

**EXHIBIT A TO THE AGREEMENT  
BETWEEN OWNER AND ENGINEER  
FOR  
PROFESSIONAL CONSTRUCTION CONTRACT ADMINISTRATION AND INSPECTION  
SERVICES**

**FOR CONSTRUCTION CONTRACT 2011-062  
MITCHELL WATER TREATMENT PLANT 1-MG CLEARWELL AND 2015  
MISCELLANEOUS IMPROVEMENTS**

**DESCRIPTION OF ENGINEERING SERVICES AND RELATED MATTERS**

This is an exhibit attached to and made part of the supplemental agreement to On-Call Professional Services Agreement dated January 29, 2014 between the City of Greensboro (OWNER) and CDM Smith (ENGINEER) for professional design, bidding and construction services.

**1. The Basic Services of the ENGINEER as described in the Agreement are amended and supplemented as follows:**

The ENGINEER's team will include CDM Smith (prime engineering consultant) and CRITEK Engineering Group (subconsultant to CDM Smith). The ENGINEER will provide the Basic Services defined herein for the PROJECT.

**PROJECT OBJECTIVES AND DESCRIPTION**

The City has previously contracted with CDM Smith to design, obtain permits, and assist with the bidding of civil, process, and finished water storage improvements for the Mitchell Water Treatment Plant. The City is moving forward with construction of these improvements, having bid the work and identified the Contractor; and requires assistance from the ENGINEER and subcontracted firms with providing Professional Engineering Services during Construction, as described herein. A summary of the scope of Construction to be completed is as follows:

- Demolish existing piping, pavement, concrete, asphalt and appurtenances as shown on the Drawings.
- Construct a new 1 MG Wire Wrapped Pre-stressed Concrete Clearwell.
- Construct new paving, grading, and drainage features.
- Construct new finished water piping, valves, flow meter, sample lines, vaults, and appurtenances.
- Construct new 16- and 24-in. backwash water piping and appurtenances.
- Construct new raw water piping, valves, flow meters, sample lines, vaults, and appurtenances.
- Positive shoring of excavations to protect existing roads and facilities.
- Electrical improvements and outdoor lighting.

- Installation, startup of instrumentation and controls equipment.
- Installation, maintenance and removal of all erosion, sediment and other environmental protection measures.
- Site clean-up and restoration.
- All other work of the contract documents not listed herein.

The ENGINEER will provide construction and start-up phase services. Basic Services to be provided under this Agreement shall include the following:

- Task 100 – Construction Contract Administration Services, Post Construction Services, and Record Drawings
- Task 200 – Construction Observation and Resident Project Representative, Specialty Inspections, and Startup

The detailed scope of services included in this Agreement (Tasks 100 and 200) follows. Additional services may be provided by the ENGINEER upon separate written authorization from the OWNER for a mutually agreed upon scope and budget.

#### **TASK 100 CONSTRUCTION CONTRACT ADMINISTRATION SERVICES, POST CONSTRUCTION SERVICES, AND RECORD DRAWINGS**

The ENGINEER will provide construction contract administration for the Mitchell Water Treatment Plant 1-MG Clearwell and 2015 Miscellaneous Improvements, assumed to take place over a period of 15 continuous months following the issuance of notice-to-proceed.

##### **101 General Administration of Construction Contract.**

ENGINEER shall consult with and advise OWNER and act as OWNER's representative as provided herein. The extent and limitations of the duties, responsibilities and authority of ENGINEER as assigned in this Agreement shall not be modified, except to the extent provided herein. All of OWNER's instructions to Contractor(s) will be issued through ENGINEER who shall have authority to act on behalf of OWNER in dealings with Contractor(s) to the extent provided in this Agreement except as otherwise provided in writing.

##### **102 Pre-Construction Meeting**

ENGINEER shall coordinate, lead, and provide meeting minutes for the Pre-Construction Meeting, between the OWNER, ENGINEER, and Contractor, prior to construction commencing. The meeting is intended to gather all parties together to discuss the scope, schedule, Notice to Proceed (NTP), and any issues relevant to the Construction.

103 Clarifications and Interpretations; Field Orders

ENGINEER shall issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of the work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents. ENGINEER may issue Field Orders authorizing minor variations from the requirements of the Contract Documents.

104 Change Orders and Work Change Directives

ENGINEER shall recommend Change Orders and Work Change Directives to OWNER as appropriate, and shall prepare Change Orders and Work Change Directives as required. The OWNER and ENGINEER agree that level of effort required for processing Change Orders and Work Directives can widely vary and has the potential of exceeding the assumed labor and expense levels associated with the ENGINEER'S lump sum fee. Therefore, the OWNER and ENGINEER will endeavor to keep open communication regarding the ENGINEER'S costs associated with this task, and if needed, the parties will negotiate mutually agreeable compensation for efforts that exceed the ENGINEER'S assumed cost.

105 Submittals

ENGINEER shall review and approve (or take other appropriate action in respect of) submittals, samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed PROJECT as a functioning whole as indicated in the Contract Documents. Submittals may include shop drawings, samples, test results, operation and maintenance manuals for equipment, construction schedule updates, and other data submitted for review. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions and programs incident thereto.

106 Substitutes

ENGINEER shall evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor. However, services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or-equal" items; and services after the award of the construction contract in evaluating and determining the acceptability of a substitute which is appropriate for the project or an excessive number of substitutes will only be performed pursuant to an amendment to this Agreement for additional compensation.

## 107 Applications for Payment

Based on ENGINEER's on-site observations as an experienced and qualified design professional and on review of Applications for Payment and the accompanying data, and schedules:

ENGINEER shall determine the amounts that ENGINEER recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute ENGINEER's representation to OWNER, based on such observations and review, that, to the best of ENGINEER's knowledge, information and belief, the work has progressed to the point indicated, the quality of such work is generally in accordance with the Contract Documents (subject to an evaluation of such work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and to any other qualifications stated in the recommendation), and the conditions precedent to Contractors being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the work. In the case of unit price work, ENGINEER's recommendations of payment will include final determinations of quantities and classifications of such work (subject to any subsequent adjustments allowed by the Contract Documents). The responsibilities of ENGINEER contained in this task are expressly subject to the limitations set forth herein and other express or general limitations in this Agreement and the Contract Documents.

By recommending any payment, ENGINEER shall not thereby be deemed to have represented that on-site observations made by ENGINEER to check the quality or quantity of Contractor's work as it is performed and furnished have been exhaustive, extended to every aspect of the work in progress, or involved detailed inspections of the work beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents. Neither ENGINEER's review of Contractor's work for the purposes of recommending payments nor ENGINEER's recommendation of any payment (including final payment) will impose on ENGINEER responsibility to supervise, direct or control such work or for the means, methods, techniques, sequences or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with laws, rules, regulations, ordinances, codes or orders applicable to Contractor's furnishing and performing the work. It will also not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any of the work, materials or equipment has passed to OWNER free and clear of any liens, claims, security interests or encumbrances, or that there may not be other matters at issue between OWNER and Contractor that might affect the amount that should be paid.

## 108 Substantial Completion

Following notice from Contractor that Contractor considers the entire work ready for its intended use, ENGINEER and OWNER, accompanied by Contractor, shall conduct an inspection to determine if the work is substantially complete. If after considering any objections of OWNER, ENGINEER considers the work substantially complete,

ENGINEER shall deliver a certificate of Substantial Completion to OWNER and Contractor.

109 Coordination with Permitting Agencies

The ENGINEER will maintain communication as needed with NCDENR throughout the project. As requested, the ENGINEER will coordinate any requests for information or tours of the facility by permitting agencies. Following the issuance of a certificate of Substantial Completion by the ENGINEER, the ENGINEER will deliver the notice to the appropriate permitting agencies, including Public Water Supply Section of NCDENR.

110 Contractor's Completion Documents.

ENGINEER shall receive, review and transmit to OWNER with written comments maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by the Contract Documents, certificates of inspection, tests and approvals, and marked-up record documents (including Shop Drawings, Samples and marked-up Record Drawings) which are to be assembled by Contractor in accordance with the Contract Documents to obtain final payment. ENGINEER's review of such documents will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

111 Final Inspection and Notice of Acceptability of the Work

ENGINEER shall conduct a final inspection to determine if the completed work of Contractor(s) is acceptable so that ENGINEER may recommend, in writing, final payment to Contractor(s). Accompanying the recommendation for final payment, ENGINEER shall indicate that the work is acceptable (to the best of ENGINEER's knowledge, information and belief and based on the extent of the services performed and furnished by ENGINEER under this Agreement.)

112 Record Drawings

ENGINEER shall prepare a set of reproducible record prints of Record Drawings showing those changes made during the construction process based on the marked-up prints, shop drawings, drawings, and other data furnished by the Contractor to ENGINEER. The record prints shall also incorporate the Resident Project Representative's observation of changes made during construction. These record drawings shall be provided on a disk (in the latest version of AutoCAD or such version as the parties agree) and in hardcopy prints for delivery to the OWNER.

113 Warranty Review and Site Visit

ENGINEER shall conduct one follow-up warranty review, which shall include a field inspection and meeting, with OWNER to determine status and condition of warranted

items for the PROJECT. Follow-up warranty review will be conducted 11 months after substantial completion of the PROJECT.

114    Limitation of Responsibilities.

ENGINEER shall not be responsible for the acts or omissions of any Contractor, or of any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the work. If in the ENGINEER'S professional opinion, and based on observation while at the work Site, the Contractor is believed to not be performing the Work in general conformance with the Contract Documents, the ENGINEER will notify the OWNER. ENGINEER shall not be responsible for Contractor's failure to perform or furnish the work in accordance with the Contract Documents.

**TASK 200    CONSTRUCTION    OBSERVATION,    RESIDENT    PROJECT  
REPRESENTATIVE, SPECIALTY INSPECTIONS, AND STARTUP**

201    Resident Project Representative during Construction.

The ENGINEER shall provide a part-time Resident Project Representative (RPR) services, beginning with the NTP, for approximately 15 continuous months, budgeted for a maximum of 1016 hours, from NTP to Final Completion. It is anticipated that the RPR will be onsite for approximately 20-hours per week on average, although the time of any particular week will vary based on the construction schedule. The duties and responsibilities of the RPR are set forth in Exhibit B, "Duties, Responsibilities and Limitations of Authority of Resident Project Representative.

The ENGINEER will manage the RPR schedule, taking into account the Contractor's construction schedule, in order to optimize the value of the observation services provided. As needed, the RPR may be required to work in excess of 9-hours per day, in which case each hour that exceeds 9-hours in a single work shift shall be counted as 1.5-hours (overtime), as it relates to the maximum of 1016-hours of RPR services.

The ENGINEER will periodically notify the OWNER of the status of RPR's hours at the Site; and should the OWNER and ENGINEER agree that additional RPR or inspection services are required for the Project then the ENGINEER will receive additional compensation for any additional or extended RPR or inspection services required via further amendment of this Agreement.

202    Engineer Visits to Site and Observation of Construction.

In connection with observations of the work of Contractor while in progress:

ENGINEER shall make visits to the site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress and quality of the various aspects of

Contractor's work. The ENGINEER'S Design Manager will attend monthly Project Construction Meetings and facilitate the meeting in accordance with Contract Documents. The ENGINEER'S lead Design Engineers will make site visits to observe the work and assist with field issues and attend site construction meetings as needed. In addition, ENGINEER shall provide the services of a RPR at the site to assist ENGINEER and to provide more continuous observations of such work. The furnishing of such RPR services will not extend ENGINEER's responsibilities or authority beyond the specific limits set forth elsewhere in this agreement. Such visits and observations by ENGINEER and the RPR are not intended to be exhaustive or to extend to every aspect of the work in progress, or to involve detailed inspections of the work beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling and similar methods of general observation of the work based on ENGINEER's exercise of professional judgment as assisted by the RPR. Based on information obtained during such visits and such observations, ENGINEER shall endeavor to determine in general if such work is proceeding in accordance with the Contract Documents and ENGINEER shall keep OWNER informed of the progress of the work. The responsibilities of ENGINEER contained in this paragraph are expressly subject to the limitations set forth in this task and other express or general limitations in this Agreement and the Contract Documents for the Project.

The purpose of ENGINEER's visits to and representation by the RPR at the site will be to enable ENGINEER to better carry out the duties and responsibilities assigned to and undertaken by ENGINEER during the Construction Phase, and, in addition, by the exercise of ENGINEER's efforts as an experienced and qualified design professional, to provide for OWNER a greater degree of confidence that the completed work of Contractor will conform in general to the Contract Documents and that the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents has been implemented and persevered by Contractor.

On the other hand, ENGINEER shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct or have control over Contractor's work nor shall ENGINEER have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor, for safety precautions and programs incident to the work of Contractor or for any failure of Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to Contractor's furnishing and performing the work. Accordingly, ENGINEER neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the Contract Documents. If in the ENGINEER'S professional opinion, and based on observation while at the work Site, the Contractor is believed to not be performing the Work in general conformance with the Contract Documents, the ENGINEER will notify the OWNER.

## 203 Defective Work

During such visits and on the basis of such observations, ENGINEER shall have authority to disapprove of or reject Contractor's work while it is in progress if ENGINEER believes that such work will not produce a completed PROJECT that conforms generally to the Contract Documents or that it will prejudice the integrity of the design concept of the completed PROJECT as a functioning whole as indicated in the Contract Documents.

## 204 Inspections and Tests

ENGINEER may require special inspections or tests of the work, to be performed by a third party in conformance with the Contract Documents. The ENGINEER shall receive and review all certificates of inspections, tests and approvals required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents. ENGINEER's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests or approvals comply with the requirements of the Contract Documents. ENGINEER shall be entitled to rely on the results of such tests.

## 205 Disagreements between OWNER and Contractor

ENGINEER shall render the initial decisions on all claims of OWNER and Contractor relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the work. In rendering such decisions, ENGINEER shall be fair and not show partiality to OWNER or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.

## **1. ADDITIONAL SERVICES**

The OWNER reserves the right to amend this Agreement so that the ENGINEER may furnish services related to the project that are not currently part of the Basic Services. These additional services will be paid for by the OWNER in an amount and by a method to be determined at the time the services are requested.

## **2. OWNER'S RESPONSIBILITIES**

A. Furnish to ENGINEER, as requested by ENGINEER for performance of Services as required by the Contract Documents, the following:

- Access to the Mitchell WTP site as needed
- Timely review and input on deliverables

- Other required information not covered herein.

OWNER shall be responsible for, and ENGINEER may rely upon, the accuracy and completeness of all reports, data and other information furnished pursuant to this paragraph. ENGINEER may use such reports, data and information in performing or furnishing services under this Scope of Work.

- B. Examine all alternate solutions, studies, reports, sketches, Drawings, Specifications, proposals and other documents presented by ENGINEER (including obtaining advice of an attorney, insurance counselor and other consultants as OWNER deems appropriate with respect to such examination) and render decisions pertaining thereto.
- C. Bear all costs incident to compliance with the requirements of the OWNER's Responsibilities.
- D. Bear all costs incident to construction phase testing services.

### **3. TIME PERIOD FOR PERFORMANCE**

The anticipated time period for the performance of the scope of work described in Exhibit A and B are 15-months, beginning with the Notice to Proceed, with the exception of Item 112 above, Warranty Review and Site Visit, which will take place 11-months after Substantial Completion.

### **4. METHOD OF PAYMENT**

The method of payment for services rendered by the ENGINEER shall be as set forth below:

For the Basic Services performed under Section 1, the OWNER agrees to pay the ENGINEER the amounts listed in Table 4-1. The method of payment will be on a lump sum basis for all Tasks. Payment of these amounts is contingent on passage of the OWNER's annual budget funding for this PROJECT. The OWNER may provide written notice to the ENGINEER to suspend or terminate the obligation to provide further services under this Agreement. In the event of suspension or termination, ENGINEER will be paid for all services rendered and reimbursable expenses incurred to the date of suspension or termination.

#### Lump Sum Method of Payment

Partial payments shall be made by the OWNER on a monthly basis in proportion to the percentage of work completed and the balance of payment made when Basic Services are completed.

- Task 100 – Construction Contract Administration Services, Post Construction, and Record Drawings

- Task 200 – Construction Observation and Resident Project Representative, Specialty Inspections, Startup, and Closeout

**Table 4-1: Payment Amounts by Task**

<b>Task</b>	<b>Payment Amount</b>
TASK 100 - Construction Contract Administration Services, Post Construction Services, and Record Drawings	\$206,200.00
TASK 200 - Construction Observation and Resident Project Representative, Specialty Inspections, and Startup	\$265,200.00