documents; (e) documents expressly incorporated by reference into the Service Contract; and (f) any requirements that can be reasonably inferred from any of the foregoing.

"Service Contract Agreement" means the Service Contract form executed by Purchaser and Service Contractor.



"Service Contractor or Contractor" means the Party so identified in the Service Contract Agreement.

"Service Contract Price" means the total compensation set forth in Task Orders to be paid to Service Contractor by Purchaser under this Service Contract.

"Service Contract Revision" means a written order issued to Service Contractor under Article 00582.17 amending this Service Contract.

"Subcontractor" means any party, at any tier, having an agreement with Service Contractor or with a Subcontractor, to perform a portion of the Work.

"Supplier" has the same meaning as "Service Contractor".

"Task Order" is the document issued in the form of Article 00681.1 authorizing Service Contractor to perform the scope of work identified in that document.

"Work" means that which Service Contractor is to perform or provide under this Service Contract.

## **00582.2 Interpretation**

00582.2.1 This Service Contract is the complete and final agreement between the Parties relating to the Work. All prior or contemporaneous negotiations and agreements relating to the Work are superseded by this Service Contract. The terms of this Service Contract are not supplemented, explained, or qualified by trade usage or a course of prior dealing. Service Contractor may only accept this Service Contract by signing and returning the Service Contract Agreement or by commencing the Work. Exceptions or terms submitted by Service Contractor in the course of accepting this Service Contract are void.

00582.2.2 The Service Contract documents are intended to complement one another. What is called for by one document is to be given effect as if called for by all documents. Service Contractor agrees to obtain Purchaser's written clarification before proceeding with Work that may be affected by an apparent conflict, discrepancy or error in the Service Contract. If Service Contractor does not obtain Purchaser's written clarification, the provision imposing the more stringent requirement on Service Contractor will apply as determined in Purchaser's sole discretion.

00582.2.3 Provisions of this Service Contract which contemplate performance or obligations subsequent to completion or termination of the Work or which contain waivers or limitations of liability, including, but not limited to, Articles 00582.14, 00582.18, 00582.21, 00582.23 and 00582.26 will survive such completion or termination. Termination of the Work will not affect the rights and obligations that arose before termination.

00582.2.4 No obligation under this Service Contract may be waived without the written agreement of the Party against whom enforcement of the waiver is sought. Failure or delay in exercising a right or remedy or requiring the satisfaction of an obligation under this Service Contract does not constitute a waiver of that right, remedy or obligation.

00582.2.5 If any provision of this Service Contract is held to be unenforceable, the remaining provisions of this Service Contract will remain in effect. Provisions held to be unenforceable may be amended to effect, to the extent permitted by law, the original intent of the provision.

00582.2.6 English is the controlling language of this Service Contract. The Parties agree to make all payments due under this Service Contract in US dollars.

### **00582.3 Service Contractor's Representations and Status**

00582.3.1 Service Contractor represents that it has sufficient resources and capacity and is fully qualified, properly equipped, sufficiently financed and otherwise able to perform the Work in accordance with the Service Contract requirements. Purchaser may require that Service Contractor provide reasonable assurance of Service Contractor's continued satisfaction of these representations.

00582.3.2 Service Contractor also represents that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials, structures, utilities, or other obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the Jobsite and the Service Contract. Service Contractor agrees that Purchaser has no responsibility or liability for Service Contractor's conclusions or interpretations based on information Purchaser has made available to Service Contractor.

00582.3.3 Service Contractor is an independent contractor in the performance of the Work. Service Contractor is solely responsible for the means, methods, sequences, procedures, and safety precautions used or adopted by Service Contractor and any Subcontractor in the performance of the Work. Except as provided in Article 00582.5, Service Contractor has sole authority and responsibility to employ, manage, discharge, and otherwise control its employees.

### **00582.4 Service Contractor Scope of Work**

Service Contractor shall furnish all materials, tools, equipment, vehicles, supplies, services, labor and supervision required to perform the Work. Service Contractor may only perform Work as authorized in a Task Order. There is no obligation for Purchaser to authorize any Work pursuant to this Service Contract.

### **00582.5 Safety and Work Requirements**

00582.5.1 Service Contractor shall be solely and exclusively responsible for compliance with all safety requirements and for the safety of all persons and property. Service Contractor shall comply, and shall secure compliance by Subcontractors, with all applicable health and safety laws and regulations. Service Contractor agrees to conduct its operations to provide maximum safety and shall, while on the premises of Purchaser or Owner or on the Jobsite, comply with the safety programs and regulations of Purchaser and of Owner, if any. Service Contractor shall notify Purchaser promptly, in writing, if a charge of noncompliance with this Article 00582.5 has been filed against any personnel in connection with the performance of the Work.

00582.5.2 Service Contractor shall ensure all personnel performing the Work are orderly and in all respects cooperate and work in harmony with others while on the premises of Purchaser or Owner or on the Jobsite. Service Contractor, at no additional cost to Purchaser, shall immediately remove or cause to be removed from the Work, whenever requested to do so by Purchaser, any personnel considered by Purchaser or Owner to be incompetent or unfit, and such person may not again be employed in performing the Work. Subcontractor may not remove or replace any person performing the Work without the prior written consent of Purchaser.

00582.5.3 If Work is performed on the premises of Purchaser or Owner or on the Jobsite, Service Contractor shall provide at all times during the course of such Work, a qualified, competent, and responsible representative, fluent in the English language in order to facilitate the accurate and timely compliance with safety requirements.

00582.5.4 Violation of this Article 00582.5 is a material breach of this Service Contract.

00582.5.5 Any overflow observed or caused by the Service Contractor's operation shall be promptly reported to the City of Memphis Environmental Maintenance Dispatch Line at (901) 529-8025, and the Service Contractor shall notify the Program Manager. In no case, shall the Service Contractor notify TDEC or the EPA. The City of Memphis shall maintain responsibility to inform the EPA, TDEC or other interested parties.



## 00582.6 Payment

00582.6.1 Purchaser shall pay Service Contractor in accordance with the terms of the applicable Task Order. Payment to Service Contractor for any Work performed, including any retention if specified, will be made by Purchaser after Purchaser's receipt of Owner's payment for the same Work and upon Purchaser's approval of such Work. Purchaser shall bill Owner for all Works performed by Service Contractor, excluding any amount that has been designated as authorized retentions, withholding, or backcharges under this Service Contract, and shall pay Service Contractor within fifteen days from the time Purchaser receives the correlated payment from Owner on account thereof, or from Purchaser's receipt of Service Contractor's invoice, whichever occurs later. To the extent permitted by Applicable Laws, Owner's payment to Purchaser for Works performed by Service Contractor is a condition precedent to Purchaser's obligation to pay Service Contractor for such Works. Therefore, Service Contractor will only be paid if and to the extent that Purchaser receives payment for the Work from Owner. Service Contractor shall include with the invoice supporting documentation required by this Service Contract and any additional information requested by Purchaser. Each invoice must clearly show the invoice number, the Work covered by the invoice, taxes, and the billing period (if applicable). If an invoice does not contain the requested documentation or information, Purchaser will notify Service Contractor of the deficiency. Calculation of the time for payment for an invoice begins when Purchaser receives an invoice free of deficiencies.

00582.6.2 Service Contractor agrees to provide additional itemization of the invoice as Purchaser reasonably requests. If payment to Service Contractor will be on a cost reimbursable basis or a unit price basis, or if Subcontractor files a Claim under Article 00582.17, Service Contractor shall furnish Purchaser complete breakdowns and supporting information in the detail required by Purchaser to verify the accuracy of the invoiced or claimed amounts. Service Contractor shall retain the breakdowns and supporting information for seven years after the Project Acceptance Date, during which time Purchaser or Purchaser's designee may audit the aforementioned records at Purchaser's expense.

00582.6.3 Purchaser may withhold or set-off amounts due under this Service Contract on account of: (a) Claims arising out of or relating to Service Contractor's breach or reasonably anticipated breach of this Service Contract; (b) any amounts owed by Service Contractor to Purchaser under this Service Contract; (c) non-conforming Work not yet corrected; (d) a claim filed against Service Contractor or reasonable evidence indicating a claim may be filed against Service Contractor; or (e) any amounts owed by Service Contractor to Purchaser or to a parent, partner, joint venture, affiliate or subsidiary of Purchaser under any other contracts, claims, demands, lawsuits or other matters. If amounts owed by Service Contractor to Purchaser exceed the unpaid balance of this Service Contract, Service Contractor agrees to pay those amounts within forty-five calendar days after receipt of Purchaser's notice identifying the amounts due.

00582.6.4 Payment by Purchaser does not: (a) constitute approval or acceptance of any portion of the Work; (b) waive any of Purchaser's rights; or (c) relieve Service Contractor from responsibility or liability arising out of or relating to this Service Contract. Acceptance by Service Contractor of final payment constitutes a release and waiver of all Claims by Service Contractor against Indemnified Parties.

## 00582.7 Schedule

00582.7.1 Performance of the Work as scheduled under a Task Order is of the essence. Service Contractor shall furnish progress reports of the Work as requested by Purchaser. If the Work is not progressing as scheduled, Service Contractor shall implement appropriate corrective measures to get the Work back on schedule and advise Purchaser of such corrective actions. Service Contractor will be solely responsible for costs incurred to implement the corrective measures.

00582.7.2 Service Contractor shall give Purchaser written notice of any delay or anticipated delay within three calendar days after the occurrence of the event giving rise to the delay. Service Contractor's notice must identify the cause of the delay or the anticipated delay and the actions Service Contractor is



undertaking to recover from or avoid the delay. If Service Contractor does not take steps that Purchaser determines are necessary to recover from or avoid a delay or if Service Contractor does not bring its performance into compliance with the schedule requirements of this Service Contract, Purchaser may direct Service Contractor to accelerate the Work by whatever means Purchaser deems necessary to recover and maintain the Service Contract schedule. Service Contractor shall be solely liable for costs to accelerate the Work. In the instance of schedule impact due to weather reference Exhibit A.

00582.7.3

#### **Submittals**

The Service Contractor shall submit to the Program Manager weekly schedules by Thursday at noon for the following week's work. Daily schedules shall be submitted to the Program Manager prior to Work starting each day.

The Service Contractor shall submit weekly and monthly progress updates to the Program Manager. At a minimum, the Service Contractor's progress update shall show Work completed versus estimated Work remaining for each Work item, time spent and time remaining, and notes on pending Work to be performed.

#### **Working Hours**

Typical Work days consist of a Monday through Friday schedule with a 7am start at the earliest with a 6pm finish at the latest, for manhole inspections, smoke testing, and CCTV operations. Saturday Work may be permitted as necessary, and Sunday Work will only be permitted as warranted. No Work on Memorial Day, Independence Day, Labor Day, Thanksgiving Thursday and Friday, Christmas Eve, Christmas and New Year's Day during the Service Contract duration.

For weekend operations, request in writing by Thursday at NOON.

In cases where the Program Manager does not have the resources available to observe Saturday, Sunday and/or night work, the request will be denied and no time extension or impact will be considered.

Night Work is understood for CCTV when lower flow levels are present in the sewers and will be permitted as requested (48-hour advance notice required).

Noise attenuated equipment for night work is required when working in residential neighborhoods.

#### **00582.8 Waivers of Lien**

As a condition precedent to payment, Service Contractor shall furnish a lien waiver in the form of Article 00681.2a with each invoice except the final invoice. As a condition precedent to payment of the final invoice, Service Contractor shall furnish a lien waiver in the form of Article 00681.2b with the final invoice. If a lien is filed and Service Contractor does not remove or bond around the lien within seven calendar days after receipt of written notice from Purchaser or Owner, then Purchaser or Owner may remove the lien. Service Contractor shall reimburse Purchaser or Owner, as applicable, for all costs and expenses incurred by Purchaser or Owner in removing the lien, including reasonable attorneys' fees and court costs.

#### **00582.9 Subcontracting**

Except for portions of the Work for which a Subcontractor is named in this Service Contract, Service Contractor may not subcontract the Work without first obtaining Purchaser's written consent. If Service Contractor subcontracts any portion of the Work, Service Contractor remains responsible for complying with the Service Contract requirements and will be liable to Purchaser for the acts and omissions of Subcontractors as if the acts and omissions were those of Service Contractor. Purchaser has the right to contact Subcontractors to discuss their progress of the Work.

#### **00582.10 Assignment**

00582.10.1 Service Contractor may not assign all or part of this Service Contract voluntarily, by operation





of law, or otherwise, nor may Service Contractor assign any of the money payable under this Service Contract, without obtaining Purchaser's prior written consent. Any assignment of this Service Contract in violation of the foregoing is voidable at the option of Purchaser. Subject to the foregoing, the provisions of this Service Contract will extend to the benefit of and be binding on the successors and assigns of the Parties.

00582.10.2 Purchaser may, at its sole discretion, assign this Service Contract to its affiliates or to Owner or Owner's designee and, upon such assignment, Purchaser will be released from all obligations or liabilities arising out of or relating to this Service Contract.

#### **00582.11 Quality Control**

Service Contractor agrees to maintain a Purchaser-approved quality control system during performance of the Work. Service Contractor also agrees to require each Subcontractor to maintain a quality control system appropriate for the Subcontractor's scope of work during Subcontractor's performance of the Work. If Service Contractor or a Subcontractor does not maintain a quality control system as required by this Article 00582.11, Purchaser may reject all or part of the Work.

#### **00582.12 Inspection**

00582.12.1 Service Contractor shall identify for Purchaser all locations where Work is to be performed and shall furnish information reasonably required by Purchaser to verify that the Work conforms to the requirements of this Service Contract. Service Contractor agrees to allow Purchaser and Owner reasonable access to all locations where the Work is being performed so Purchaser and Owner may: (a) inspect the Work; and (b) test or witness tests of the Work. Service Contractor shall arrange for Purchaser and Owner to have the same rights of inspection and access to locations where any Subcontractor is performing Work.

00582.12.2 Inspection or acceptance of the Work does not preclude subsequent inspection and rejection of the Work if the Work is later discovered not to conform to the Service Contract requirements or if Purchaser has reasonable grounds upon which to believe the Work does not conform to the Service Contract requirements. Inspection of the Work, performance or witnessing of tests, or any release for shipment by Purchaser is solely for the benefit of Purchaser and does not discharge Service Contractor from complying with the Service Contract requirements.

#### **00582.13 Passage of Title**

Service Contractor warrants that the Work will be free of all liens, claims, charges, security interests, encumbrances or defects in title. Title to the Work will pass to Purchaser upon the earlier of Service Contractor's receipt of payment or delivery of the Work to Purchaser.

#### **00582.14 Standards of Performance**

00582.14.1 Service Contractor represents that the Work: (a) will meet the requirements of this Service Contract; (b) will meet standards of care, skill and diligence found in the industry to which the Work pertains; and (c) will conform with nationally recognized and accepted practices, codes and standards found in the industry to which the Work pertains. Personnel performing the Work must be qualified and competent personnel whose recommendations, guidance, and performance reflect the recognized standards of knowledge, judgment, and performance generally accepted and appropriate in the industry to which the Work pertains.

00582.14.2 Service Contractor acknowledges that: (a) review and comment by Purchaser of Service Contractor's submittals does not relieve Service Contractor of its obligations under this Service Contract; and (b) Purchaser's acceptance of the Work does not relieve Service Contractor of its obligations under this Service Contract.

00582.14.3 If, during the one year period following the earlier of completion or termination of the Work it is shown there is an error in the Work caused by Service Contractor's or any Subcontractors' failure to meet the standards, Service Contractor will perform, at its cost, corrective action within the original scope of Work as may be necessary to remedy such error.

00582.14.4 Service Contractor acknowledges that Owner's failure to achieve 100 percent compliance with the Consent Decree requirements may result in the imposition of penalties, costs, and other damages imposed against the Owner and Purchaser. To the extent caused by Service Contractor's failure to perform the Work in accordance with this Service Contract or to the extent caused by the negligence of Service Contractor or any Subcontractor, Service Contractor agrees to pay penalties and costs incurred by Owner and Purchaser under the Consent Decree.

### **00582.15 Compliance with Laws**

00582.15.1 Service Contractor shall comply with all Applicable Laws in effect during its performance of the Work, including but not limited to the City of Memphis Living Wage Ordinance, the Fair Labor Standards Act, Occupational Safety and Health Administration (OSHA), and the Americans with Disabilities Act (ADA). Service Contractor shall obtain all licenses, permits, and inspections applicable to the Work. Service Contractor shall also comply with the USA's Foreign Corrupt Practices Act.

00582.15.2 Living Wage Ordinance:

The Prime Agreement is subject to Living Wage Ordinance #5185 as amended by Ordinance #5257 (effective July 1, 2008) that requires contractors who enter into a service contract with the City of Memphis to pay employees who work under the service contract a living wage. The minimum hourly wage shall be at least \$10.27 per hour with health benefits for employees and their dependents or \$12.32 per hour without health benefits. Service Contractor is also subject this ordinance as a subcontractor of Purchaser performing services. Service Contractor will submit certified payrolls as required by the ordinance to Purchaser, and Purchaser will forward to Owner. Copies of the ordinances are posted on Owner's website ([www.memphistn.gov](http://www.memphistn.gov)). Once on the homepage, click on the "Business" link, and then click on "Doing Business with the City" link. A link to the ordinance will be on the top right side under the section "Links". Annual adjustments to the rates will be posted on the site for the next year in February.

00582.15.3 Neither party shall engage in any conduct or activity in the performance of this Service Contract that constitutes a conflict of interest under Applicable Laws.

00582.15.4 Water is provided by Memphis Light Gas and Water (MLGW) to the Service Contractor but Service Contractor shall apply to MLGW's Building Services for permit and meter to record water usage. Service Contractor shall contact David Vick, 901-320-3939 (Water Meter Department Supervisor) directly to coordinate securing meter and permit. MLGW shall issue water permit and fire hydrant meter. Service Contractor shall provide a letter on Company letterhead that the Service Contractor is performing Work for the City of Memphis and acknowledging liability for any damage to or theft of the meter. Service Contractor is responsible for all costs associated with water usage.

### **00582.16 Business Practices**

00582.16.1 Service Contractor shall uphold the good name and reputation of Purchaser and shall not take any action which is intended to or which causes damage to or discredits Purchaser. Service Contractor shall not:

- (a) offer to give or agree to give any director, officer, employee or agent of any potential client a gift or consideration of any kind as an inducement or reward for (i) doing or declining to do, or for having done or declined to do, any action in relation to obtaining or executing any contract or (ii) for showing or declining to show any favor or disfavor to any person in relation to any possible project; or



- (b) induce or attempt to induce any officer, servant, or agent of any private or public body to depart from his or her duties to his or her client or, in the case of any officer, servant or agent of a public body, his or her duties to the applicable public body, the applicable body politic, or both.

00582.16.2 Service Contractor shall not engage or employ, on a full, part-time or any other basis during the term of the Prime Agreement and for a period of one year after the termination or expiration, any professional or technical personnel who are or have been at any time during the term of the Prime Agreement in the employ of Owner with the explicit written consent of Owner.

00582.16.3 Nondiscrimination:

(a) Service Contractor certifies and agrees that all persons employed by it, its affiliates, subsidiaries, or holding companies are and will be treated equally without regard to or because of race, creed, color, religion, ancestry, national origin, sexual orientation, sex, age, condition of physical or mental handicap, marital status, or political affiliation, in compliance with all Applicable Laws. Service Contractor shall certify, at Purchaser's request, that it is in full compliance with all applicable EEO rules and laws.

(b) Purchaser and Owner reserve the right to investigate any claims of illegal discrimination by Service Contractor and in the event a finding of discrimination is made and upon written notification thereof, Service Contractor shall take all necessary steps to cure and rectify such action to the reasonable satisfaction of Purchaser and Owner. Service Contractor's failure or refusal to do so shall be cause for termination of this Service Contract in accordance with the terms of this Service Contract.

00582.16.4 Purchaser is an affirmative action employer. Accordingly, the parties hereby incorporate by reference the requirements of Executive Order 11246, as amended, and the applicable regulations contained in 41 C.F.R. Parts 60-1 through 60-60; 29 U.S.C. Section 793 and the applicable regulations contained in 41 C.F.R. Part 60-741; 38 U.S.C. Section 4212 and the applicable regulations contained in 41 C.F.R. Part 60-250 and/or 60-300; and 29 C.F.R. Part 471, Appendix A to Subpart A."

### **00582.17 Claims and Service Contract Revisions**

00582.17.1 Service Contractor must give written notice, with appropriate supporting documentation, of all Claims for extra compensation or additional time for performance of the Work within ten calendar days after occurrence of the event giving rise to the Claim. If Purchaser agrees with the Claim, the Parties will negotiate an equitable adjustment to the Service Contract compensation or the schedule, or both, with the adjustment to be reflected in a Service Contract Revision. Service Contractor is responsible for all costs associated with the prosecution of the Claim. Service Contractor acknowledges that failure of Service Contractor to give Purchaser notice and appropriate supporting documentation within the required time frame constitutes a waiver of all Claims arising out of or relating to the event. Service Contractor may not halt Work pending resolution of a Claim without Purchaser's prior written consent.

00582.17.2 Purchaser may make additions, deletions, reductions in scope, or other changes to the Work. If a proposed change will cause a material increase or decrease in Service Contractor's cost or time for performance, Service Contractor shall so notify Purchaser in writing within ten calendar days after Service Contractor's receipt of Purchaser's notice of change. Service Contractor's notice must include supporting documentation in order to be effective. If Purchaser agrees with Service Contractor's notice, the Parties will negotiate an equitable adjustment to the Service Contract compensation or the schedule, or both, with the adjustment to be reflected in a Service Contract Revision. Service Contractor, however, shall proceed with the change as directed in writing by Purchaser pending such agreement. Purchaser will not be liable to Service Contractor for Claims arising from a decrease in the Work. No change is effective without a Service Contract Revision issued by Purchaser.

00582.17.3 In estimating the impact of a proposed Service Contract Revision, Service Contractor shall account for all cost and time impacts arising from or related to the proposed Service Contract Revision,



including cumulative impacts associated with all previous Service Contract Revisions. Service Contractor's acceptance of payment under a Service Contract Revision or Service Contractor's agreement to a Service Contract Revision constitutes a waiver of all Claims related to or arising from that Service Contract Revision or Claims arising out of or relating to cumulative impacts of that Service Contract Revision and any previous Service Contract Revisions.

### **00582.18 Intellectual Property**

00582.18.1 Service Contractor represents that the Work does not infringe on any intellectual property right and does not constitute an unauthorized disclosure or use of a trade secret. Service Contractor hereby agrees to grant to Purchaser and Owner an irrevocable, royalty-free, fully paid-up, non-exclusive license under all intellectual property or trade secrets owned or controlled by Service Contractor or Subcontractors to the extent necessary for Purchaser's and Owner's use of the Work. Purchaser and Owner may reproduce any submittals received from Service Contractor, despite any notice to the contrary appearing on the document.

00582.18.2 If all or part of the Work is held to constitute an infringement of any intellectual property right or an unauthorized use or disclosure of a trade secret, and if the use of all or part of the Work is enjoined, Service Contractor shall, at its own expense, and at Purchaser's or Owner's option: (a) procure for Purchaser or Owner the perpetual right to use such Work; (b) replace the Work with Work that does not infringe any intellectual property right or constitute an unauthorized use or disclosure of a trade secret; or (c) modify the Work so it does not infringe any intellectual property right or constitute an unauthorized use or disclosure of a trade secret. Replacement of or modification of the Work does not relieve Service Contractor of the Service Contract requirements.

### **00582.19 Non-Disclosure**

Service Contractor shall not make any news releases, authorize or participate in any interview concerning this Service Contract, or issue other advertising pertaining to the Project or this Service Contract without the prior written approval of Purchaser. Service Contractor shall treat all information provided by Purchaser as confidential and only disclose such information as necessary to perform the Work, and will require the employees, agents, and Subcontractors who need to know to adhere to the terms of this provision. Service Contractor agrees to require all Sub-subcontractors to whom such information is disclosed to also treat such information as confidential. Purchaser's disclosure of information to Service Contractor does not constitute a transfer of ownership of the information to Service Contractor. Service Contractor agrees Purchaser will be entitled to relief at law and in equity, including, but not limited to, injunctive relief and specific performance, upon any breach or anticipated breach of this Article 00582.19.

### **00582.20 Suspension of Work**

00582.20.1 Purchaser may, at any time and in its sole discretion, suspend performance of all or part of the Work. Purchaser will provide a written notice to Service Contractor specifying the extent to which the Work is suspended and identifying the effective date of the suspension. Service Contractor shall suspend performance of the Work on the effective date to the extent specified in the notice, but shall continue to perform the Work not suspended. Service Contractor shall use all reasonable means to minimize the consequences of a suspension.

00582.20.2 If the suspension is unrelated to Service Contractor's failure to comply with this Service Contract, Purchaser will adjust the schedule to reflect the reasonable delay due to the suspension and will reimburse Service Contractor for the reasonable and direct additional costs incurred by Service Contractor due solely to the suspension. Service Contractor's sole and exclusive remedies for a Purchaser-directed suspension are the remedies specified in this Article 00582.20.2.

00582.20.3 Service Contractor shall promptly resume performance of all or part of the suspended Work in accordance with Purchaser's written authorization to resume the Work. Service Contractor must present all Claims and supporting materials related to a suspension under this Article 00582.20 within ten calendar days after the date set by Purchaser for resumption of the suspended Work. Failure of Service



Contractor to present all Claims within the ten calendar day period will constitute a waiver of Service Contractor's right to receive an extension of the schedule or additional compensation related to the suspension.

00582.20.4 Service Contractor may not suspend performance of the Work except as directed by Purchaser under this Article 00582.20.

### **00582.21 Termination for Cause**

00582.21.1 If Service Contractor defaults in any obligation under this Service Contract and does not cure the default within ten calendar days after receipt of Purchaser's written notice identifying the default, Purchaser may terminate all or part of the Work. If Purchaser terminates all or part of the Work, Purchaser will give Service Contractor written notice of termination specifying the extent to which the Work is terminated. Service Contractor shall continue to perform all portions of the Work not terminated.

00582.21.2 Upon request by Purchaser, Service Contractor shall promptly give Purchaser complete copies of agreements related to the terminated Work. Service Contractor shall, at Purchaser's request, preserve the Work purchased for or committed to the terminated Work, pending Purchaser's instructions. With respect to the terminated Work, Service Contractor shall promptly make every reasonable effort to cancel associated agreements and other commitments upon terms satisfactory to Purchaser or take other actions with respect to those agreements and other commitments as may be directed by Purchaser.

00582.21.3 Service Contractor, if and to the extent requested to do so by Purchaser, shall promptly assign to Purchaser or Owner, in form and content satisfactory to Purchaser, Service Contractor's rights, title, and interest to the Work purchased for or committed to the terminated Work, or shall otherwise dispose of same in accordance with Purchaser's instructions.

00582.21.4 Requests for compensation attributable to termination under this Article 00582.21 must be submitted to Purchaser in accordance with Article 00582.17. Service Contractor will not be entitled to recover from Purchaser any damages, losses, costs or expenses arising out of or relating to the terminated portion of the Work. Service Contractor's compensation under this Article 00582.21 will not exceed an amount commensurate with the ratio that the terminated Work accepted by Purchaser bears to all of the Work.

00582.21.5 Purchaser is not required to provide a cure period before terminating the Work under this Article 00582.21 for the following: (a) commencement of a case by or against Service Contractor under bankruptcy law; (b) a general assignment by Service Contractor for the benefit of its creditors; (c) the appointment of a receiver to take charge of Service Contractor's assets, (d) a confession of insolvency by Service Contractor; and (e) a material adverse change in Service Contractor's financial status that in Purchaser's sole opinion would affect Service Contractor's ability to perform the Work.

00582.21.6 If this Service Contract is terminated under this Article 00582.21 and it is later determined by Purchaser or adjudged that there was no default, the termination will be considered a termination without cause and the provisions of Article 00582.22 will apply.

### **00582.22 Termination Without Cause**

00582.22.1 Purchaser may, at any time and in its sole discretion, terminate all or part of the Work. Purchaser will provide a written notice to Service Contractor specifying the extent to which the Work is terminated and the effective date of the termination. Service Contractor shall continue to perform all portions of the Work not terminated.

00582.22.2 Upon termination under this Article 00582.22, Service Contractor may only place new agreements related to the Work as necessary to complete the Work not terminated. Upon request by Purchaser, Service Contractor shall promptly give Purchaser complete copies of agreements related to the terminated Work. Service Contractor shall, at Purchaser's request, preserve and protect the Work

purchased for or committed to the terminated Work, pending Purchaser's instructions. With respect to the terminated Work, Service Contractor shall promptly make every reasonable effort to cancel associated agreements and other commitments upon terms satisfactory to Purchaser or Service Contractor shall take other actions with respect to those agreements and other commitments as may be directed by Purchaser.

00582.22.3 Service Contractor shall, if and to the extent requested to do so by Purchaser, promptly assign to Purchaser or Owner, in form and content satisfactory to Purchaser, Service Contractor's rights, title, and interest to the Work purchased for or committed to the terminated Work, or shall otherwise dispose of same in accordance with Purchaser's instructions.

00582.22.4 Subject to Service Contractor's compliance with the provisions of this Article 00582.22 and other applicable portions of this Service Contract, Service Contractor will recover from Purchaser, as the complete and final settlement for the terminated Work and all related Claims, a sum equal to Service Contractor's direct cost for the terminated Work satisfactorily performed as of the effective date of termination, plus an allowance for reasonable overhead and profit on such direct cost. Service Contractor's compensation under this Article 00582.22 will not exceed an amount equal to the ratio the terminated Work accepted by Purchaser bears to all of the Work, provided that Service Contractor will also recover from Purchaser the reasonable costs to terminate agreements with Subcontractors. Payment to Service Contractor for terminated Work will be reduced by the sum previously paid to Service Contractor on account of the terminated Work.

00582.22.5 If termination without cause is preceded by suspension under Article 00582.20, the Parties agree that any cost and schedule impacts associated with suspension will be addressed under that article, and will be excluded from calculation of costs for termination under this Article 00582.22.

00582.22.6 Requests for compensation under this Article 00582.22 must be submitted to Purchaser in accordance with Article 00582.17. Except as provided in this Article 00582.22, Service Contractor will not be entitled to recover from Purchaser any damages, losses, costs or expenses arising out of or relating to the terminated portion of the Work. Payment of the compensation specified in this Article 00582.22 is the sole and exclusive remedy of Service Contractor against Purchaser arising out of or relating to termination under this Article 00582.22.

### **00582.23 Indemnity**

00582.23.1 SERVICE CONTRACTOR AGREES TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE INDEMNIFIED PARTIES AGAINST ANY CLAIM, LOSS, DAMAGE, EXPENSE, OR LIABILITY (INCLUDING ATTORNEYS' FEES AND COSTS OF ANY SUCCESSFUL ENFORCEMENT OF THIS INDEMNITY ARTICLE) ARISING OUT OF THE PERFORMANCE OR NON-PERFORMANCE BY SERVICE CONTRACTOR OR ITS SUBCONTRACTORS, OR THEIR OFFICERS, EMPLOYEES, OR AGENTS.

00582.23.2 Providing that Purchaser is not in breach of its obligation to make payments to Service Contractor for the Work, Service Contractor shall indemnify, defend and hold harmless the Indemnified Parties from any claims or mechanic's liens brought against the Indemnified Parties or against the Project as a result of the failure of Service Contractor, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Purchaser that such a claim or mechanic's lien has been filed, Service Contractor shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond. If Service Contractor fails to do so, Purchaser will have the right to discharge the claim or lien and hold Service Contractor liable for costs and expenses incurred, including attorneys' fees.

00582.23.3 If an employee of Service Contractor, subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable has a claim against any member of Indemnified Parties, its officers, directors, employees, or agents, Service Contractor's indemnity obligation set forth in this Article 00582.23.1 above shall not be limited by any limitation on the amount of damages,

compensation or benefits payable by or for Service Contractor, subcontractors, or other entity under any employee benefit acts, including workers' compensation or disability acts.

00582.23.4 Service Contractor will immediately notify Purchaser of any claim or suit made or filed against Service Contractor or its Subcontractors in which Purchaser or Owner is named as a co-defendant.

#### **00582.24 Insurance Requirements**

00582.24.1 Service Contractor shall, at its sole cost, maintain insurance as required by this Service Contract and shall impose the obligations of this Article 00582.24 on all Subcontractors. Service Contractor shall give Purchaser ACORD insurance certificates evidencing the required coverage by the due date identified in the article titled "Schedule of Submittals and Applicable Liquidated Damages" and as Purchaser may request from time to time. Service Contractor shall also give Purchaser, as Purchaser requests from time to time, insurance policy information necessary to demonstrate Service Contractor maintains the insurance limits and endorsements required by this Service Contract. Service Contractor shall ensure the policies:

- (a) Contain a provision or endorsement that the coverage will not be cancelled, materially changed, or renewal refused unless the insurer gives at least thirty calendar days prior written notice to Purchaser.
- (b) Remain in effect through two years after completion of the Work.
- (c) Are primary with respect to insurance covering Indemnified Parties as additional insureds. All insurance carried by Indemnified Parties will be excess insurance.
- (d) Contain a waiver of all rights of subrogation by the insurance carriers in favor of Indemnified Parties, with the exception of professional liability coverage (if required under this Service Contract).
- (e) Comply with all applicable laws of the jurisdiction in which any part of the Work is to be performed including, but not limited to, admitted and compulsory coverage.
- (f) Are rated "A-" or better by A.M. Best's "Insurance Guide and Ratings".

00582.24.2 Service Contractor shall maintain broad form commercial general liability insurance protecting Service Contractor, and Indemnified Parties as additional insureds (using endorsements CG 20 10 and CG 20 37 or their equivalent), against claims arising out of or relating to bodily injury or property damage arising from the Work. The policy must include a cross-liability or severability of interest clause, a per project aggregate endorsement, and coverage for personal injury liability, contractual liability, products and completed operations (covering lawsuits brought in the USA and the country of the Jobsite), explosion, building collapse, and damage to underground property. Service Contractor shall maintain policy limits of at least one million dollars for each occurrence and in the aggregate.

00582.24.3 Service Contractor shall maintain worker's compensation insurance protecting Service Contractor against all claims under applicable worker's compensation laws. If Service Contractor is required to maintain worker's compensation insurance in the US, the worker's compensation insurance must contain an "all states" or "other states" endorsement. For Work performed in the US, Service Contractor shall also maintain employer's liability insurance protecting Service Contractor against claims for injury, disease or death of employees which are not covered by the worker's compensation insurance. Service Contractor shall maintain worker's compensation policy limits as required by statute and employer's liability policy limits of at least one million dollars for each occurrence and in the aggregate.

00582.24.4 Service Contractor shall maintain comprehensive automobile liability insurance protecting Service Contractor, and Indemnified Parties as additional insureds, against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, whether





owned, non-owned, or hired. Service Contractor shall maintain policy limits of at least one million dollars combined single limit.

00582.24.5 Service Contractor shall maintain umbrella liability insurance that follows the form of the commercial general liability insurance, the employer's liability insurance and the automobile liability insurance. The umbrella liability insurance must protect Service Contractor, and Indemnified Parties as additional insureds, against claims in excess of the limits of the commercial general liability insurance, the employer's liability insurance, and the automobile liability insurance. Service Contractor shall maintain policy limits of at least four million dollars for each occurrence and in the aggregate.

00582.24.6 Service Contractor acknowledges that maintenance of insurance as required under this Service Contract does not release or discharge Service Contractor of any obligations assumed by Service Contractor under this Service Contract. If Service Contractor does not provide insurance meeting the requirements of this Service Contract or does not provide insurance certificates as required by Article 00582.24.1, Purchaser may purchase such coverage and charge the expense to Service Contractor. However, Purchaser's failure to exercise this right does not relieve Service Contractor of the obligations imposed by this Article 00582.24. Service Contractor shall pay any deductibles applicable to insurance policies purchased by Purchaser under this Article 00582.24.6.

00582.24.7 Service Contractor is responsible for maintaining any and all property insurance on their own equipment and shall require all Subcontractors to do likewise.

#### **00582.25 Audit**

Purchaser reserves the right to audit the records of Service Contractor. Accordingly, Service Contractor shall make and keep as the same accrue, full and complete records and books of accounts of revenue and income, and costs and expenses that specifically relate to performance under this Service Contract. Records and books of account, together with any or all memoranda pertaining thereto that may be kept, maintained, or possessed by Service Contractor, shall be opened to examination during regular business hours by Purchaser or its representatives for the purposes of inspecting, auditing, verifying, or copying the same or making extracts therefrom. Service Contractor shall make and keep said records and books of account for a period of seven (7) years after the completion of the contract obligations of the final payment under the Service Contract, whichever is later.

#### **00582.26 Governing Law and Disputes**

00582.26.1 Except as detailed in Article 00582.26.2, claims and disputes arising out of or relating to this Service Contract will be governed by the law of the State of Missouri, USA, excluding provisions that would apply the law of another jurisdiction. The Parties hereby elect to exclude application of the United Nations Convention on Contracts for the International Sale of Goods pursuant to Article 6 of the Convention.

00582.26.2 Service Contractor agrees to be bound by all decisions arising out of or relating to the claims and dispute resolution process set forth in the Prime Agreement to the extent: (a) the decisions relate to the Work; (b) a claim by Owner against Purchaser involves the performance of Service Contractor or the Work; or (c) a Claim of Service Contractor gives rise to a claim by Purchaser against Owner. The initiation of claim and dispute resolution under the Prime Agreement will stay claim and dispute resolution under this Service Contract on any Claim related to the claim under the Prime Agreement.

00582.26.3 To the extent Service Contractor will be bound as set forth in Article 00582.26.2, Purchaser consents to Service Contractor's participation in such claim and dispute resolution process. Service Contractor and Purchaser will each bear their own costs associated with their participation in the Prime Agreement claim and dispute resolution process. A Party will follow the other Party's directions regarding that other Party's Claims, unless such directions adversely affect the Party's own Claims.

00582.26.4 Disputes between Service Contractor and Purchaser not addressed in Articles 00582.26.2 and 00582.26.3, will be resolved exclusively by the Tenth Judicial District Court of Kansas, located in Johnson



County, Kansas, or the United States District Court for the District of Kansas, located in Kansas City, Kansas, as their jurisdiction permits. To the extent Purchaser or Service Contractor prevails against the other Party on such dispute, reasonable dispute resolution costs including attorney fees shall be recoverable from the losing Party.

00582.26.5 Pending resolution of any claim or dispute, and without prejudice to Service Contractor's rights, Service Contractor shall continue to perform as directed by Purchaser.

### **00582.27 Hazardous Conditions**

00582.27.1 Service Contractor is not responsible for any Hazardous Conditions encountered in the performance of the Work at the Jobsite. Upon encountering any Hazardous Conditions, Service Contractor will stop services immediately in the affected area and duly notify Purchaser. For purposes of this Service Contract, Hazardous Conditions is defined as any materials, wastes, substances and chemicals deemed to be hazardous under any Applicable Law or the handling, storage, remediation, or disposal of which are regulated by Applicable Laws and applies to any hazardous or toxic substance, material, or condition present at the locations in which the Work is performed which was not brought onto such site or sites by Service Contractor for the exclusive benefit of Service Contractor.

00582.27.2 Service Contractor shall be obligated to resume the Work at the affected areas only after Owner's expert provides it with written certification that (i) the Hazardous Conditions have been removed or rendered harmless and (ii) all necessary approvals have been obtained from all Governmental Authority having jurisdiction over the location.

00582.27.3 Service Contractor will be entitled, to an adjustment in its compensation and all times for performance of the Work to the extent Service Contractor's cost or time of performance have been adversely impacted by the presence of Hazardous Conditions, subject to submission of appropriate documentation by Service Contractor and Service Contractor's duty to mitigate.

### **00582.28 Force Majeure**

00582.28.1 If Service Contractor is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control, the times for performance shall be reasonably extended by on a not less than day for day basis. By way of example and not of limitation, events that will entitle Service Contractor to an extension of the times for performance include without limitation acts or omissions of Owner or Purchaser, or anyone under Owner's control (including separate contractors), Hazardous Conditions, wars, terrorism, civil unrest, actions and inactions of delay of Governmental Authorities, floods, labor disputes and unrest, unusual delay in transportation, epidemics, earthquakes, tsunami, adverse weather conditions, and acts of God.

00582.28.2 In addition to Service Contractor's right to a time extension for those events set forth above, Service Contractor shall also be entitled to an appropriate increase in the compensation due to the impacts or delays arising from such events. Service Contractor will file all claims in accordance with Article 00582.17.

## **00585 - Safety, Health and Accident Prevention**

### **00585.1 Project Safety and Health Program**

Purchaser will implement and coordinate the overall Project Safety and Health Program as defined in the Loss Control Manual which is available for inspection at the SARP10 Program Office.

### **00585.2 Safety, Health, and Accident Prevention Program**

00585.2.1 Subcontractor shall implement and maintain a written Safety, Health and Accident Prevention Program specifically applicable to the Work. Subcontractor's Safety, Health and Accident Prevention Program must meet the requirements of Applicable Laws and adhere to the Project Safety and Health Program, if implemented by Purchaser. Subcontractor shall submit Subcontractor's Safety, Health and Accident Prevention Program for Purchaser's review at least thirty calendar days before starting Work at the jobsite. Purchaser's review does not relieve Subcontractor of Subcontractor's sole responsibility for safety and health in relation to the Work, nor does Purchaser's review limit Subcontractor's obligation to undertake any action necessary to establish and maintain safe working conditions relating to the Work at the jobsite. Subcontractor must include training, Master Job Hazard Analysis (JHA) and daily JSAs.

00585.2.2 Purchaser may monitor Subcontractor's safety and health performance and may require changes to Subcontractor's Safety, Health and Accident Prevention Program during the performance of the Work. Purchaser's monitoring and requirement of changes does not relieve Subcontractor of Subcontractor's sole responsibility for safety and health in relation to the Work, nor does Purchaser's monitoring and requirement of changes limit Subcontractor's obligation to undertake any action necessary to establish and maintain safe working conditions relating to the Work at the jobsite. Purchaser must approve sub-tier subcontractors prior to mobilization to the jobsite.

### **00585.3 Hazardous Waste Project Health and Safety Plan**

00585.3.1 Subcontractor understands that the Work may involve hazardous substances or hazardous wastes. Subcontractor shall comply with all Applicable Laws, Owner's facility rules and regulations, and applicable guidance documents. Subcontractor shall prepare and implement a jobsite-specific Hazardous Waste Project Health and Safety Plan, based on Subcontractor's Safety, Health and Accident Prevention Program and all written programs required by Applicable Laws. Subcontractor is responsible for the completeness and accuracy of Subcontractor's Hazardous Waste Project Health and Safety Plan. Subcontractor shall submit Subcontractor's Hazardous Waste Project Health and Safety Plan to Purchaser at least thirty calendar days before starting Work at the jobsite and shall maintain a copy at the jobsite for review by Purchaser, Owner, and regulatory personnel.

### **00585.4 Protective Clothing, Equipment and Instrumentation**

Subcontractor agrees to furnish special protective clothing, respiratory protective equipment, and monitoring instrumentation as required by Applicable Laws, the project's safety-related plans and programs, and Purchaser's and Owner's rules and regulations. Subcontractor shall ensure that personnel performing Work at the jobsite properly use the clothing, equipment, and instrumentation. Subcontractor shall furnish and maintain all safety equipment, including but not limited to, barriers, signs, warning lights, and guards necessary for adequate protection of persons and property.

### **00585.5 Safety and Health Representative**

The Subcontractor shall identify a qualified person to be its representative for Environmental, Safety, Health & Security matters and make this person available as needed and requested by the Purchaser. The representative must have authority to correct unsafe conditions and to stop Work in the area of an unsafe condition. In addition, the representative shall routinely visit the jobsite.

### **00585.6 Safety and Health Goal**

Subcontractor shall endeavor to attain the project's safety goal of zero injuries. Subcontractor shall maintain accurate accident and injury reports and shall furnish Purchaser a monthly summary of injuries





and man-hours lost due to injuries by the third of each month. Subcontractor accident rates must be calculated monthly in accordance with the Bureau of Labor Statistics incident rate, frequency rate, and days away from work rate methods. If Subcontractor or Sub-subcontractor accident rates exceed the project's safety goal, Subcontractor shall take immediate corrective action, which may include, but is not limited to:

- (a) submittal of a written corrective action plan to Purchaser by Subcontractor;
- (b) additions or modifications to Subcontractor's Safety, Health and Accident Prevention Program;
- (c) removal from the jobsite of any Subcontractor or Sub-subcontractor personnel not implementing or following the necessary safety and health measures; and
- (d) increasing the amount of Subcontractor safety and health training.

#### **00585.7 Drug Prevention Program**

As part of the Work, Subcontractor shall assist Purchaser in administering the project requirements for a drug detection and prevention program. Subcontractor agrees that all costs for drug testing and alcohol testing are included in the Subcontract price. Subcontractor must provide evidence to Purchaser that all personnel assigned to the Work at the jobsite have passed the drug test within three calendar days of completion of the test. The drug detection and prevention program will include, but will not be limited to, the following: (a) a pre-jobsite assignment test; and (b) additional assignment tests, such as reasonable suspicion tests, post accident tests, and unannounced random drug tests of ten percent of the workforce on a monthly basis. The drug test must be completed and passed no more than 10 days prior to arriving on the jobsite.

#### **00585.8 Fall Protection**

The OSHA Fall Protection Standard 29 CFR 1926 Subpart M shall be strictly adhered to by the Subcontractor. Fall protection is required for all of Subcontractor's Work operations one hundred percent of the time, whether climbing, traveling, or working. NO WORK OPERATION is exempt from the six (6) foot fall protection requirement.

Prior to starting work operations requiring fall protection, Subcontractor shall submit to Purchaser a fall protection plan. The fall protection plan shall include, but not be limited to, the following:

Name of qualified person in charge of operation.

Description of work operation.

List of fall exposures.

Description of fall protection methods used to eliminate fall exposures.

Training and enforcement methods used to ensure employee compliance with the plan.

Fall protection body harnesses, lanyards, and lifelines shall be used in accordance with OSHA Standard 1926 Subpart 502D, with the following exceptions:

Full body harnesses shall be used in lieu of safety belts.

Only lanyards with shock absorbers and locking type snap hooks shall be used.

At least two lanyards shall be used to provide one hundred percent fall protection when moving around obstructions, connection points, or other similar items.



Fall protection guardrail systems shall comply with OSHA Standard 1926 Subpart 502(b) except manila, plastic, or synthetic rope shall not be used as guardrails.

### **00585.9 Confined Spaces**

All employees entering confined spaces and all attendants for such entries including supervisors shall receive confined space entry training and emergency rescue training at a minimum of once per year.

## 00681 - Service Contract Attachments

### 00681.1 – Sample Task Order

Service Contract No.: 179821.78.0012

Project: Loosahatchie Interceptors Evaluation Project

Task Order No.: 001

#### 1. General

This Task Order is issued under and governed by the above referenced Service Contract.

#### 2. Effective Date

This Task Order is effective, [[ insert month, day and year for task order effective date ]].

#### 3. Scope of Work

Service Contractor shall perform the following Work for this Task Order:

#### 4. Deliverables

Service Contractor shall to provide the following deliverables as part of the Work for this Task Order:

#### 5. Schedule

Service Contractor shall complete the Work in accordance with the following schedule:

#### 6. Payment Terms

The following payment terms shall apply in addition to the corresponding provisions contained in the General Terms and Conditions, Article 00582.6 Payment.

The Parties will meet each month at an agreed time in order to determine the quantity of materials used and man-hours expended during the invoice period. The Parties will use the field progress measurement system to calculate that month's payment total by adding the quantity of materials used times the Service Contract unit price of those materials to the man-hours expended times the Service Contract rates for those man hours.

**00681.2a Partial Waiver and Release**

**AFFIDAVIT AND PARTIAL WAIVER OF CLAIMS AND LIENS  
AND RELEASE OF RIGHTS FOR SUBCONTRACTORS**

The undersigned, who is the \_\_\_\_\_ (designate title) of \_\_\_\_\_ which is the \_\_\_\_\_ (designate whether subcontractor, supplier or otherwise) for the \_\_\_\_\_ (designate the type of work, supplies or services rendered) on the improvements constructed on the premises hereafter identified, declares that his contract with \_\_\_\_\_ (General Contractor) is in the total amount of \$ \_\_\_\_\_, which includes extras and all change orders to the date hereof.

The undersigned further states that as of \_\_\_\_\_ (date) the total value of work completed and material stored is \$ \_\_\_\_\_. Of this amount \$ \_\_\_\_\_ has been received (the receipt and sufficiency of which is hereby acknowledged by the undersigned including \$ \_\_\_\_\_ in payment of Payment Application or Invoice Number \_\_\_\_\_. A total of \$ \_\_\_\_\_ is being held as retainage.

In consideration of the amounts and sums received, the undersigned does hereby waive and release to the **City of Memphis (Owner)** and to \_\_\_\_\_ (General Contractor) any and all claims and liens and rights to liens upon the premises described below and upon improvements now thereon, and upon the monies or other considerations (due as of the date of the aforesaid payment application or invoices from the **City of Memphis (Owner)** or \_\_\_\_\_ (General Contractor) or from any other person, firm or corporation), said claims and liens and rights to liens being on account of labor, services, materials, fixtures or apparatus heretofore furnished by or at the request of the undersigned. The premises as to which said claims and liens and rights to liens are hereby released are identified as follows:

**Project Name:**

**Address of Project:**

**City:** Memphis **County:** Shelby **State:** TN **Zip Code:** \_\_\_\_\_

The undersigned further represents and warrants that he is duly authorized and empowered to sign and execute this waiver on his own behalf and on behalf of the company or business for which he is signing; that he has properly performed all work and furnished all the materials of the specified quality per plans and specifications and in a good and workmanlike manner through the date of said payment application or invoice; that he has paid for all the labor, materials, equipment, and services that he has used or supplied to the above premises through the date of said payment application or invoice; that he has no other outstanding and unpaid payment applications, invoices, retentions, holdbacks, chargebacks or unbilled work or materials against \_\_\_\_\_ (General Contractor) as of the date of the aforementioned payment application; and that any materials which have been supplied or incorporated into the above premises were either taken from his fully-paid or open stock or were fully paid for and supplied as stated on the payment application or invoice.

The undersigned further agrees to reimburse and does hold harmless and fully indemnify the **City of Memphis (Owner)** and \_\_\_\_\_ (General Contractor) for any losses or expenses should any such claims, lien or right to a lien be asserted (by the undersigned or by any laborer, materialman or subcontractor of the undersigned), including, without implied limitation, attorneys' fees incurred in the defense thereof.

The undersigned further accepts and acknowledges the receipt of the aforesaid sums in full accord and satisfaction for the aforementioned claims with full knowledge that the contractors, **City of Memphis (Owner)** and \_\_\_\_\_ (General Contractor), their successors and assigns, are relying thereon; and furthermore, the undersigned agrees to perform, now and in the future, each and every covenant and provision of this written contract or supplier's agreement (as the case may be) as modified or changed in writing with \_\_\_\_\_ (General Contractor) or any subcontractor of \_\_\_\_\_ (General Contractor) hereby acknowledging that said contract or supplier's agreement is now in full force and effect.

In addition, for and in consideration of the amounts and sums received, the undersigned hereby waives, releases and relinquishes any and all claims, rights or causes of action whatsoever arising out of or in the course of the work performed on the above-mentioned project, contract or event transpiring prior to the date hereof, excepting the right to receive payment for work performed and properly completed and retainage, if any, after the date of the above-mentioned payment application or invoices.

Signed and delivered the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
Company \_\_\_\_\_

By: \_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

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

Before me, the undersigned Notary Public in and for the said County and State, personally appeared \_\_\_\_\_, and acknowledged execution of the foregoing affidavit as his voluntary act and deed and further stated that the facts recited are true of his personal knowledge.

My Commission Expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public  
Residence

County/State: \_\_\_\_\_

**00681.2b Final Waiver and Release**

**AFFIDAVIT AND FINAL WAIVER OF CLAIMS AND LIENS AND RELEASE OF RIGHTS FOR CONTRACTORS**

The undersigned, who is the \_\_\_\_\_ (designate title) of \_\_\_\_\_ which is the \_\_\_\_\_ (designate whether subcontractor, supplier or otherwise) for the \_\_\_\_\_ (designate the type of work, supplies or services rendered) on the improvements constructed on the premises hereafter identified, declares that his contract with \_\_\_\_\_ (General Contractor) is in the total amount of \$ \_\_\_\_\_, which includes extras and all change orders to the date hereof.

The undersigned further states that as of \_\_\_\_\_ (date) all work on said project has been performed and completed in accordance with the plans and specifications for the project, and said work has been accomplished in accordance with the terms and conditions of his subcontract and those documents which, by reference, are a part of said subcontract. The total value of work completed and material stored is \$ \_\_\_\_\_. Of this amount \$ \_\_\_\_\_ has been received (the receipt and sufficiency of which is hereby acknowledged by the undersigned including \$ \_\_\_\_\_ in payment of Payment Application or Invoice Number \_\_\_\_\_. A total of \$ \_\_\_\_\_ is being held as retainage.

In consideration of the amounts and sums received, the undersigned does hereby waive and release to the **City of Memphis (Owner)** and to \_\_\_\_\_ (General Contractor) any and all claims and liens and rights to liens upon the premises described below and upon improvements now thereon, and upon the monies or other considerations (due as of the date of the aforesaid payment application or invoices from the **City of Memphis (Owner)** or \_\_\_\_\_ (General Contractor) or from any other person, firm or corporation), said claims and liens and rights to liens being on account of labor, services, materials, fixtures or apparatus heretofore furnished by or at the request of the undersigned. The premises as to which said claims and liens and rights to liens are hereby released are identified as follows:

Project Name:

**Address of Project:**

**City:** Memphis **County:** Shelby **State:** TN **Zip Code:** \_\_\_\_\_

The undersigned further represents and warrants that he is duly authorized and empowered to sign and execute this waiver on his own behalf and on behalf of the company or business for which he is signing; that he has properly performed all work and furnished all the materials of the specified quality per plans and specifications and in a good and workmanlike manner as required by the contract; that he has paid for all the labor, materials, equipment, and services that he has used or supplied to the above premises as required by the contract; that he has no other outstanding and unpaid payment applications, invoices, retentions, holdbacks, chargebacks or unbilled work or materials against \_\_\_\_\_ (General Contractor); and that any materials which have been supplied or incorporated into the above premises were either taken from his fully-paid or open stock or were fully paid for and supplied as stated on the payment application or invoice.

The undersigned further agrees to reimburse and does hold harmless and fully indemnify the **City of Memphis (Owner)** and \_\_\_\_\_ (General Contractor) for any losses or expenses should any such claims, lien or right to a lien be asserted (by the undersigned or by any laborer, materialman or subcontractor of the undersigned), including, without implied limitation, attorneys' fees incurred in the defense thereof.

The undersigned further accepts and acknowledges the receipt of the aforesaid sums in full accord and satisfaction for the aforementioned claims with full knowledge that the contractors, **City of Memphis (Owner)** and \_\_\_\_\_ (General Contractor), their successors and assigns, are relying

thereon; and furthermore, the undersigned agrees to perform, now and in the future, each and every covenant and provision of this written contract or supplier's agreement (as the case may be) as modified or changed in writing with \_\_\_\_\_ (General Contractor) or any subcontractor of \_\_\_\_\_ (General Contractor) hereby acknowledging that said contract or supplier's agreement is now in full force and effect.

In addition, for and in consideration of the amounts and sums received, the undersigned hereby waives, releases and relinquishes any and all claims, rights or causes of action whatsoever arising out of or in the course of the work performed on the above-mentioned project, contract or event transpiring prior to the date hereof, except retainage, if any, after the date of the above-mentioned payment application or invoices.

Signed and delivered the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
Company \_\_\_\_\_

By: \_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

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

Before me, the undersigned Notary Public in and for the said County and State, personally appeared \_\_\_\_\_, and acknowledged execution of the foregoing affidavit as his voluntary act and deed and further stated that the facts recited are true of his personal knowledge.

My Commission Expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public  
Residence County/State: \_\_\_\_\_

**00681.3 Not Used**



#### **00681.4 Loss Control Manual**

The Loss Control Manual is available for viewing at the SARP10 Program Office:

Contact Gary Older, Construction Manager to schedule an appointment:

[OlderGS@bv.com](mailto:OlderGS@bv.com) or 813-323-0502

**00681.5 Certificate of Nondiscrimination (1 page)**

As Bidder, Contractor, or Subcontractor on Purchaser's Contract, Loosahatchie Interceptors Evaluation Project

The undersigned states that it does not discriminate against any subcontractor, employee, or applicant for employment on the grounds of race, color, national origin or sex and, if awarded a contract for this project, agrees in performance of work:

1. Not to discriminate against any subcontractor, employee, or applicant for employment on the grounds of race, color, national original or sex;
2. To maintain payrolls of laborers and mechanics employed on this contract until seven (7) years after final release and final payment by the City;
3. To require a similar certificate to be executed by each subcontractor at the time a subcontract is executed under the contract with the requirement that such subcontractor agrees to require a similar certificate of requirement on any lower tiers of subcontracts.
4. To conform to federal law, state statutes, executive orders, and local ordinances identified and listed under Non-discrimination, Section 00280.7.

\_\_\_\_\_  
Service Contractor's Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed or Typed Name and Title

**THIS FORM MUST BE SUBMITTED WITH THE PROPOSAL OR THE PROPOSAL MAY BE  
CONSIDERED NON-CONFORMING.**

### 00681.6 Equal Business Opportunity Program Compliance Form (1 page)

*This form must be submitted with Bidder's proposal. Failure to execute and submit this document with Bidder's proposal may cause the proposal to be rejected as non-conforming. In addition, each Subcontractor must execute the form.*

This Service Contract will be subject to the requirements of the City of Memphis Ordinance #5384 which establishes the Equal Business Opportunity ("EBO") Program. It is up to the Respondent to ensure that all requirements of this ordinance are met. The Ordinance may be accessed on the City's website at [www.memphistn.gov](http://www.memphistn.gov) under "Doing Business". The intent of the EBO Program is to increase the participation of locally owned minority and women owned business enterprises (M/WBE).

Additionally, in accordance with federal executive Order 11625 and 12138, the local government must make a good faith effort to include participation from Disadvantage Business enterprises (DBE) in subagreement awards. The DBE fair share goal for this project is a minimum of **5.2%** for Minority Business Enterprises (MBE) and a minimum of **5.2%** for Women Business Enterprises (WBE). The overall combined M/WBE percentage to meet is **30%**. **Please note Service Contractor must meet both percentages independently to satisfy the requirements.**

#### Participation Plan

The Participation Plan must include: (1) level and dollar amount of participation your firm anticipates to achieve in the performance of contract resulting from this RFP; (2) the type of work to be performed by the M/WBE participation; and (3) the names of the M/WBE and/or DBE firm(s) the Respondent plans to utilize in the performance of the contract resulting from this RFP.

#### Eligible M/WBE and/or DBE Firms

To qualify as an M/WBE firm, per the requirements of City of Memphis Ordinance #5384, a firm must be included on the City's list of certified M/WBE firms. All contractors identified as a Disadvantaged Business Enterprise (DBE) must be on the Tennessee Uniform Certification Program (TNUCP) List at the time of the proposal opening.

A list of the City's eligible M/WBE firms and DBE firms may be requested from Purchaser as a guide only. If a Bidder desires to utilize an M/WBE or DBE firm not included on the list, it is the Bidder's responsibility to confirm that the desired firm is certified by the City of Memphis. Such confirmation must be obtained from the City's Contract Compliance Office, in writing, before the proposal/response due date. Requests for verification must be submitted to the City's Contract Compliance Office listed below:

Requests for verification must be submitted to the City's Contract Compliance Office listed below:

Mary Bright, Esq.  
City of Memphis  
Contract Compliance Office  
125 North Main Street, Suite 546  
Memphis, TN 38103  
Phone: (901) 576-6210  
Fax: (901) 576-6560  
Email: [mary.bright@memphistn.gov](mailto:mary.bright@memphistn.gov)

**MINORITY/WOMEN BUSINESS ENTERPRISE COMPLIANCE FORM**

**SERVICE CONTRACT TITLE: Loosahatchie Interceptors Evaluation Project**

Project M/WBE Goal: MBE minimum 5.2%  
WBE minimum 5.2%  
Overall Combined 30%

The following sections must be completed by Bidder. A certified subcontractor or supplier is defined as a firm from the list of certified firms provided with this specification.

\_\_\_\_\_  
Bidder's Name

Section A - If the Bidder is a certified firm, so indicate here with a check mark.

\_\_\_\_\_ MBE      \_\_\_\_\_ WBE      \_\_\_\_\_ DBE

Section B - Identify below those certified firms that will be employed as subcontractors or suppliers on this Project. By submitting this Proposal, the Bidder commits to the use of the firms listed below.

\$ \_\_\_\_\_ = Show the dollar value of the subcontract to be awarded to this firm

% \_\_\_\_\_ = Show the percentage this subcontract is of your base Proposal

M/WBE = Show by inserting an M or W whether the subcontractor is an MBE or WBE

\$	%	M/WBE	DBE	CERTIFIED SUBCONTR. NAME, ADDRESS, TEL. #
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

\$ \_\_\_\_\_ % \_\_\_\_\_ = Total M/WBE and/or DBE

**THIS FORM MUST BE SUBMITTED WITH THE PROPOSAL OR THE PROPOSAL MAY BE CONSIDERED NON-CONFORMING.**

**00681.7 Not Used**

**00681.8 Report of Disadvantaged Business Enterprise Participation Form (1 page)**





## Technical Specifications

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

**PART 1 – SCOPE**

- 1.01 This Work will consist of cleaning selected segments of sewer interceptor lines, as needed.
- 1.02 The Work covered by this section includes furnishing all labor, equipment, tools, accessories, and materials required to clean specified sewer interceptor segments.
- 1.03 Cleaning shall only be required in manholes and sewer segments as necessary to facilitate and complete the inspection of the referenced manholes and sewer segments.

**PART 2 – MATERIALS & EQUIPMENT**

2.01 MATERIALS

A. Submittals

1. Unless otherwise specified all submittals specified herein shall be delivered to the Program Manager within 7 calendar days of NTP.
2. Interceptor Cleaning Plan, including proposed method of cleaning, description of all equipment, means and methods of cleaning, management and maintenance of interceptor flows. Cleaning plan shall also include odor mitigation procedures during the cleaning operation.
3. At a minimum, the Interceptor Cleaning Plan shall be submitted to the Program Manager and include the following elements:
  - a. Wastewater Spill Prevention Plan to mitigate the potential for wastewater from the interceptor, water from the jetting operation or water from any decant procedures to be splashed or spilled within the work area. The Contractor shall have all of the equipment listed in the Spill Prevention Plan on site and in operable condition prior to commencing work.
  - b. Waste Management Plan, which describes the proposed waste management, transportation and disposal of all solid and liquid wastes generated during the interceptor cleaning activities.
  - c. Work Area Cleaning Plan, which describes the proposed method of cleanup of each working area at the end of each day and at the end of the operational need for that site.
  - d. Layout Area Plan describing the equipment and access required for each working location.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

- e. Easement Access and Clearing Plan describing how the temporary access will be maintained, secured and restored at the end of the project.
- f. Site Security Plan describing how the equipment and site will be secured at the end of each working shift or day.
4. Traffic Control Plan shall be prepared and submitted to the Program Manager as required and include the following items:
  - a. Applications for all local and state permits for lane closures which may be required for working sites.
  - b. Major streets requiring a City approved permit if taking a lane for mobile operations, secured through Traffic Control Plan submittal to the City and signed by a TN P.E. The City requires two-week lead time for permit processing.
    - i. The Contractor will be required to deliver a sample primary/arterial road Traffic Control Plan for review by the City.
    - ii. If the City determines that the nature of the work operation or the type of road in which the Contractor will be working requires a permit, the Contractor will be required to modify the sample Traffic Control Plan to obtain a permit from the City.
  - c. Methods for proper signing and barricades, which comply with City of Memphis requirements.
  - d. For everywhere else where a permit is not required, the Contractor shall develop, provide, and implement a traffic control plan for all mobile operations in accordance with standard MUTCD specifications.
5. The Contractor shall also be responsible for acquiring all necessary disposal and/or landfill site permits as required to perform this work.
6. Railroad Rights of Way: The Contractor shall notify the Purchaser when work or access to manholes and sanitary sewers lie within the 25 foot railroad easement as measured by 25 feet outside the nearest rail of the tracks. To access sewer facilities within the 25 feet of the railroad right of way the Contractor shall contact the Program Manager 48 hours in advance who will alert the City's Zone Construction Inspector to coordinate individual railroad direction and guidance.
7. A list of Site Contractor emergency phone numbers shall be provided to the Program Manager.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

8. Work Schedules
  - a. Schedules of work on a weekly basis that will be delivered no later than 2:00 PM on Thursday for the week following with daily AM email updates of approximate crew locations each day.
  - b. Weekly schedule format shall contain the following elements:
    - i. Map format.
    - ii. Sufficient streets labeled and identified at a scale to provide clarity.
    - iii. Nature and type of crew location by map area.
9. Confined Space Entry Requirements and Certification Requirements.
  - a. All confined space entry in this project shall be considered a “Permit – Required Confined Space Entry”, and as such each confined space entry requires the appropriate planning to be developed for a Permit-Required Entry. There will be no exceptions to this requirement.
  - b. If the equipment proposed requires confined entry by any Contractor crew; the crew personnel must show confined space entry certification that has been validated within one year from the date of the work being performed. All Confined Entry Certification must be current for the duration of the project. Workers shall not be allowed on site unless they meet this requirement. There will be no exceptions to this requirement.
10. Equipment List Cleaning shall be provided including vehicles, cleaning equipment, tools, and cleaning supplies.
11. Disposal site(s) shall be identified and appropriate landfill permits for appropriate disposal of all waste materials removed from the sewer during the cleaning operation shall be secured and copies furnished.
12. Contractor shall follow Standard Construction Specifications Section 02630 - Site Preparation and Restoration for easement access and final restoration.

## 2.02 EQUIPMENT

### A. General

1. The Contractor’s supervisors and operators shall have a minimum of five (5) years experience in the field of sewer cleaning and internal inspection of sewers. Supervisor shall be on-site for the duration of the project. All equipment shall be operated only by personnel of the cleaning Contractor with the required experience.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

2. The Contractor shall submit an equipment list to the Purchaser for approval before the commencement of the Work and shall certify that back-up equipment is available and can be delivered to the worksite within 48 hours.
3. The Contractor shall provide equipment to perform cleaning, as needed, required by this scope of work, including where applicable, sewer mains located in streets, street rights-of-way, backyards, easements and rights-of way that are off-road.

**B. Cleaning Equipment**

1. Contractor shall select cleaning equipment and methods based on the conditions of the sewer segments. More than one method or type of equipment may be required on the interceptor, at any single location.
2. The Contractor shall possess equipment capable of cleaning hydraulically or mechanically a minimum of 1,800 linear feet of pipe from one direction and shall be capable of a minimum 1,800 linear feet of hose or cable reach in the interceptor sewer on-site during the cleaning execution.
3. Hydraulic cleaners or combination hydraulic/vacuum cleaners shall be specifically designed and constructed for such cleaning.
  - a. Large diameter cleaning equipment includes high velocity type or hydraulically propelled material extraction devices that do not release particulate matter or odors to the atmosphere and are capable of cleaning pipes 18-in in diameter and larger.
  - b. Prior to commencing the work, the Contractor shall identify the water source that the Contractor intends to use. If potable water is used, the contractor is responsible for making the necessary arrangements with Memphis Light, Gas and Water (MLGW) for securing the metered water source and will submit a plan which addresses backflow prevention when using that source and include freeze prevention and appropriate protection during winter conditions.
    - i. Contractor shall make own arrangements for hydrant service with MLGW.
      - a. Contractor shall provide and install hydrant meter.
      - b. Contractor shall remain responsible for supplying all equipment, tools, and labor necessary to connect to water sources, meter the water used,

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

- and safeguard the City's water supply against backflow into the system.
- c. In the event of a fire emergency, that emergency shall take precedence over all sewer cleaning operations. Contractor shall cease all water consumption on a temporary basis if directed to do so by City or local Fire Department officials. Delays due to fire emergencies shall be dealt with in the same manner as weather delays.
    - ii. Alternately, the Contractor may truck water or recycle water by filtering wastewater and using it to clean the Interceptor.
    - iii. Contractor shall track water consumption from all cleaning operations.
    - iv. The Contractor shall be required to make restitution for any damages resulting from the improper use of the water supply system and pay any and all fines and costs that may result. Connections to the water system shall not be left unattended for any period of time, and shall be disassembled and removed during non-work hours.
  - c. Hydraulic pipe cleaners shall be specifically designed and constructed for such cleaning. For high velocity pipe cleaners, the proposed equipment shall utilize a high velocity jetter accompanied by a debris collection system that is a closed loop non-odor emitting system. The jetter shall be capable of a minimum volume of 350 gpm with a rated pressure of 2,000 psi at the pump. The hose reel shall have capacity of reaching a minimum of 1,800 ft. The hydraulic cleaning equipment shall be capable of cleaning around bends (up to 90 degrees) without repositioning or cleaning against flow.
  - d. Contractor shall use a nozzle that directs the cleaning force to the bottom of the pipe and lower sides of the pipe. When cleaning around bends, Contractor shall use a nozzle that directs the cleaning force to avoid any buildup of debris at the inside radius. Conduct multiple passes as required to fully remove debris for bends.
  - e. The hydraulic cleaning equipment shall have multiple hydraulic cleaner hose nozzles for a variety of sewer cleaning conditions, including grease, roots, debris and granular materials.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

- f. Vacuum equipment shall be capable of lifting debris removed from the segment from the downstream manhole.
  - g. These are general guidelines for hydraulic cleaning equipment. Contractor shall provide in the submittal a list of equipment it deems the most appropriate and effective for executing the Scope of Work and include equipment model, capacity, capabilities, reliability any other relevant information from equipment manufacturers.
4. Mechanical sewer pipe cleaners shall be specifically designed and constructed for such cleaning.
- a. Mechanical cleaning equipment includes buckets, scrapers, scooters, porcupines, kites, heavy duty brushes, metal pigs, and other debris removing equipment and accessories used in conjunction with approved power winching machines.
  - b. Mechanical pipe cleaners shall be specifically designed and constructed for such cleaning. Mechanical sewer pipe cleaners (cable machines with buckets, brushes, swabs, root cutters, and power rodders) shall be capable of controlled forward and reverse travel through the sewers without inflicting damage to the existing pipe in removing debris.

**PART 3 – CONSTRUCTION REQUIREMENTS**

3.01 Interceptor Cleaning

A. General

- 1. Cleaning shall only be required in manholes and sewer segments as necessary to facilitate and complete the inspection, assessment and monitoring of the referenced manholes and sewer segments.
- 2. The work within this contract is intended to be completed while sewer interceptors are in full service. The Contractor will assume full responsibility for any isolation or bypass pumping of the Interceptor if required. The Contractor may propose a wastewater by-pass plan to isolate pipe sections; however, the details of the proposed plan must be provided in a work plan requiring the approval of the Program Manager and the City of Memphis. The Program Manager and the

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

City of Memphis reserve the right to not allow the interceptor or portions of the interceptor to be taken out of service.

3. Interceptor sewer dewatering and/or by-pass pumping, if allowed, shall be for the convenience of the Contractor and does not have a separate item for payment on the Bid Form. All associated labor, equipment, materials and incidentals shall be distributed within related item in the Bid Form. Cleaning against the flow is not permitted unless otherwise specified or directed by the Program Manager.
4. The Contractor shall clean the interceptor line from manhole to manhole, starting in the last downstream segment, cleaning from the higher segment manhole in a downstream direction to the lower manhole; and move to clean the next segment upstream, from the highest manhole in a downstream direction, one sewer section at a time and performed as efficiently as possible at the Contractor's discretion. The total number of segments cleaned shall be coordinated with the Program Manager.
5. Materials shall not be passed from one sewer segment to another but must be trapped and removed from each sewer segment.

**B. Cleaning Execution**

1. No roots, grease or debris from cleaning shall be passed from sewer segment to sewer segment during the cleaning operation. All debris flushed from the Interceptor must be collected, captured, and removed from the sewer at the downstream manhole.
2. Roots shall be removed in the sections where root intrusion is a problem. Special precautions shall be exercised during the cleaning operation to assure complete removal of visible roots from the joint area and so as not to incur further damage to the pipe. Any visible roots that may impact rehabilitation efforts shall be removed. Procedures may include the use of mechanical devices such as rodding machines, expanding root cutters and porcupines, and hydraulic procedures such as high-pressure jet cleaners.
3. The Contractor is responsible for safe, responsible and legal handling and disposal of all material and debris removed from the Interceptor. The Contractor is responsible for all permits and landfill fees associated with the disposal of debris collected and removed from the Interceptor.



**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

4. Waste Disposal Manifest
  - a. Proper disposal arrangements are the exclusive responsibility of the Contractor. The Contractor shall provide a dated manifest of the volume and weight of the dewatered sewer cleaning loads taken and dumped at the permitted dump site selected by the Contractor. Each waste load manifest shall be associated with a list of corresponding sewer segments from where the waste originated.
5. Conduct all cleaning operations to prevent building backups and sewer overflows.
6. Contractor shall be responsible for cleanup, repair, fines, property damage costs, and claims for any sewage backup, spillage or sanitary sewer overflow during or as a result of the cleaning and inspection operations.
7. The Contractor is responsible for hiring a licensed sub-contractor to retrieve any equipment that gets stuck in the sewer system through the execution of the scope of work (fallen mechanical equipment, jet nozzles, inflatable plugs, sandbags etc.) at the Contractor's own cost. Such retrieval by an appropriately licensed sub-contractor shall be made within 48 hours to avoid interfering with the City of Memphis sewer system operations. Any and all impacts and related costs due to the Contractor's equipment in the interceptor shall be the responsibility of the Contractor.

C. Easement or Turf Operation

1. The contractor will gain access to manholes for cleaning operations in accordance with Technical Specification 02630 Site Preparation and Restoration.
2. The Contractor will restore the work area to its original condition as quickly as possible after the inspection is complete based on Technical Specification Section 02630 Site Preparation and Restoration. The Contractor shall complete ongoing restoration of sites where work operations are complete and postpone the restoration of each site until the end of the project.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

**PART 4 – DELIVERABLES**

4.01 RECORDS

A. Interceptor Cleaning Record

The Contractor shall provide a dated manifest of the volume or weight of the dewatered sewer cleaning loads taken and dumped at the permitted dump site selected by the Contractor. Each waste load manifest shall be associated with a list of corresponding sewer segments from where the waste originated.

B. Meetings

The Program Team will arrange for routine Job Progress meetings with the Contractor.

**PART 5 – MEASUREMENT**

5.01 INTERCEPTOR CLEANING

Interceptor & Manhole Cleaning of selected segments shall be measured by crew-hour expended and documented in accordance with the specification.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00005 – SITE SPECIFIC SEWER INTERCEPTOR & MANHOLE CLEANING**

**PART 6 – PAYMENT**

6.01 INTERCEPTOR & MANHOLE CLEANING

Interceptor & Manhole Cleaning shall be paid by hourly crew rate as needed.

The unit price for Interceptor & Manhole Cleaning shall cover the entire cost of the required Interceptor & Manhole Cleaning in accordance with the specification, including but not limited to labor, mobilization, cleaning equipment, traffic control, securing required water, transportation and disposal of all solid and liquid waste, power supply for equipment, interim and final reports, and all other appurtenant work.

No additional payment will be made for:

1. Securing water for required cleaning.
2. Interceptor sewer dewatering and/or by-pass pumping
3. Waste management, transportation and disposal of solid and liquid waste.
4. Securing of easements, clearing, site preparation or rehabilitation

6.02 PAYMENT WILL BE MADE UNDER:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
00005-6.01	Hourly Crew Rate	crew-hour

**END OF SECTION 00005**

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

**PART 1 – SCOPE**

- 1.01 This work will consist of providing, installing and maintaining all the equipment necessary for monitoring the wastewater flows in greater than 18” diameter sewer mains; along with providing, installing, calibrating and maintaining synchronized rain gauges at agreed upon sites within the vicinity of the flow monitors.
- 1.02 The Work covered by this section includes furnishing all labor, competent certified technicians, QA/QC procedures, specifications on equipment used, tools, accessories, and materials required to install, calibrate and field verify accuracy of equipment, make site investigation reports, weekly field log entries describing conditions, including any other relevant information and issues and deliver data in the specified format.

**PART 2 – MATERIALS & EQUIPMENT**

2.01 MATERIALS

A. Submittals

1. These requirements shall be part of the bid submittal package:
  - a. Contractor shall include a complete list of all the equipment proposed to be used for the execution of work of this project including manufacturer, make, model, specified accuracy for proposed configuration, and reliability per the equipment’s manufacturer(s). It shall also include the range of synchronized time intervals that can be logged for the data collection (e.g. 15 minutes or less), and any other relevant information that makes the proposed monitoring configuration the most appropriate for this Scope of Work and the specific monitoring locations, pipe diameters, and flow depths.
  - b. Copy of offered equipment manufacturers’ procedures for the required maintenance, standard and field calibration, as incorporated into Contractor’s Standard Operating Procedures, to ensure the proper functioning, accuracy and precision measurements of the individual equipment furnished; along with any other material procedures necessary for the proper synchronized functioning of the flow monitoring and rain gauge(s), along with data logger and power supply equipment, all working as a functional unit.
  - c. A written statement that Contractor has access to replace as soon as possible, but no longer than within 48 hrs; any non-

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

performing equipment furnished by Contractor, so there will be no impact to contract schedule. The cost for such replacement, in terms of equipment, labor and activities associated with replacing unit will be borne exclusively by the Contractor.

- d. A copy of Contractor's installation and QA/QC guidance or Manual.
  - e. A sample Weekly Report and data submission from a similar project performed by Contractor.
  - f. A sample Final Report from a similar project performed by Contractor.
  - g. A sample data file formatted as \*.xlsx, \*.csv or \*.txt, or another format proposed by bidder, as long as it is compatible with SARP10 hydraulic modeling, in order to facilitate information transfer and application.
2. The submittals under this subparagraph shall be carefully reviewed by Contractor. If in the review the Contractor finds these requirements are applicable to this project, then it is the Contractor's responsibility to deliver the submittals described below to the Purchaser within 7 calendar days of receiving the Notice to Proceed along with responding in writing at the same time submittals are received, the reason(s) why any of these submittals are not needed, and provide source of information to support exception:
- a. Traffic Control
    - i. Traffic Control Plan shall be prepared and submitted to the Program Manager as required and include the following items:
    - ii. Applications for all local and state permits for lane closures and access which may be required for working sites.
    - iii. Major streets requiring a City approved permit if taking a lane for mobile operations, secured through Traffic Control Plan submittal to the City and signed by a TN P.E. The City requires two-week lead time for permit processing.
      1. The Contractor will be required to deliver a sample primary/arterial road Traffic Control Plan for review by the City.
      2. If the City determines that the nature of the work operation or the type of road in which the

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

Contractor will be working requires a permit, the Contractor will be required to modify the sample Traffic Control Plan to obtain a permit from the City.

3. Methods for proper signing and barricades, which comply with City of Memphis requirements.
- iv. For everywhere else where a permit is not required, the Contractor shall develop, provide, and implement a traffic control plan for all mobile operations in accordance with standard MUTCD specifications.
- b. The Contractor shall also be responsible for acquiring all necessary disposal and/or landfill site permits as required to perform this work.
- c. Railroad Rights of Way: The Contractor shall notify the Purchaser when work or access to manholes and sanitary sewers lie within the 25 feet railroad easement as measured by 25 feet outside the nearest rail of the tracks. To access sewer facilities within the 25 feet of the railroad right of way the Contractor shall contact the Program Manager 48 hours in advance who will alert the City's Zone Construction Inspector to coordinate individual railroad direction and guidance.
- d. A list of Site Contractor emergency phone numbers shall be provided to the Program Manager.
- e. Work Schedules
  - i. Schedules of work on a weekly basis that will be delivered no later than 2:00 PM on Thursday for the week following with daily AM email updates of approximate crew locations each day.
  - ii. Weekly schedule format shall contain the following elements:
    1. Map format.
    2. Sufficient streets labeled and identified at a scale to provide clarity.
    3. Nature and type of crew location by map area.
- f. Confined Space Entry Requirements and Certification Requirements.
  - i. All confined space entry in this project shall be considered a "Permit – Required Confined Space Entry", and as such each confined space entry requires the

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

appropriate planning to be developed for a Permit-Required Entry. There will be no exceptions to this requirement.

- ii. Installing flow metering equipment requires confined entry by any Contractor crew. The crew personnel must show confined space entry certification that has been validated within one year from the date of the work being performed. All Confined Entry Certification must be current for the duration of the project. Workers shall not be allowed on site unless they meet this requirement. There will be no exceptions to this requirement.
- g. Contractor shall follow Standard Construction Specifications Section 02630 - Site Preparation and Restoration for easement access and final restoration.

## 2.02 EQUIPMENT

### A. General

1. Maps will be provided for the project with approximate or relative locations of manholes and any available plans for the reference sewers where this metering equipment will be installed and maintained. Sites will also be proposed for several rainfall gauges.
2. The Contractor shall be required to perform field inspections in the manholes proposed for metering and the rain gauge locations for purposes of determining the appropriateness for the meter installation and data reliability. A brief summary of findings will be submitted for the Program Manager's review and approval prior to installation of equipment.
3. Based on the Contractor's recommended equipment and the preliminary site investigations, there will be a meeting with the Program Manager to discuss the advantages and potential disadvantages of the proposed equipment for the sites.
4. The Scope of Work requires the provision, installation, maintenance, and weekly field calibration and data collection from the flow monitors and rain gauges installed. The Contractor shall keep detailed Field Log Book notes and weekly downloading of all data logger information including measured and calibrated wastewater depth and velocity measurements; along with synchronized rain gauge precipitation measurement data by downloading the data logger(s) connected to these devices. If any cleaning is required to install flow meters, cleaning shall be performed in accordance with Section 00005 Site Specific Sewer Interceptor and Manhole Cleaning.



**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

5. The Program Manager reserves the right to request verification of equipment performance above ground and at the initial installation of each piece of flow or rainfall equipment. Should monitoring equipment and field calibration be beyond accepted accuracy standards for the types of equipment used by the Contractor, it is the Contractor's responsibility to promptly and at no extra cost to make the necessary modifications and/or equipment substitutions so that project performance issues result in no delays to total contract schedule.

**B. Wastewater Flow Measurement, Depth and Velocity Equipment**

1. After approval for the site has been provided, Contractor shall install and calibrate the meters at each installation site. The meters will be set up to record flow data (depth, velocity and flow) in coordination with synchronized rainfall gauges at sufficiently short time intervals proposed by the bidder, so as to accurately capture wet weather events.
2. On a weekly basis, Contractor will inspect and calibrate the meter (manual measurements of depth, sediment depth, if any, and confirming velocity measurements) and document in the Field Log Book any situations/conditions encountered. If appropriate, a high resolution picture with appropriate backlighting will be submitted with Weekly Report to support conditions observed during weekly inspection and calibration. The manhole ID number, date, time on meter and time of manual depth verification should be recorded on the Field Log Book.
3. Flow meter should be field calibrated per manufacturer's directions.

**C. Rain Gauges Precipitation Measurement Equipment**

1. There are various tipping bucket rain gauges calibrated to record to the hundredth of an inch. The scope of this project requires very accurate measurements of precipitation data logged synchronized in the same short time intervals proposed by the Contractor as the flow/depth and velocity equipment measures taken.
2. The rain gauges should be rugged, weatherized equipment, and should be positioned in a stable area that is not isolated, but that it is also not obstructed by any tall structures, trees or other features that might alter the accuracy of the reading. There should be precautions taken so that the placement of the rain gauge will minimize the possibility of vandalism.
3. Rain gauges shall be capable of recording rainfall accurately within 0.01 inch per tip if a tipping scale type of rain gauge is used.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

4. Rain gauge funnels or inlet apertures shall be sized such that a sustained, intense rainfall event will not overtop the funnel/aperture.

**D. Data logger Requirements**

1. Data loggers shall be rugged, weather resistant equipment, installed in areas that are accessible but protected from vandalism. Data loggers placed inside manholes may become submerged with wastewater during wet weather events. Data logger must collect wastewater flow levels, depths, velocities and rain gauge precipitation levels electronically at the agreed specified time intervals proposed by the Contractor throughout each day continuously until the next scheduled weekly visit. The power system needs to be appropriate to supply continuous power in between and beyond the scheduled weekly field visits for the conditions, in case there are unexpected circumstances that prevent site visits exactly every 7 days apart.

**E. Power Supply Sources**

1. Battery source(s) of power shall be capable of extending power supply beyond several days from regular weekly field visit, in case there are weather or other reasons that make it impossible for Contractor's crew to make scheduled weekly visit.

**PART 3 – OPERATIONAL REQUIREMENTS**

**3.01 FIELD WORK**

**A. Preliminary Site Review and Confirmations:**

1. The Program Manager will select general locations for the flow monitors and rain gauges and confirm preliminary locations with the City. Contractor will be provided maps of the preliminary locations. Contractor will perform field investigations in the locations desired and will select the most suitable sites for the meters (those manholes with the best hydraulic characteristics) and rain gauges (clear, open and protected areas that are protected from vandalism).
2. Contractor shall measure the following at the preliminary pipe locations that may have the monitoring meter installed:
  - a. Inside pipe diameter, both horizontally and vertically to the nearest tenth of an inch.
  - b. Time and Depth of flow from invert to flow level.
  - c. Depth of deposition or sediment, if any
  - d. Log observations about flow characteristics such as smooth or turbulent flow.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

3. Photograph upstream and downstream within the pipe.
4. The Contractor will notify the Program Manager of the selected manholes and will develop detailed written site reports, including pipe photos, for the selected locations. The site reports will be submitted to the Program Manager for review and confirmation with the City.

**B. Meters & Rain Gages:**

1. Contractor will install the flow monitors in the approved, selected locations. Contractor will initially calibrate the meters at each installation. The meters will be set up to record flow data (depth, velocity and flow) at 15-minute intervals unless otherwise requested. The rain gauges, recording rainfall in depths of 0.01 inch increments, will also be set up to record every 15 minutes synchronously with the flow monitors.

**C. Weekly Inspection and Field Calibration of Equipment**

1. All equipment will be inspected a minimum of once a week by a certified technician to ensure equipment is in good working condition to perform any necessary maintenance (e.g. scrubbing sensors) and to field calibrate the meters. All flow and velocity measurement equipment will be field calibrated weekly and data logger information will be downloaded weekly. Information from data loggers combined with the technician's site log observations/issues will be used to create a weekly submittal that is quality assured by Contractor's engineering staff prior to submitting to the Program Manager.
2. Manual depth and velocity confirming measurements will be made weekly during each visit. To ensure a broad spectrum of data collection, field measurement and calibration times should be staggered, across diurnal flow spectrum, to ensure a reasonable calibration across the full range of flows experienced in these sewer mains during the project period. At a minimum, one point each at the peak diurnal flow levels and at the minimum diurnal flow levels shall be required at each flow monitoring location and selected points along the diurnal curve for as many weeks as data is being collected.

**D. Data Formatting & Quality**

1. All digital data will be provided in \*.xlsx, \*.csv, \*.txt, or other approved format for ease of uploading into hydraulic modeling database.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

**PART 4 –DELIVERABLES**

4.01 REPORTS

A. Weekly Reports:

1. The Contractor shall prepare Weekly Reports summarizing all of the data obtained by the data loggers and of all of the field observations written in the Field Log with specific manhole IDs information, conditions encountered, date and time and error difference between metering equipment and field verification, and any other observations relevant to this study. These draft reports shall then be reviewed by the Contractor's technical staff, along with reviewing the associated data record from the data logger by following Contractor's prescribed QA/QC process.

B. Preliminary Data Review and Submittal:

1. Preliminary data (site logs, initial raw data) will be delivered following the initial 30 days of data collection. This data will be submitted no later than 45 days after the start of the data collection. This data and any contemporary rain and flow data collected in the interim will be the basis for extending the meters on a weekly basis beyond the 60-day flow metering period.

C. Final Data Submission:

1. Sub-Consultant will submit a letter report summarizing the data collected (statistical wastewater flow summaries, rainfall data, hydrographs and tabularized formats), perform analyses associated with the data including an estimate of base sanitary flow and an assessment of I/I quantities tributary to each meter. Sub-Consultant will also submit meter data to the Program Manager in agreed upon electronic file format. Final calibrated data and letter report will be delivered no later than 21 calendar days following the close of the flow monitoring period.

4.02 MEETINGS

The Purchaser will arrange bi-weekly phone call conferences with the Contractor to discuss data management and field issues.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

4.03 QUALITY

A. Data Quality:

1. Depth of flow and velocity data will be continuous every 15 minutes over the 24 hours of the day, each day. Only complete 24-hour days of data will be processed for measurement and payment.
2. After review of any data deliverables, the Program Manager will summarize any issues in writing that must be addressed. The Contractor will be required to follow up with a response within three business days upon receipt of the written communication. Contractor will have seven (7) calendar days to make the necessary corrections and resubmit the data deliverable in its entirety.

**PART 5 – MEASUREMENT**

5.01 BASIS OF MEASUREMENT

A. Meter Day & Rain Gauge Day

1. Data shall be measured for payment by the meter-day, meaning each complete 24-hour record of depth, velocity and quantified, calibrated flow data, recorded in 15-minute increments and the synchronously recorded rain gauge data in 0.01 increments. The meter day or rain gauge day includes all services provided to secure the data including the provision of flow metering and rain gauge equipment, preliminary site investigations and reports, weekly data gathering and calibration reports and final deliverables
2. The base metering period is expected to be 8 weeks or 56 calendar days.
3. Data collection shall be extended on a weekly basis (7 calendar days) at the direction of the Program Manager
4. Incomplete days for either the flow meter or rain gauge data will not be measured for payment.
5. Mobilization and demobilization shall be considered incidental and not measured separately for payment.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00006 – FLOW & RAINFALL MONITORING SERVICES**

**PART 6 – PAYMENT**

**6.01 FLOW MONITORING DAY RATE – BASE PERIOD**

The unit price for complete provision of the equipment and services in this technical specification shall be provided as a complete quote for the full scope of work described herein for 4 flow meters for a minimum of 8 weeks or 56 calendar days.

**6.02 FLOW MONITORING DAY RATE – EXTENSION PERIOD**

The Program Manager may choose to extend the data collection period on a weekly (7 calendar days) basis should there be insufficient rainfall or quality data.

**6.03 RAIN GAUGE DAY RATE – BASE PERIOD**

The unit price for complete provision of the equipment and services in this technical specification shall be provided as a complete quote for the full scope of work described herein for 2 rain gauges for a minimum of 8 weeks or 56 calendar days.

**6.04 RAIN GAUGE DAY RATE – EXTENSION PERIOD**

The Program Manager may choose to extend the data collection period on a week by week basis should there be insufficient rainfall or quality data.

**6.05 PAYMENT WILL BE MADE AS FOLLOWS:**

<b><u>Item No.</u></b>	<b><u>Pay Item</u></b>	<b><u>Pay Unit</u></b>
00006-6.01	Flow Monitoring Day Rate-Base Period	\$ ____/meter-day
00006-6.02	Flow Monitoring Day Rate-Extension Period	\$ ____/meter-day
00006-6.03	Rain Gauge Day Rate-Base Period	\$ ____/gauge-day
00006-6.04	Rain Gauge Day Rate-Base Period	\$ ____/gauge-day

**END OF SECTION 00006**

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

**PART 1 – SCOPE**

- 1.01 This Work will consist of a multi-sensor assessment including laser profiling, sonar survey and Pipeline Assessment Certification Program (PACP) internal closed circuit television (CCTV) to digitally inspect and record conditions of existing sanitary sewer mains and connections in 24-inch and larger diameter sanitary sewer pipe and siphons. (For siphons, barrel count, diameter, and orientation in the manholes shall be noted by operators). Larger diameter sewer pipes to be inspected are located in improved streets, arterial and primary roads, backyards and unimproved easements. Only the cleaning necessary to complete the multi-sensor inspection is required.
- 1.02 The Work covered by this section includes furnishing all labor, competent PACP certified technicians, equipment, tools, accessories, and materials required to laser profile, sonar scan and inspect the designated 24-inch diameter and larger sanitary sewer lines.
- 1.03 PACP compliant inspections, logs, data, video and photos shall be delivered to the Program Manager on external hard drives which will become property of the Program Manager. Data files shall be formatted to facilitate upload into the SARP10 PACP database provided by the Program Manager. All data submissions shall conform to the SARP10 Data Delivery Guidelines.

**PART 2 – MATERIALS & EQUIPMENT**

**2.01 MATERIALS**

**A. Submittals**

1. Unless otherwise specified all sample submittals shall be delivered to the Program Manager within two weeks of the NTP.
2. Traffic Control Plan to the Program Manager and the City of Memphis Traffic Control Department, which includes the following items:
  - a. Outline of State and Local permit acquisition procedures for lane closures and access agreements.
  - b. Methods for proper signing and barricades, which comply with local and State requirements and the City.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

- c. Major streets (e.g. Shelby County Principal Arterial & Minor Arterial) requiring a City approved permit if taking a lane for mobile operations, secured through Traffic Control Plan submittal to the City and signed by a TN PE. The City requires two-week lead time for permit processing.
    - i. The Contractor will be required to deliver a sample primary/arterial road Traffic Control Plan for review by the City.
    - ii. If the City determines that the nature of the work operation or the type of road in which the Contractor is working requires a permit, the Contractor will be required to modify the sample Traffic Control Plan to obtain a permit from the City.
  - d. For everywhere else where a permit is not required, the Contractor shall develop, provide, and implement a traffic control plan for all mobile operations in accordance with standard MUTCD specifications.
  - e. The Contractor is also responsible for acquiring all necessary disposal and/or landfill site permits as required to perform this work.
  - f. Railroad Rights of Way: The Contractor shall notify the Program Manager when work or access to manholes and sanitary sewers lie within the 25 feet of railroad easement as measured by 25 feet outside the nearest rail of the tracks. To access sewer facilities within the 25 feet of the railroad right of way the Contractor shall contact the Program Manager 48 hours in advance who will alert the City's Zone Construction Inspector to coordinate individual railroad direction and guidance.
3. Site Contractor emergency phone numbers.
  4. Schedules of work on a weekly basis that will be delivered no later than 2:00 PM on Thursday for the week following with daily AM email updates of approximate crew locations each day.
    - a. Weekly schedule format shall contain the following elements:
      - i. Map format.
      - ii. Sufficient streets labeled and identified at a scale to provide clarity.
      - iii. Nature and type of crew location by map area.
  5. Confined space entry plans in compliance with the Loss Control Manual.
  6. Copies of National Association of Sewer Service Companies (NASSCO) certification for all field staff conducting PACP inspections.
  7. Sample of PACP compliant television survey log in MS Access format.
  8. Sample of PACP compliant video inspection in MP-4 format.
  9. CCTV and Sonar inspection vehicle and equipment supplies list.
  10. Sample of combined CCTV & Sonar inspection report.
  11. Sample of Laser Profiling report.



**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

2.02 EQUIPMENT

A. General

1. The interceptor sewers to be inspected shall include interceptors from 24-inches diameter and larger. Sonar and CCTV digital video combination inspections are required for 24-inch and larger diameter sewers. Sewer diameters 48-inches and larger will be inspected with laser, sonar and CCTV digital video combinations.
2. The Contractor will propose the appropriate transport platform. Certain pipe conditions may prohibit the use of a tracked Platform/Transport due to sediment, pipe shape and other pipe conditions. If the specified tracked platform has attempted and is unable to pass through a portion of the intended inspection area, the Contractor and the Program Manager may mutually agree to the use of a floating platform. The use of a floating platform would be decided on a case by case basis.

B. Laser Profiling & CCTV Equipment

1. All equipment used for laser profiling and PACP compliant CCTV sewer segment inspections of existing 48-inches and larger sanitary sewer mains and connections, above the level of wastewater, shall be specifically designed and manufactured for the purpose intended under this Contract. The software and hardware for the electronic capture of the inspection defects and recorded observations must be Version 6.0.1 NASSCO PACP compliant.
2. The Contractor shall submit an equipment list to the Program Manager for approval before the commencement of the Work and shall certify that back-up equipment is available and can be delivered to the worksite within 72 hours.
3. The Contractor shall provide equipment to perform inspections of sewer mains located in streets, street rights-of-way, backyards, easements and rights-of way that are off-road.
  - a. Including but not limited to portable CCTV equipment, vehicles capable of transporting TV equipment and accessing remote easements, and adequate cleaning equipment for remote rights of way or easement applications.

C. Sonar Equipment

1. 3-D sonar scanning equipment shall be specifically designed for or adapted for use in sewer interceptors and siphons 24-inches in diameter and larger and provide an accurate determination of pipe conditions below the wastewater level during the in-pipe inspection.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

Sonar shall be capable of measuring and recording sediment depths to the inch and horizontally at each foot along the length of the pipe. The equipment shall be capable of using the resulting depth and length profile of the sediment data to provide both an average depth of sediment and integrate the results for the total volume of sediment for each segment.

2. Sonar equipment shall be digital and must be specifically adapted using multi-frequency sound waves to locate and map irregularities by creating continuous sonar images recorded in “real time” mode.

**D. Sewer Main CCTV**

1. Sewer Main Digital Color Video Camera
  - a. All cameras used shall be digital format color CCTV units specifically designed and constructed for use in sewer pipe inspection work. The cameras shall be operable in 100 percent humidity conditions. The camera shall have a high-resolution, 360-degree pan and tilt or rotating head with a wide viewing angle lens and either automatic or remote focus and iris controls. Camera lighting shall be sufficient for use with digital color inspection cameras and for the manhole and pipe diameters identified in the contract.
    - i. Camera, Television Monitor, and Other Components shall be capable of producing a high resolution color digital inspection record.
    - ii. Video file to be in MP-4 digital format.
  - b. In all cases, the complete digital inspection system (camera, lens, lighting, cables, monitors, and recorders) shall be capable of providing a digital picture and digital video quality acceptable to the Program Manager. Inadequate lighting, image distortions, blurry or murky images, and dirty lenses will be a cause for rejection. No payment will be made for unsatisfactory inspections and the Contractor shall perform work until deliverable is of acceptable quality. Digital video cameras/digital recorders not specifically intended for use for internal television inspection of manholes and sewer lines shall not be permitted.
  - c. Pan and tilt type camera, capable of turning at right angles to pipe’s axis over an entire pipe wall perimeter shall be used.
    - i. The camera lens shall be capable of self-righting itself after a lateral view or connection view with a return view down the pipe with a “home” capability for the lens.
  - d. Lighting shall be suitable to allow clear picture of entire inner pipe wall extending at least 10 feet in front, including black High Density Polyethylene (HDPE) pipe.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

- e. Document header and observations shall be in accordance with PACP V.6.0.1 protocols.

**E. PACP Compliant Software & Data logger Requirements**

- 1. Data logger
  - a. Internal inspection logs created and captured electronically during the television inspection through the use of commercially available electronic data loggers in the truck are required. NASSCO PACP protocols Version 6.0.1 shall be used for capturing and recording the observations. Audio commentary made during the inspection and captured on the digital video shall correspond with the PACP observations on the log.
  - b. The data logger equipment and software shall allow the Program Manager access directly to the captured electronic data and provide for export of the data into SARP10 PACP database provided by the Program Manager in accordance with the SARP10 Data Delivery Guidelines.
- 2. Software must be compliant with the NASSCO PACP V.6.0.1 standards. Follow PACP protocol for recording of observations and defects for sewer mains.
  - a. All software shall be capable of providing complete survey reports in compliance with PACP, and the software shall be the V.6.0.1 of the PACP compliant software.
  - b. The Program Manager has no intent to specify which software the Contractor shall use, but requires the software and the submitted database to be fully compliant with PACP V.6.0.1 and capable of being exported to ACCESS databases. No payment will be rendered for improperly formatted data.
  - c. Software and data logger must be capable of capturing sewer main and sewer lateral observations by PACP descriptions, record travel footage along pipeline, and video time stamp the recorded observations to support hyper linking from the digital record to the event point or location within the digital inspection record. The same requirements apply to still photo images (if provided) which shall follow PACP guidelines and be hyperlinked to the inspection log.

**PART 3 – CONSTRUCTION REQUIREMENTS**

**3.01 Laser Profiling, Sonar & CCTV Digital Video Inspection of Sewer Mains**

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

**A. Sewer Flow Levels During Inspection Operations**

1. The Contractor will propose the appropriate transport platform. Certain pipe conditions may prohibit the use of a tracked Platform/Transport due to sediment, pipe shape and other pipe conditions. If the specified tracked platform has been attempted and is unable to pass through a portion of the intended inspection area, the Contractor and the Program Manager may mutually agree to the use of a floating platform. The use of a floating platform would be decided on a case by case basis.
2. The interceptor sewers to be inspected operate at a variety of sewer flow depths, ranging from approximately half full to near surcharge. Inspection operations must be conducted over this wide range of flow depths.
3. Cleaning, only as required to complete the inspection and CCTV operations, shall be conducted to prevent backups and sewer overflows. Cleaning shall be performed in accordance with Section 00005 Site Specific Sewer Interceptor and Manhole Cleaning. Contractor shall be responsible for cleanup, repair, fines, property damage costs, and claims for any sewage backup, spillage or sanitary sewer overflow during or as a result of the cleaning and inspection operations.
4. For maximum effectiveness of the inspection, all laser profiling above the flow, sonar inspections below the flow level, and CCTV inspections above the flow level shall be performed during periods of low diurnal flow, at optimal visibility or detection for the equipment provided, or to facilitate the use of a preferred transport platform.

**B. Camera Operations - General**

1. The multi sensor inspections (laser, sonar, CCTV) shall be conducted by tractor or raft supports as pipe conditions and diameters dictate.
2. Raft/float or tractor camera supports shall be sized or collapsible to fit through existing manhole frames associated with 24-inch diameter and larger sewers. Any manhole frames that are required to be removed for the purpose of inserting the laser, sonar or CCTV equipment shall be restored by the Contractor in accordance with City of Memphis requirements at no cost to the Program Manager.
3. Camera Operations requirements contained in Section 3.01 C, CCTV Camera Operations, below, are applicable for the execution of the CCTV operations with the camera not mounted on a raft or float, except as modified in subsequent section 3.01 D, which follows.
4. Contractor shall be responsible for all judgments and impacts as to whether an obstruction in the sewer main can be passed. Costs

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

involved in extracting equipment from the sewer main will be borne by the Contractor and at no additional cost to the Program Manager.

**C. CCTV Camera Operations**

1. Using the pan/tilt feature, pan the interior of the manhole for record purposes in accordance with V.6.0.1 PACP protocols and begin and terminate the inspection in the starting and ending manholes.
  - a. Capture the inside of manhole walls, manhole channel, and pipe connection to wall at both upstream and downstream manhole and lateral connections using the digital mainline sewer camera and the pan/tilt feature.
2. Place the camera at center of manhole and commence video before entering pipe.
  - a. Start footage counter at manhole wall/pipe connection or at a short pre-measured distance down the pipe for the sewer segment inspection.
3. Connections: The digital camera shall be used to look at connections and up laterals from the connection in the main sewer pipe being inspected. The camera shall pause, pan, and record all connections. Conditions noted in these sidelines and laterals shall be noted on the inspection logs.
4. Mainline camera operations:
  - a. Move through line at speed no greater than 30 feet per minute stopping for minimum 10 seconds to record lateral connections, mainline connections, defects, and features and points of interest.
  - b. Maintain technical quality, sharp focus, and distortion free picture with the camera lens centered in the pipe for the different diameters inspected.
    - i. Eliminate steam in line for duration of inspection.
    - i. Utilize blower as needed to defog sewer line.
  - c. Digitally record a complete sewer segment in its entirety with no breaks, “blink-outs,” or interruptions from manhole to manhole according to PACP V.6.0.1 formats.
  - d. Pan, tilt, and rotate as necessary to best view and evaluate lateral connections, pipe defects, features, obstructions, and points of interest.
  - e. Use power winches, powered rewinds, self-propelled tractors, or other devices that do not obstruct camera view or interfere with proper documentation of sewer conditions to move camera through sewer.
  - f. Whenever non-remote powered and controlled winches are used, set up telephones or other suitable means of

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

- communication between manholes to insure good communication.
- g. Measurement for location of defects and service laterals:
    - i. At ground level by means of Program Manager-approved footage counter or metering device.
    - ii. Electronic display measurement meters: Accurate to PACP standards over length of section being televised.
    - iii. Do not pull unnecessary length of slack camera cable if it impacts the footage counter.
  - h. Stop camera at service connections and inspect lateral with pan and tilt camera.
    - i. Identify building connection in PACP compliant terms as active, capped, or abandoned.
    - ii. If no wastewater flows are being discharged from building, consider steady, clear observed flow as infiltration/inflow.
  - i. If protruding tap impedes inspection trim protruding tap to 1/2 inch.
  - j. If obstructions are not passable, withdraw CCTV equipment and perform a reverse inspection from opposite end of the sewer segment in accordance with PACP protocols.
    - i. Contractor shall be responsible for costs associated for reverse set-ups when an obstruction is encountered that cannot be passed.
    - ii. Contractor shall be responsible for all judgments and impacts as to whether an obstruction in the sewer main can be passed. Costs involved in extracting a stuck camera in the sewer main will be borne by the Contractor and at no additional cost to the Program Manager.
    - iii. When additional obstructions are encountered after reversal of equipment and no means are available for passing a second obstruction in order to complete the sewer main inspection, remand the segment inspection to the Program Manager for resolution. The portion of the main inspected will be paid for as prescribed.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

- k. Undocumented facilities
  - i. If undocumented manholes or sewer mains (facilities not on the field updated GIS sewer maps) are encountered during the inspection, the Contractor needs to complete the documentation requirements per PACP and SARP10 Data Delivery Guidelines requirements and capture on the video the following:
    - 1. Approximate horizontal distance from the upstream or reference manhole.
    - 2. Approximate depth of the undocumented manhole by turning the pan/tilt camera vertically and estimating the height of the cover from the invert.
    - 3. A provisional manhole asset ID number shall be used by the Contractor according to the SARP10 Data Delivery Guidelines.

**D. Sonar, Laser & Camera Combined Operations**

- 1. The combination multi-sensor equipment shall be capable of inspecting a length of sewer up to at least 2,000 linear feet when entry into the sewer may be obtained at each end and up to 1,500 feet where a self-propelled unit is used and where entry is possible from one end only.
- 2. Each inspection unit shall contain a means of transporting the laser, CCTV camera and/or Sonar equipment in a stable condition through the sewer under inspection. Such equipment shall ensure the maintained location of the laser, CCTV camera and sonar equipment when used independently on or near to the central axis of a circular shaped sewer.
- 3. Combination CCTV and sonar is required for all pipes flowing at 75% or more full at the upstream manhole. Night time or off-peak diurnal times shall be used for inspection operations when the wastewater levels are greater than 75% of the pipe diameter. If flow level conditions are such that all acquisition of all three sensors (sonar, laser, CCTV) and associated data is not possible, the Contractor will utilize only the sonar and CCTV sensors.
- 4. Where the CCTV camera or sonar head are towed through the sewer, all winches shall be stable with either lockable or ratcheted drums. All connection shall be steel or of an equally non-elastic material to ensure the smooth and steady progress of the CCTV camera or Sonar equipment through the surcharged sewer. All winches shall be inherently stable under loaded conditions.
- 5. Each inspection unit shall carry sufficient numbers of guides and rollers such that, when inspecting, all connecting materials are supported away from pipe and manhole structures and all CCTV &

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

Sonar lines used to measure the CCTV camera and the Sonar head location within the sewer are maintained in a taut manner and set at right angles where possible, to run through or over the measuring equipment.

6. The CCTV Camera and Sonar head shall be positioned to reduce the risk of picture distortion. In circular sewers the CCTV camera lens and/or Sonar head shall be positioned, when possible, centrally within the “dry” area for the CCTV and centrally within the “wet” area for the sonar head. In non-circular sewers, picture/sonar image orientation shall be taken at mid-height, unless otherwise agreed, and centered horizontally. In all instances the camera/sonar lens shall be positioned looking along the axis of the sewer. A positioning tolerance of + 10% of the vertical sewer dimension shall be allowed.
7. When the scanning Sonar is deployed, either stand alone or combined with CCTV, the speed or travel shall be limited to 4 inches per second or 20 feet per minute.
8. A General Condition 360° CCTV rotational scan must be implemented at every 20 feet interval (min) along sewers, and at all manholes and all salient, specified, defect features. More frequent scans must be made should the condition of the pipe differ from the previous scan. The tilt must not be less than 225°.
9. The color palette shall have a minimum of 16 colors with text. The Sonar image, inside the viewing area shall be in color.
10. The transducer shall be of the continuous scanning type, the speed of which shall be 1 second per 360° scan.
11. The laser profile scan shall provide an accurate determination of pipe geometry above the wastewater level. Internal Diameter and Deflection graphs will be used in conjunction with the integrated and detailed views to precisely quantify internal pipe wall material loss/gain or deformation at a given location and clock position. Pipe cross-sections obtained from precision high resolution scans shall be used to provide quantitative information regarding internal pipe diameter, including ovality.

**E. Quality Assurance**

With each monthly invoice the Contractor shall provide a QA/QC memo documenting that 10% of the previous month’s CCTV data has undergone a random, independent review by a PACP certified reviewer using NASSCO standards for Television Inspection of Main Sewer and PACP Quality control as the basis for the QA/QC procedures. Each line segment which has been randomly reviewed shall be identified in the QA/QC memo as well as any subsequent findings or recommendations. Internal independent QA/QC is acceptable, as long as the person is a Tennessee



**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

P.E. or is a P.E. in another state and has a Tennessee P.E. license pending. Failure to submit the QA/QC memo shall delay payment of the current month's invoice.

1. For all new Contractors and Operators who begin PACP coding, an initial review of CCTV data will consist of reviewing, at a minimum, 20 of the first 100 PACP inspection records submitted. Subsequent reviews will be based on the results of the initial reviews as explained below.
2. Auditing Procedures:
  - a. Header information: As explained in the NASSCO PACP Quality Control Standards each audited inspection record is given an accuracy level for the header information and the detailed observation records. It is expected that the accuracy of the header record exceed 90% because the majority of the contents are based upon facts and not subject to operator judgment. To assess the accuracy level of the header, record the number of errors as compared to the total number of header fields using the following formula:  
 **$100\% - (\text{error count}/\text{total header fields}) * 100\% = \text{Header Accuracy}$**
  - b. Detailed Observations: Determining the accuracy level for the detailed observation records is similar to the method for assessing the header record. The main difference being that a defect observation has multiple data entries that must also be counted towards the total number of entry fields. In the event that a defect is not coded all of the required entries for coding the missed defect are counted towards the total error count. The following formula is used to calculate the accuracy level of the detailed observation records:  
 **$100\% - (\text{error count}/\text{total entries}) * 100\% = \text{Detail Accuracy}$**
  - c. Review Scoring and Results
  - d. Satisfactory Review, No changes required. Accuracy Level of 90% or above for both the Header Record and Observation Detail with no major errors or omissions found.
3. Unsatisfactory Review (below levels of acceptance) will not be accepted by the Program Manager and will not be considered payable items in the Contractor's Request for Payment.

**PART 4 –DELIVERABLES**

**4.01 RECORDS**

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

**A. Digital Inspection Record**

In the digital PACP V.6.0.1 compliant format, the Contractor shall provide the following information:

1. Digital CCTV survey and Sonar inspection which shall be recorded and shall be continuous as the inspection proceeds through the manholes and sewer pipes.
2. Digital Recordings: The digital recording shall document the visual and audio record of the sewer pipe inspection and shall be the basis of measurement and payment. Digital recording playback shall be at the same speed that it was recorded. Original digital recordings for the Project shall be forwarded to the Program Manager on clearly labeled external hard drive(s) in SARP10 PACP database format with final report submittals and shall become the property of the Program Manager. Data for a single facility asset will not be split across multiple hard drives. Digital recordings shall be available to the Program Manager by the close of business on the Monday following a week after data acquisition. File naming must be consistent with SARP10 data delivery requirements. Additional instructions, naming conventions, file structures, etc. will be provided after contract award.
  - a. Picture Quality: The sewer inspection digital record shall be free of steam, fog, vapor, or other headspace distortion that degrades the quality of the picture from the intended purpose of evaluating the sewer for structural and watertight integrity. If necessary, the Contractor shall provide positive ventilation or other means through the sewer pipe to draw out steam, fog, and vapor that will degrade the recorded image of the pipe.

**B. Deliverable Documentation**

1. Mainline Sewer:
  - a. Submit V.6.0.1 PACP compliant records, logs, and electronic inspection data for sewer line inspection to Program Manager by the close of business on the Monday following a week after data acquisition
  - b. Sonar reports to include graphical presentations of the sediment and debris depth every foot, calculated average sediment depth for the length of the sewer segment, the volume in cubic feet or cubic yards of sediment in each segment.
    - i. The Contractor shall submit two hard copies of all details, i.e. a typed "Full Detail" report for each inspection, showing the position and full text of each defect encountered and their grades. The Contractor shall also supply an overall Summary Report detailing major defects and those inspections that require attention along with a statistical report showing lengths

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

- of sewers inspected and a breakdown of sizes and lengths inspected.
- ii. The Contractor shall supply the data in the SARP10 PACP database provided.
  - iii. The Sonar Inspection shall include complete structural and service assessment to the equivalent PACP standard as that obtained through conventional CCTV imagery.
  - iv. The Sonar inspection shall include measurement of flow depth and debris/silt depth.
  - v. A Color High Resolution Sonar image of cross sections of the sewer must be taken (saved) every 50 feet or more frequently should the internal profile or debris/silt depth of the sewer change from the previously saved image.
  - vi. These images are to be cross-referenced to the reports and database(s) for ease of retrieval.
- c. Laser reports to include the laser profile scan above the wastewater level with characterizations of any corrosion damage to include depth of the missing material or other quantitative descriptions.
  - d. Digital videos, data, and photos shall be delivered to the Program Manager on external hard drives which will become property of the Program Manager.
  - e. Data files shall be formatted to facilitate upload into SARP10 PACP database.
  - f. Inspections displaying poor digital video/audio quality will be rejected. Quality refers to, but is not limited to, grease or debris on lens, camera under water, image too dark, image washed-out, distorted image, or out of focus images, and poor/no audio.
  - g. Contractor will re-televiser rejected inspections and resubmit inspections at no additional cost to the Program Manager.
2. Map changes/undocumented manholes:
    - a. For map changes identifying undocumented manholes which were found as a result of field inspections or observations, a site sketch shall also be prepared and supplied by the Contractor with a drawing or sketch and shall indicate special details, field measurement or distances, or locations about an observed undocumented manhole. These shall be submitted on SARP10 map edit forms provided by the Program Manager and in accordance with the SARP10 Data Delivery Guidelines.

**C. Inspection Documentation Logs**

**1. CCTV Records**

- a. Observations made during television inspection shall be documented in SARP10 PACP database provided, within

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

an electronic inspection log form, supported by accompanying audio, digital photographs, and MP-4 format recording written to an external hard drive and submitted to the Program Manager. Hard copies of completed inspection log photographs shall be furnished to the Program Manager with invoicing.

2. Sonar Records

- a. Where combined CCTV and Sonar inspections are performed, the display in the viewing area shall show the combined CCTV and Sonar images of the sewer being inspected. The Sonar image shall be superimposed on the real CCTV image, and continuously recorded, as a combined operation at the time of the inspection resulting in a single combined video file in MP-4 format for each inspection.
- b. The Sonar Inspection shall include a comprehensive final report on the findings concerning major defects including fractures, displaced joints, deformation, corrosion, lateral intrusions, dominant surface features, encrustation, and debris/silt depths.

D. Electronic & Hard Copy Records

1. Reports: The Contractor shall prepare printed inspection log reports for each associated sewer pipe inspected during the actual field inspection activities. These field logs shall then be reviewed by the Contractor's technical staff, along with reviewing the associated digital video record, as a means of ensuring that no defects or entries are omitted or incorrect. Edited field logs shall then be used in the final project reports and submitted in pdf format.
2. Draft Report and Final Report: The Draft Final Report will contain electronic and hard copies of each of the PACP CCTV log pipe segment inspection logs. Digital recordings of the inspections written to an external hard drive and the SARP10 PACP compliant database of the inspections in ACCESS format shall also be submitted in electronic and pdf format.

Draft Report shall be delivered to the Program Manager within fifteen working days of oldest inspection. The Program Manager will have two workweeks to review and comment. The Contractor shall address all comments provided and submit a Final Report within one workweek upon receipt of comments. At the Program Manager's discretion a

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

meeting will be held so the Contractor can explain the processes used to address the comments.

E. Meetings

The Program Team will arrange bi-weekly meetings (every other week) with the contractor to discuss data management and field issues.

F. Quality

Rejection of deliverables will be submitted to the Contractor via the Program Team in a formal letter discussing issues that must be addressed. The Contractor will be required to follow up with a response within three business days of receiving the letter. Contractors will have seven (7) calendar days from rejection notice to make the necessary corrections and resubmit the packet.

**PART 5 – MEASUREMENT**

5.01 LASER, SONAR & CCTV INSPECTION

Laser, Sonar and CCTV inspection shall be measured by linear foot by each diameter of mainline sewer inspected and documented in accordance with the specification.

**PART 6 – PAYMENT**

6.01 LASER, SONAR & CCTV INSPECTION

Laser shall be paid for at the unit price for each linear foot of 48-inch diameter and larger diameter, documented in accordance with the specification.

Sonar & CCTV inspection shall be paid for at the unit price for each linear foot of each 24-inch diameter and larger inspected gravity sewer documented in accordance with the specification.

The unit price for laser, sonar and CCTV inspection shall cover the entire cost of the required laser, sonar and CCTV inspection and reporting in accordance with PACP V 6.0.1 format, including but not limited to labor, mobilization and access, CCTV equipment, recording media, traffic control, light cleaning of mainline sewer, documenting results in PACP records and logs, digital format recordings, photo equipment, power supply for equipment, interim and final reports, and all other appurtenant work.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00007 – MULTI-SENSOR INSPECTION OF INTERCEPTOR SEWERS**

No additional payment will be made for:

1. Re-inspection due to rejected inspection and/or records for any reason
2. Incomplete electronic logs for either laser, CCTV or sonar scan digital records
3. Limited cleaning necessary to complete the laser, sonar, and CCTV inspections.

6.02 PAYMENT WILL BE MADE UNDER:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
00007-6.01	LASER INSPECTION FOR EACH 48-INCH DIAMETER AND LARGER	LF
00007-6.02	CCTV & SONAR INSPECTION FOR EACH 24-INCH DIAMETER AND LARGER	LF

**END OF SECTION 00007**

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00009 – INTERCEPTOR MANHOLE MACP INSPECTION**

**PART 1 – SCOPE**

- 1.01 This Work will consist of locating sanitary sewer system facilities, Manhole Assessment Certification Program (MACP) protocol Level 2 manhole inspections using the National Association of Sewer Service Companies (NASSCO) MACP Version 6.0.1 protocols, associated photographs, camera inspection of manholes and the associated pipe connections, and documentation of manholes not found, not on grade and/or not showing. Manholes to be located, documented and inspected are in improved streets, arterial and primary roads, backyards and unimproved easements.
- 1.02 The Work covered by this section includes furnishing all labor, competent MACP certified technicians/crew leads, equipment, tools, accessories, and materials required to perform MACP Level 2 inspections, conduct camera inspections and document the specified manholes. Manhole inspections performed under this specification shall precede any subsequent smoke testing or CCTV inspection associated with this manhole asset in the scope of work.
- 1.03 Level 2 MACP data and records, and camera inspection photos of the manholes shall be delivered to the Program Manager on clearly labeled external hard drive(s) which will become property of the Program Manager. Inspection data for any one asset shall not be split between multiple drives. MACP data files shall be formatted to facilitate upload into a MACP Exchange Database or internet uploads to an FTP site as approved by the Program Manager and in accordance with the SARP10 Data Delivery Guidelines.
- 1.04 Selected Contractor will be provided two Geo-databases; one will have supporting records (aerial photo overlays, outfall and block maps, plans or as-builts as available), and a maiden database which will include the asset ID for each manhole.

**PART 2 - MATERIALS AND EQUIPMENT**

2.01 MATERIALS

A. Submittals

1. Unless otherwise specified all sample submittals shall be delivered to the Program Manager within two weeks of the NTP.
2. Traffic Control Plan to the Program Manager and City of Memphis Traffic Control Department, which includes the following items:

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00009 – INTERCEPTOR MANHOLE MACP INSPECTION**

- a. Outline of State and Local permit acquisition procedure for lane closures and access where required.
  - b. Methods for proper signing and barricades, which comply with local requirements and the City.
  - c. Major streets (e.g. Shelby County Principal Arterial & Minor Arterial) requiring a City approved permit if taking a lane for mobile operations, secured through Traffic Control Plan submittal to the City and signed by a TN PE. The City requires two-week lead time for permit processing.
    - i. The Contractor will be required to deliver a sample primary/arterial road Traffic Control Plan for review by the City.
    - ii. If the City determines that the nature of the work operation or the type of road in which the Contractor is working requires a permit, the Contractor will be required to modify the sample Traffic Control Plan to obtain a permit from the City.
  - d. For everywhere else where a permit is not required, the Contractor shall develop, provide, and implement a traffic control plan for all mobile operations in accordance with standard MUTCD specifications.
  - e. The Contractor is also responsible for acquiring all necessary disposal and/or landfill site permits as required to perform this work.
  - f. Railroad Rights of Way: The Contractor shall notify the Program Manager when work or access to manholes and sanitary sewers lie within the 25 feet railroad easement as measured by 25 feet outside the nearest rail of the tracks. To access sewer facilities within the 25 feet of the railroad right of way the Contractor shall contact the Program Manager 48 hours in advance who will alert the City's Zone Construction Inspector to coordinate individual railroad direction and guidance.
3. Site Contractor emergency phone numbers.
  4. Schedules of work on a weekly basis that will be delivered no later than 2:00 PM on Thursday for the week following with daily AM email updates of approximate crew locations each day.
    - a. Weekly schedule format shall contain the following elements:
      - i. Map format.
      - ii. Sufficient streets labeled and identified at a scale to provide clarity.
      - iii. Nature and type of crew location by map area.
  5. Confined space entry plans.
  6. Copies of NASSCO certifications for all field staff conducting MACP Level 2 inspections.



**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00009 – INTERCEPTOR MANHOLE MACP INSPECTION**

7. Sample of MACP Level 2 documentation logs (with photo documentation comments and photos properly referenced) in MACP formats, in both electronic and pdf format.
8. Equipment list, including camera manufacturer and model equipment to be used.
9. Sample of the digital inspection data delivery in MS ACCESS database format.

## 2.02 EQUIPMENT

All equipment used for the collection of condition assessment information and digital camera inspection of manholes shall be specifically designed and manufactured for the purpose intended under this Contract. The software and hardware for the electronic capture of the inspection defect observations must be consistent with NASSCO's MACP Level 2 requirements for the collection of data. Export of the electronic inspection data to an MACP format Microsoft ACCESS databases for analysis is required.

The Contractor shall submit an equipment list to the Program Manager for approval before the commencement of the Work and shall certify that back-up equipment is available and can be delivered to the worksite in 72 hours.

### A. Camera

1. All cameras used shall be digital format color cameras specifically designed or modified for use in sewer manhole inspection work. All cameras used during inspections shall have a minimum of 5 mega pixels .jpg format for sufficient clarity and detail in the photos, and photos of at least 2 MB shall be submitted. The cameras shall be operable in 100 percent humidity conditions. The cameras shall be high-resolution cameras with wide viewing angle lenses and either automatic or remote focus and iris controls. Camera lighting shall be sufficient for use with digital color inspection cameras and for the manhole diameters and pipe connection diameters identified in the contract.

The following photo sequence is specified: Photo 1- surface view photos taken of the manhole should include a whiteboard (or similar) with the manhole ID number identified on it. The photographer should be standing with the outlet pipe facing their 6 o'clock. Photo 2 - the downhole photo of the manhole channel should be taken with the outlet pipe facing their 6 o'clock. Additional photos as specified by MACP guidance.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00009 – INTERCEPTOR MANHOLE MACP INSPECTION**

Inadequate lighting, image distortions, blurry or murky images, low resolution, dirty lens and/or other quality issues will be a cause for rejection. If unsatisfactory, Contractor shall perform work until deliverable is of acceptable quality. No payment will be made for unsatisfactory inspections or until product is accepted.

**B. Data Logger and Software**

1. MACP and camera inspections and logs created and captured electronically during the MACP inspection of the manhole through the use of commercially available electronic data loggers are required. Paper records for data collection in the field shall not be used. NASSCO MACP protocols shall be used for capturing and recording the observations.
2. The data logger equipment and software shall allow Program Manager direct access to the captured electronic data, and provide for export of the data in accordance with SARP 10 MACP database and SARP10 Data Delivery Guidelines provided by Program Manager.

**PART 3 – CONSTRUCTION REQUIREMENTS**

**3.01 INSPECTION**

**A. GPS Coordinates of Manhole**

1. MACP header form fields referencing northing, easting, elevation, coordinate system, and GPS accuracy will be left blank by the MACP contractor. This data is to be collected under a separate topographic survey contract by others.

**B. MACP MH Inspection**

1. The Contractor shall document and record each sanitary sewer manhole inspection in MACP Level 2 format for manholes with supporting MACP format database. The complete NASSCO MACP Level 2 protocols must be utilized for the manhole inspections, and be associated in the electronic database and pdf documentation with the unique asset ID provided.
2. The Contractor shall follow the prescribed MACP Level 2 procedures and use the required nomenclature and formats to document the manhole interior and exterior conditions and defects.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00009 – INTERCEPTOR MANHOLE MACP INSPECTION**

A special comment field should be used to note any damaged or missing manhole vent pipes.

C. Camera Inspection of Manholes and Associated Pipe Connections

1. Digital camera inspection of manholes shall be completed in conjunction with Level 2 manhole inspections of defects and include each sewer pipe connection in the manhole. The photo record of the inspection shall document defects and leaks and shall include a photo record of the connecting pipes in each manhole. Abbreviations, naming conventions, and numbering conventions shall be in accordance with SARP 10 data delivery requirements. For photo image quality reference Section 2.01.
2. File naming must be consistent. Additional instructions, naming conventions, file structures, etc. will be provided after contract award.

D. Meetings

1. The Program Team will arrange bi-weekly (every other week) meetings with the contractor to discuss data management and field issues.

**PART 4 – DELIVERABLES**

4.01 RECORDS

A. Level 2 Inspection Documentation

1. Deliver complete MACP Level 2 inspections for manholes in MACP electronic database and pdf electronic formats on an external hard drive and MACP Exchange Database or internet uploads to an FTP site as approved by the Program Manager. Delivery will be in MS ACCESS database format unless otherwise preapproved by the Program Manager. Inspection data is to be delivered to the Program Manager by the close of business on the Monday following a week after data acquisition.

B. Camera Inspection Documentation

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00009 – INTERCEPTOR MANHOLE MACP INSPECTION**

1. Include specified camera photo documentation of defects, leaks and pipe connections in the MACP Image reference field as appropriate, for the Level 2 documentation. Inspection data is to be delivered to the Program Manager by the close of business on the Monday following a week after data acquisition.

C. Manhole Reports

1. Deliver a summary report in PDF format of each manhole inspected. The report will include all MACP Level 2 data collected for the manhole. The report shall include the surface view photo of the manhole with the outlet pipe facing 6 o'clock as well as a downhole photo of the channel with the outlet pipe at 6 o'clock. Any defects noted in the manhole shall also have an accompanying photo in the report.

D. Draft Report and Final Report

1. In addition to the electronic database and pdf format reports, three copies of the Draft Report will contain hard copies of each of the MACP inspections with camera manhole defect and pipe connection photographs. The SARP 10 MACP compliant database of the inspections shall also be submitted to the Program Manager electronically on an external hard drive.
2. Draft Report shall be delivered to Program Manager within fifteen working days of the last or final inspection. The Program Manager will have a two workweek period to review and provide comments to the Contractor. The Contractor shall address all comments and submit the Final Report within one workweek from receipt of comments. At the Program Manager's discretion, a meeting will be held upon submittal of the Final Report to have the Contractor go over the processes used to address comments.

F. Quality

1. Rejection of deliverables will be submitted to the Contractor via the Program Team in a written communication discussing issues that must be addressed. The Contractor will be required to follow up with a response within three business days of receiving the letter.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 00009 – INTERCEPTOR MANHOLE MACP INSPECTION**

Contractors will have seven (7) calendar days from rejection notice to make the necessary corrections and resubmit the packet.

**PART 5 – MEASUREMENTS**

**5.01 MACP LEVEL 2 FOR MANHOLE INSPECTIONS**

The inspection and recording of all manhole observations in a MACP compliant fashion will be measured for payment per each manhole inspected in accordance with the specification.

**PART 6 – PAYMENT**

**6.01 MACP LEVEL 2 FOR MANHOLE INSPECTIONS**

The inspection and recording of all manhole observations in a MACP format shall be paid for at the unit price bid per each MACP Level 2 inspection performed in accordance with the specification, provided that QA/QC standards are met.

The unit price for each MACP manhole inspection shall cover the entire cost of the inspection and reporting, including but not limited to setup and access, documenting results in records and logs, digital photos, power supply for equipment, interim and final reports, and all other appurtenant work.

**6.03 PAYMENT WILL BE MADE UNDER:**

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
00009-6.01	MACP LEVEL 2 MANHOLE INSPECTIONS	EACH

**END OF SECTION 00009**

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

**PART 1 – SCOPE**

- 1.01 This Work shall consist of the removal of brush, rubbish, fences, structures, abandoned appliances, building foundations, trees, shrubs and plants not to be protected, and all other obstacles within the right-of-way / easement limits shown on the Plans / Plats / and/or in the Special Instructions required to gain access to perform cleaning, assessment and rehabilitation of sanitary sewer facilities; the disposal of debris; and the restoration and/or protection of trees, shrubs, plants, fences, turfed areas, and structures after cleaning, assessment and construction of sewer facilities is completed.
- 1.02 This Work also provides for stabilized construction access and gating where necessary; furnishing and placing hardwood mulch and/or hardwood or HDPE mats for use in providing temporary surfacing to provide access to the project as needed to perform work; furnishing and placing limestone for use in providing temporary or permanent surfaces in the project area or to provide access to the project as needed to perform work, and removing all hardwood mulch and/or hardwood or HDPE mats and limestone for use in providing temporary surfaces.
- 1.03 All permanent surfacing shall be limestone as specified under 2.01B Materials below, and shall remain in place after completion of work.

**PART 2 – EQUIPMENT**

2.01 MATERIALS.

A. Temporary Surfacing

1. Hardwood mulch shall be air dried and virtually free of noxious weeds and weed seeds or other materials detrimental to plant growth on the work site or on adjacent agricultural lands.
2. Silt Fencing shall be appropriate to contain mulch and matting for temporary surfacing.
3. Mats shall be made of HDPE and/or hardwood plywood.

B. Permanent and Temporary Surfacing

1. Limestone for permanent and temporary surfacing of access roads or other areas shall consist of the gradation shown below:

Total Percent by Dry Weight Passing Each Sieve (U.S. Standard)					
Size No.	1 1/2"	1"	1/2"	No. 4	No. 100
CR-610	100	85-100	40-75	15-40	0-10

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

**C. Stabilized Construction Access**

1. Aggregate used should generally be crushed, washed, and well-graded rock with 2" to 3" median size (D50) or larger, at a depth of at least 6 inches.
2. A stabilized construction access involves a pad of aggregate underlain with filter cloth, such as a medium to heavy geotextile (typically 12 ounces per square yard) suitable for material separation applications.
3. If soil and/or stormwater conditions warrant additional removal of mud from construction vehicles, a tire wash rack shall be provided in accordance with the City of Memphis/Shelby County Storm Water Management Manual, Volume 3: Best Management Practices Manual.
4. Fencing and gates shall be installed adjacent to the stabilized construction entrance in order to limit and control ingress and egress. Use chain-link fencing and gates in accordance with City of Memphis Standard Construction Specification 02820 Chain Link Fencing; alternate fencing or gate shall only be used with pre-approval from Program Manager.

**2.02 EQUIPMENT**

**A. Approvals**

1. All equipment for the satisfactory performance of the work shall be on the project and approved before the work shall be permitted to begin.

**PART 3 – CONSTRUCTION REQUIREMENTS**

**3.01 SITE PREPARATION AND RESTORATION**

**A. Rights-of-Way and Easements**

1. The contractor shall verify rights-of-way and/or easements for limits of ingress and egress for cleaning, assessment and construction of sanitary sewer facilities. The Contractor will confine his activities to these easement areas.
2. The Contractor shall be responsible for obtaining written agreements for use of private property outside dedicated rights-of-way/easements for such purposes as storage of material and equipment and access to the construction site. The Contractor shall provide a copy of all such written agreements upon obtaining the same.

**B. Clearing of Rights-of-Way and Easements**

1. The Contractor shall confine his clearing of rights-of-way and easements to the minimum area necessary for access of facilities

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

shown on the Plans. The Contractor shall protect as many trees and shrubs within the area as possible. Where necessary for access, the Contractor shall clear all live and dead vegetation and growth, pole stubs, logs, low hanging branches and unsound branches on trees or shrubs and other objectionable material shall be removed.

2. All trimming shall be done by skilled workmen and in accordance with good tree surgery practices. Cleared material shall be removed to within 3 inches of existing ground. This work shall be done well before excavation operations but only after erosion controls have been placed.

**C. Location of Existing Obstructions**

1. The Contractor is warned that the locations of utilities and obstructions within the lands provided and shown on the Plans are approximate only and are not intended as an accurate and completed representation. Obstructions and utilities not shown on the Plans but encountered by the Contractor must also be protected, removed if necessary and, if required, replaced in the original state or protected by the Contractor at no cost to the City.

**D. Removal of Obstructions**

1. The Contractor shall demolish and remove all structures and structure foundations, abandoned vehicles, appliances, and rubbish within the right-of-way/easement limits necessary for the performance of the work.

**E. Protection of Obstructions Outside Easement Limits**

1. The Contractor shall protect and avoid damage to all trees, shrubs, plants, fences, structures, and all other objects outside the right-of-way/easement limits shown on the Plans and/or Plats due to construction operations. All damage shall be repaired or restored at the Contractor's expense. Particular attention shall be paid to avoid damage to trees, shrubs, bushes, and private property located next to rights-of-way/easements. No trees, plants, or other objects may be removed outside such limits without written permission of the property owner.

**F. Special Protection of Obstructions Inside Easement Limits**

1. Wherever the underground installation of sanitary sewer facilities shall go through surface improvements previously made by the City, other governmental bodies, or property owners, the Contractor shall be responsible for their protection and preservation. This responsibility



**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

includes the removal and storage of such improvements to allow replacement and restoration as close as possible to the undisturbed condition.

**G. Maintenance of Water Courses and Surface Drainage**

1. Where the Work contemplated in the Contract intercepts or in any way affects any stream, ditch, drain, or culvert, the Contractor shall, where necessary, arrange for keeping the same open by rebuilding, repairing, or extending the same or by building drains, culverts, or other structures of approved materials.
2. Unless otherwise provided for in the Plans and Contract Documents, the expense to the Contractor in fulfilling the obligations of this Section 02630.3.01.G are incidental to the Contract, and no extra compensation will be allowed.

**H. Permanent Surfacing**

1. All permanent surfacing shall be limestone, as specified under 2.01 Materials.
2. The area upon which limestone is to be placed shall be reasonably dry and free of mud, muck, or organic material so as to form a suitable foundation for placement of surfacing material, to the satisfaction of the Program Manager. The area shall be compacted to 90% modified proctor. If necessary, unsuitable material shall be removed to a depth as directed by the Program Manager. This excavation shall be considered incidental to other work and no separate payment will be made.
3. Place aggregate on top of a medium to heavy geotextile (typically 12 ounces per square yard) suitable for material separation applications. Do not drop aggregate from a large height.
4. For the area to receive aggregate, the Contractor shall place the specified material in lifts not to exceed 6 inches and then compacted to a minimum thickness of 4 inches. The Contractor shall properly compact each lift to provide a dense, unyielding surface suitable for temporary or permanent use as an access or maintenance drive.
5. All permanent surfacing shall be placed in sections 12' wide.

**I. Temporary Surfacing**

1. The Contractor may choose either mulch mat, combination mulch mat with HDPE/3-ply hardwood mats, or limestone for temporary surfacing.
2. If Contractor chooses to use Limestone for temporary surfacing, Limestone for temporary surfacing shall be placed in accordance with Section 02630 3.01 H.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

3. Hardwood mulch mat shall be placed at a minimum thickness of 12” and bordered by silt or tree protection fencing and geotextile filter fabric capable of retaining all mulch within the border. HDPE mats or 3-ply hardwood may be placed on top of the mulch mat to provide additional reinforcement as needed. Contractor shall maintain mulch mat throughout construction period.
4. Mulch or limestone temporary access drives shall be removed as directed by the Owner. Any removed material shall be the property of the Contractor who shall be responsible for disposing of the material. The construction and removal of Temporary Surfacing shall be considered incidental to other work and no separate payment will be made.

**J. Stabilized Construction Access**

1. Stabilized construction access, constructed in accordance with City of Memphis/Shelby County Storm Water Management Manual, Volume 3: Best Management Practices Manual, is required at all access points or intersections with a public right-of-way or paved public roadway, in order to reduce the amount of sediment (dust, mud) tracked offsite. See Stabilized Construction Access Detail at end of this section.
2. If soil and/or stormwater conditions warrant additional removal of mud from construction vehicles, a tire wash rack shall be provided in accordance with the City of Memphis/Shelby County Storm Water Management Manual, Volume 3: Best Management Practices Manual.
3. A stabilized construction access involves a pad of aggregate underlain with filter cloth, and should be constructed early in the process of setting up erosion and sediment controls, prior to the movement onsite of large vehicles and equipment.
4. The exit must be properly graded to prevent runoff from leaving the construction site. When tire wash racks are provided, washing is done on a reinforced concrete pad that drains to a properly constructed sediment trap or sediment basin. Other erosion and sediment controls should be in place to prevent sediments from entering into the storm water drainage system, ditch, or waterway.
5. Construct on level ground where possible, at a location suitable for traffic safety and sight distance.
6. Length is typically 50 feet and width is typically 20 feet. Busy exits will need the capability of handling a lane of traffic each way, typically 30 feet wide. It is more important for trucks exiting the site to be cleaned on the way out.
7. Aggregate should generally be crushed, washed, and well-graded rock with 2” to 3” median size (D50) or larger, at a depth of at least 6 inches. Smaller aggregate, such as washed #57 stone or CR-610,

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

does not remove mud and clay soils and is easily pushed into the street by trucks, or can be washed away by heavy rains.

8. Place aggregate on top of a medium to heavy geotextile (typically 12 ounces per square yard) suitable for material separation applications. Do not drop aggregate from a large height.
9. Inspect and clean construction entrance and adjacent pavement at the end of each shift or workday; do not wash sediment and mud into the storm water system or into natural creeks or streams. Street sweeping or street vacuuming may be needed depending on the level of mud deposited on the roadway. Mud on public streets and roads is a traffic hazard and is a violation of Memphis and Shelby County Storm Water Ordinances.
10. Provide ample turning radius as part of stabilized construction exits and entrances, taking into account the speed of traffic on the intersecting roads.
11. Fencing and gates shall be installed adjacent to the stabilized construction entrance in order to limit and control ingress and egress. Use chain-link fencing in accordance with City of Memphis Standard Construction Specification 02820 Chain Link Fencing. Gates shall be constructed according to the Security Gate Detail at end of section. Permanent security gates shall be installed at the intersection of all permanent surfacing and public right-of-ways, just inside the public right-of-way. Alternate fencing or gate shall only be used with pre-approval from Program Manager.
12. Inspect daily to ensure that mud and dirt are not tracked onto roadways. Remove all sediment deposited on paved roadways at the end of each workday, do not wash the sediment and mud into the storm water system or into natural creeks or streams. Periodic top dressing with additional gravel material is required, especially if the subgrade is soft or becomes saturated.
13. Remove gravel material and filter fabric at temporary surfacing connections to public right-of-ways and paved roads at completion of work. Stabilized construction access gravel, filter fabric, fencing, and gates shall remain in place for all permanent surfacing connections to public right-of-ways and paved roads at completion of work. All or part of Construction access including filter fabric, gravel, fencing, and gates may be left in place for temporary surfacing connections to public right-of-ways at the direction of the Program Manager. All or part of a Construction access including filter fabric, gravel, fencing, and gates may be removed for permanent surfacing connections to public right-of-ways at the direction of the Program Manager.
14. Restrict employees and subcontractors from using unauthorized Construction ingress and egress points.

K. Disposal of Debris

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

1. During the progress of the Work, the Contractor shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, the Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by the Owner. The Contractor shall restore to original condition all property not designated for alteration by the Contract Documents.
2. All trees, brush, logs, snags, leaves, sawdust, bark, and refuse shall be collected and disposed of according to the City Code of Ordinances and City of Memphis Standard Construction Specification Section 01740 at the expense of the Contractor. There shall be no separate pay item for disposal of debris. Debris shall be removed from the site when practical and shall not be left until the completion of the contract. If burning of debris is approved, all precautions shall be exercised to prevent the spread of fire and such burning shall be according to City of Memphis Standard Construction Specification Section 01740 Paragraph 1.06. Burning shall be done only at approved locations and in conformity with the laws, ordinances and requirements of agencies and officials having jurisdiction.
3. Besides obtaining the permission of the Owner, the Contractor shall obtain and pay for any permits required. When material is to be disposed of outside the easement, the Contractor shall first obtain written permission from the property owner on whose property the disposal is to be made and shall file a copy with the Program Manager. Unless otherwise provided in the Contract Documents, the Contractor shall arrange for disposing of such material outside the right-of-way/easement. No debris shall be deposited in wetlands.

**L. Replacement of Fences**

1. Any fences disturbed inside the right-of-way/easement limits shall be replaced or restored to their original or better condition. Any fences removed shall be replaced in their original location. Fences in such poor condition that they cannot be taken down and rebuilt with the same material shall be replaced with new fence material similar in original quality, size, and appearance to the removed fence. Exceptions to this requirement shall be allowed if written releases are obtained from the property owners by the Contractor and submitted to the Program Manager. For chain link fence, new fence material and construction methods shall conform to the requirements of City of Memphis Standard Construction Specification Section 02820.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

**M. Restoration of Turfed Areas**

1. All areas shall be restored as nearly as practicable to their original condition. Finished lawn areas where soil has been deposited shall be cleared to the level of the existing sod and then raked and watered. Areas where sod has been damaged, destroyed, or ruts have been filled shall be resodded. Areas where sod is only slightly damaged may be reseeded if so permitted by the Program Manager.
2. After final restoration of the settled trench surfaces, trench areas and areas regraded as part of the construction shall be resodded in finished lawns and reseeded in unimproved areas, unless otherwise shown on the Plans or directed by the Program Manager. Seeding and sodding material and construction methods shall conform to the requirements of City of Memphis Standard Construction Specification Sections 02920 and 02921.

**PART 4 – MEASUREMENT**

**4.01 SITE PREPARATION AND RESTORATION.**

**A. Payment**

1. This item shall be paid at a lump sum basis and no separate measurement of quantities shall be made.

**4.02 LIMESTONE.**

**A. Payment**

1. This material will be used for payment by the ton of material furnished and placed for Permanent Surfacing only.

**PART 5 – PAYMENT**

**5.01 SITE PREPARATION AND RESTORATION.**

Payment shall be made for Site Preparation and Restoration at the contract lump sum price, which price shall be full compensation for stabilized construction access; removal and/or protection of trees, shrubs, plants, brush, rubbish, fences, man-made obstructions including but not limited to structures, abandoned appliances, building foundations, and all other obstructions as may be directed by the Program Manager; the disposal of debris and obstructions removed; the restoration of trees, shrubs, plants, fences; restoration of turfed areas outside of right-of-way; furnishing, placing, and removing temporary surfacing; and all other items as shall be specified in the Plans and Contract Documents or directed by the Program Manager.

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
SARP10 Program  
SECTION 02630 - SITE PREPARATION AND RESTORATION**

5.02 Limestone.

The accepted quantities of limestone will be paid for at the contract unit price per ton furnished and placed for permanent surfacing, which price will be full compensation for removal of unsuitable material, preparation of subgrade, furnishing, placing, and compacting limestone to the required grade. No separate payment shall be paid for temporary limestone surfacing or removal of temporary surfacing.

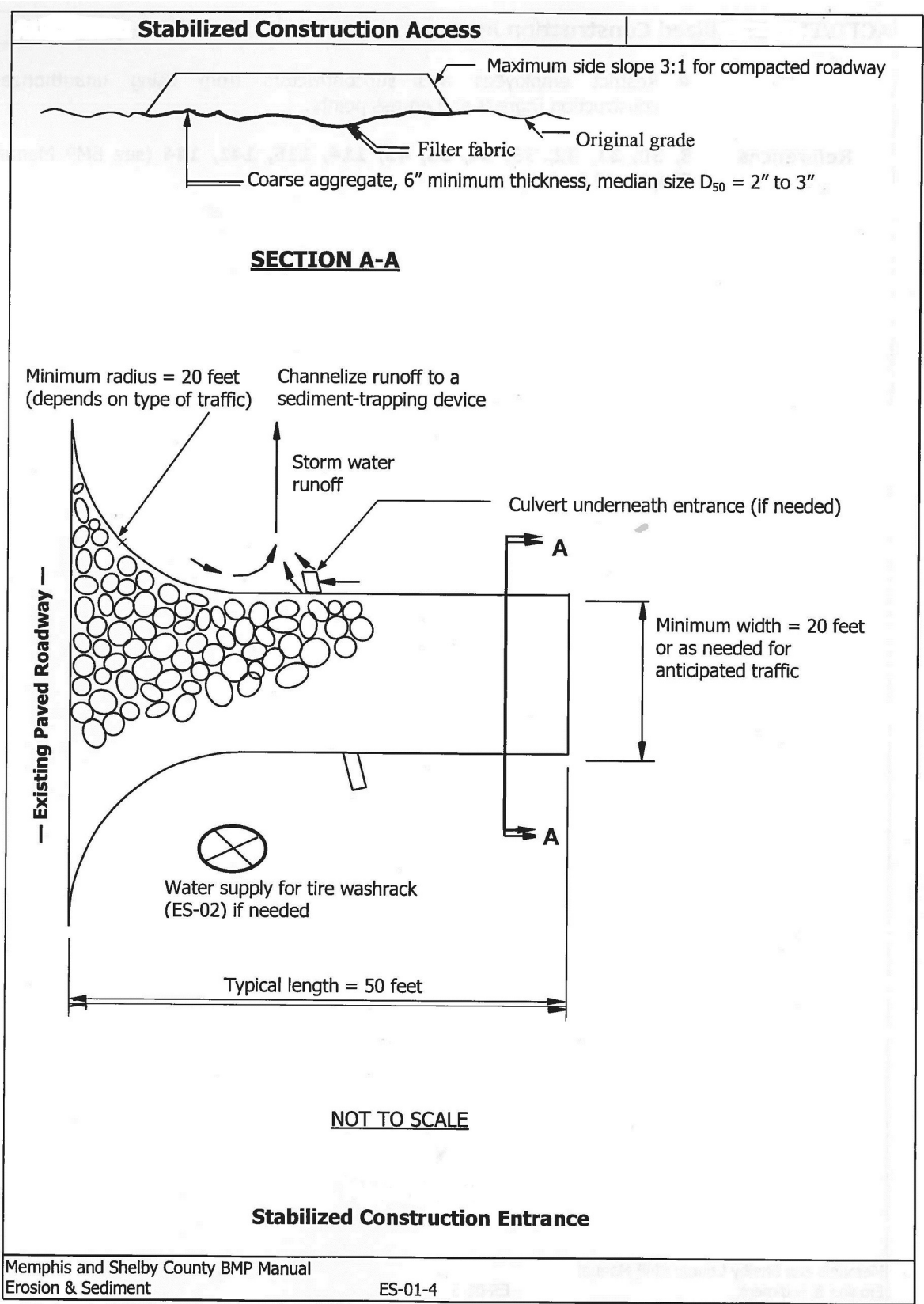
5.03 SECURITY GATE.

The accepted quantities of security gates will be paid for at the contract unit price per each security gate furnished and placed at the intersection of permanent surfacing at public right-of-ways, which price will be full compensation for furnishing, placing, and fabricating all materials for installation of security gates.

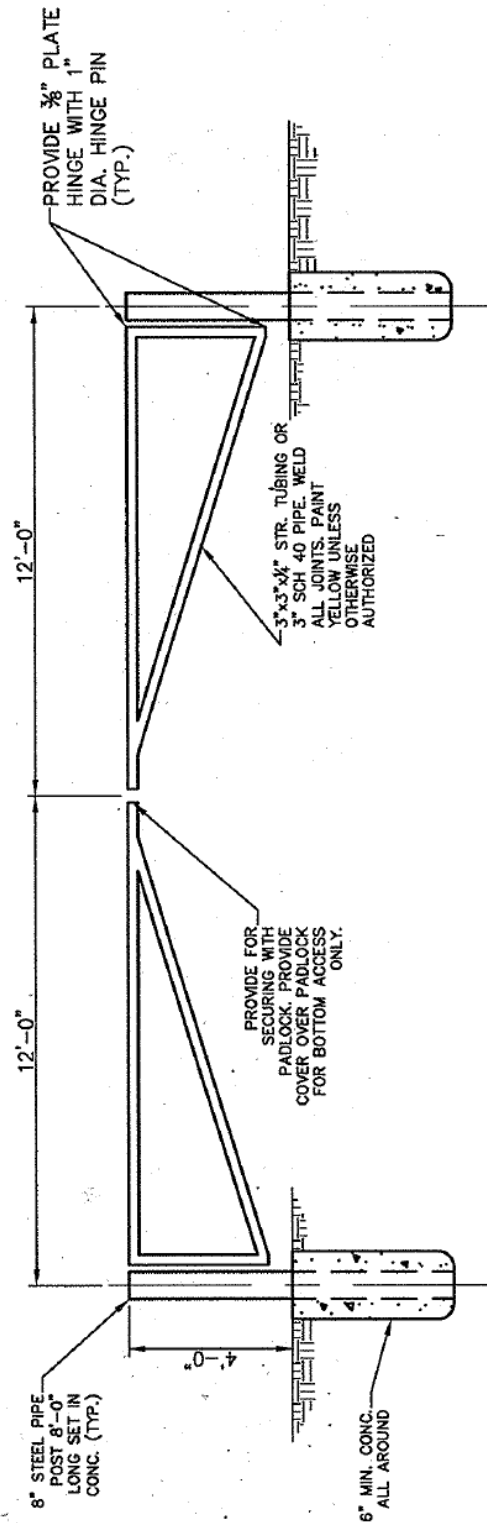
5.03 5.04 PAYMENT SHALL BE MADE UNDER:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02630-5.01	SITE PREPARATION AND RESTORATION	Lump Sum
02630-5.02	CR-610 LIMESTONE	Ton
02630-5.03	SECURITY GATE	Each

**CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By SARP10 Program**  
**SECTION 02630 - SITE PREPARATION AND RESTORATION**



CITY OF MEMPHIS – STANDARD CONSTRUCTION SPECIFICATIONS Modified By  
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**SECTION 02630 - SITE PREPARATION AND RESTORATION**



SECURITY GATE  
NOT TO SCALE

END OF SECTION 02630