



REQUEST FOR BOARD ACTION

ITEM NO. 11

DATE OF MEETING: December 14, 2015

REQUESTED BY: Michael G. Mack, Utilities Director

SHORT TITLE: Resolution to Award a Professional Services Contract to Highfill Infrastructure Engineering for the Scope of Work Required to Petition and Attain an Interbasin Transfer (IBT) Certificate from the NC Environmental Management Commission for the Distribution of More Than 2 Million Gallons Per Day of Surface Water Across the Four (4) Cape Fear River Sub-Basins of Pender County in the Not-To-Exceed Amount of \$430,400.

BACKGROUND: In 2012, the County's Surface Water Treatment Plant (SWTP) went online with a permitted production capacity of 2 million gallons per day (MGD), but with a true production capacity to treat over 6 MGD with only minor equipment additions and modifications. The SWTP obtains its raw surface water from the Cape Fear River via the Lower Cape Fear Water and Sewer Authority. While much of Pender County is experiencing significant growth, the heaviest is generally along the US 17 corridor. In addition, PCU will be constructing the Moore's Creek and Central Pender Water Distribution Systems in 2016.

In order for PCU to meet the future water demands of the entire County and its six (6) Water and Sewer Districts, PCU will be required to obtain an Interbasin Transfer (IBT) Certificate from the NC Environmental Commission. Per N.C.G.S. 143-215.22L, an environmental assessment must be conducted to assess the environmental impacts associated with a proposed surface water transfer that occurs within a major river basin. Pender County is entirely within the Cape Fear River basin (Major), subdivided by the following (Minor) sub-basins: Cape Fear River, South River, Northeast Cape Fear River and New River and will therefore, be required to obtain an IBT certificate in order to distribute more than 2 MGD of surface water across any of these Minor river basins.

A Request for Qualifications of Professional Engineering Services from firms who could adequately demonstrate they have the resources, experience, and qualifications to successfully petition and obtain the necessary IBT certificate was advertised on September 10, 2015. PCU received a Statement of Qualifications from three (3) engineering firms. Based on a review of the submitted qualifications, only two (2) firms had any previous experience in the IBT certificate process and were selected for an interview. On October 10, 2015, four (4) PCU employees interviewed the "team" of 1) Highfill Infrastructure Engineering and their "project

partner” firm CH2M Hill and 2) McKim & Creed and their “project partner” firm Tetra Tech Engineering. Both firms were then scored by each PCU employee on how successfully they fulfilled each of 11 criteria used for the selection of architects, surveyors, and engineers (copy provided).

Highfill Infrastructure Engineering (and CH2M Hill) unanimously scored much higher than McKim & Creed (and Tetra Tech Engineering) overall and based on three (3) major criterion: Highfill Infrastructure Engineering just completed an updated water model of the new Moore’s Creek and Central Pender Water Distribution Systems and how they will affect our existing Rocky Point/Topsail and Scott’s Hill Water system infrastructure and future water demands in each District; CH2M Hill has successfully obtained five (5) of only eight (8) existing IBT certificates in North Carolina; and a compressed IBT process schedule of only 18 months compared to McKim & Creed’s 38 month process schedule.

Subsequent to the selection of Highfill Infrastructure Engineering and CH2M Hill for this project, staff met twice with the firms to carefully define PCU’s expectations and develop a scope of services that Highfill then used to prepare their cost proposal and agreement (attached).

Staff recommends award of the Professional Engineering Services Contract to Highfill Infrastructure Engineering in the total amount of \$430,400.

SPECIFIC ACTION REQUESTED: To adopt a Resolution awarding an Engineering Services Contract to Highfill Infrastructure Engineering for the IBT Certificate Process in the amount of \$430,400 and authorizing a Purchase Order in the amount of \$475,000 to include 10% for contingency and reimbursable expenses that will only be paid upon County Manager written approval.

RESOLUTION

NOW, THEREFORE BE IT RESOLVED by the Pender County Board of Commissioners that:

a Resolution awarding a Professional Engineering Services Contract for the IBT process in the amount of \$430,400 to Highfill Infrastructure Engineering is Approved and a Purchase Order in the amount of \$475,000 is Authorized.

072-404505 RPT Engineering Services \$475,000

The Chairman/County Manager/Project Manager is authorized to execute any document necessary to implement this resolution.

AMENDMENTS:

MOVED _____ SECONDED _____

APPROVED _____ DENIED _____ UNANIMOUS

YEA VOTES: Williams ___ Brown ___ McCoy ___ Piepmeyer ___ Keith ___

J. David Williams, Jr. Chairman 12/14/15
Date

ATTEST 12/14/15
Date

Criteria for Selection of Architects, Surveyors & Engineers

1. Accurate response to criteria in the RFQ
(Score 1 -10)
2. Overall Professional qualifications of firm and staff
(Score 1-15)
3. Capacity of the proposed team to meet project schedules.
(Score 1 -10)
4. Specialized recent experience demonstrating the technical competence of particular staff members on similar projects
(Score 1-10)
5. Previous experience with the Owner, a good working relationship with Owner Representatives and a record of having completed projects on time and within budget.
(Score 1-10)
6. Understanding of the scope of work.
(Score 1-5)
7. Record of successfully completed projects of similar scope without major legal or technical problems. (Score 1-10)
8. Workload that is fully able to accommodate the addition of this project.
(Score 1-5)
9. Quality control and assurance process.
(Score 1-10)
10. Unique qualifications or work methodology.
(Score 1-5)
11. Approach to the project process.
(Score 1-10)



HIGHFILL
INFRASTRUCTURE
ENGINEERING, P.C.

AGREEMENT

AGREEMENT between the Pender County (“CLIENT”) and Highfill Infrastructure Engineering, P.C. (“ENGINEER”) dated December 14, 2015.

Pursuant to the attached Terms and Conditions, which are incorporated herein by reference, ENGINEER agrees to diligently and professionally perform professional services described in this Agreement for the proper completion of the Scope of Services. ENGINEER shall faithfully perform the Services required under this Agreement in accordance with the standard of care, skill, training, diligence and judgment provided by competent professionals who perform work of a similar nature to the work described in this Agreement and any Work Authorization. CLIENT agrees to pay for the Services performed by ENGINEER in accordance with this Agreement.

BACKGROUND, SCOPE OF SERVICES, AND SCHEDULE:

See Attachment A - Background, Scope of Services and Schedule.

COMPENSATION:

ENGINEER will perform Basic Services described in Tasks 10, 20, 21, 22, 23, 24, and 25 of Attachment A for a Lump Sum amount of \$ 397,100.00. Services will be invoiced periodically on a percentage of work completed and work in progress.

If required, ENGINEER will perform Additional Services described in Task 26 on a Time and Materials basis not to exceed \$ 33,300.00 without prior written notice. Labor and expenses on this task will be invoiced according to the ENGINEER’s then-current Schedule of Rates. A copy of the 2016 Schedule of Rates is included as Attachment B.

Therefore, the total compensation for the Scope of Services described above will not exceed \$ 430,400.00 without written prior notice. Additional Services not described in Attachment A, if needed, will be completed on a time and materials or lump sum basis as agreed by both parties prior to commencement of Additional Services.

IN WITNESS WHEREOF, the CLIENT and the ENGINEER have executed this Agreement as of the date written below and under the laws of the State of North Carolina.

CLIENT

ENGINEER

By: _____
Michael Mack

By: _____
J. Ray Cox, P.E.

Title: Director of Public Utilities

Title: Vice President

Date: _____

Date: _____

Address 605 E. Fremont St.
Burgaw, NC 28425

Address 3804 Park Avenue, Unit A
Wilmington, North Carolina 28403

Phone 910-259-1570

Phone 910-313-1516

Pre-Audit Certification

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act this the _____ day of _____, 20__.

Kathy Brafford
Finance Director

TERMS AND CONDITIONS

- 1. Changes in the Work.** At any time after execution of this Agreement, CLIENT may order changes in ENGINEER Services consisting of additions, deletions, and revisions within the general scope of services being performed by ENGINEER under this Agreement and/or any applicable Work Authorizations. Whenever a change in the scope and/or time for performance of services occurs, or if CLIENT has notified ENGINEER of a change, ENGINEER shall submit to CLIENT a written estimate of the changes in cost and/or schedule, with supporting calculations and pricing. Pricing shall be in accordance with the pricing of this Agreement. CLIENT shall then confirm in writing that it has approved of the proposed changes to ENGINEER Services and that ENGINEER is authorized to proceed forward with the same. Except as specifically set forth herein, neither this Agreement or these Terms and Conditions may be modified, except as agreed to in writing by both Parties to the Agreement.
- 2. Termination of Agreement.** Either Party may terminate this Agreement and any associated Work Authorizations without cause and/or for convenience after giving five (5) days' written notice to the other Party. In the event CLIENT terminates ENGINEER services without cause and/or for CLIENT'S convenience, CLIENT shall be liable to promptly pay ENGINEER for all work performed through the date of termination, all of ENGINEER expenses directly attributable to the termination, including fair and reasonable sums for overhead and profit for work performed, and costs incurred by ENGINEER in terminating any contracts entered into in connection with the performance of its Services.
- 3. Standard of Care; Limited Warranty.** The standard of care for all professional services performed or furnished under this Agreement will be the care and skill used by members of ENGINEER's profession practicing under similar circumstances at the same time and in the same locality. ENGINEER agrees to correct, at its own expense, any services provided that do not conform to the standard of care hereunder for a period of one year following the completion of services. Except as set forth herein, ENGINEER makes no warranties, express or implied, under this Agreement or otherwise, in connection with ENGINEER's services, and ENGINEER hereby disclaims any and all express or implied warranties, including but not limited to the implied warranty of merchantability, the implied warranty of fitness for a particular purpose, and the implied warranty of workmanlike construction, to the fullest extent permitted by law.
- 4. Use of Documents.** It is understood and agreed that all documents prepared pursuant to this Agreement are the product of professional services intended for one-time use in the Project that is the subject of this Agreement. Such documents are and shall remain the property of ENGINEER, and they are not intended or represented to be suitable for re-use by CLIENT or others on extensions of the Project or on any other project. With ENGINEER'S consent, the CLIENT may retain copies for information and reference in connection with the occupancy and use of the Project. In the event Project documents provided to the CLIENT in machine-readable form are so converted, or in the event of any re-use without written verification or adaptation by ENGINEER for the specific purposes intended, the CLIENT agrees to assume all risks associated therewith and, to the fullest extent permitted by law, to hold harmless and indemnify ENGINEER from and against all claims, liabilities, losses, damages and costs arising out of or resulting from said unauthorized use. Any written verification or adaptation authorized or performed by ENGINEER will entitle ENGINEER to additional compensation at rates to be agreed upon by ENGINEER and the CLIENT.
- 5. Hazardous Materials.** To the fullest extent permitted by law, for any services provided by ENGINEER involving or relating to hazardous waste elements or to the removal or encapsulation of asbestos, the CLIENT agrees to indemnify and hold harmless ENGINEER and their consultants, agents and employees from and against all claims, damages, losses and expenses, direct and indirect, or consequential damages, including but not limited to fees and charges of attorneys and court and arbitration costs, arising out of or resulting from the performance of the work by ENGINEER, or claims against ENGINEER arising from the work of others, related to hazardous waste or asbestos activities.
- 6. Use of Electronic Media.** Copies of documents that may be relied upon by CLIENT are limited to the final printed copies (also known as hard copies) that are signed or sealed by ENGINEER. Files in electronic media format or text, data, graphics or other types that are furnished by ENGINEER to CLIENT are only for convenience of CLIENT. Any conclusions or information obtained or derived from such electronic media format will be at the user's sole risk. When transferring documents in electronic format, ENGINEER makes no representations as to the long-term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems or computer hardware differing from those in use by ENGINEER at the beginning of the assignment.
- 7. Limitation of Liability.** The total liability, in the aggregate, of ENGINEER and its directors, officers, or employees, and any of them, to CLIENT or anyone claiming by, under or through the CLIENT for any and all injuries, claims, losses, expenses, and damages whatsoever arising out of or in any way related to ENGINEER Services, shall be limited to \$500,000 or the total fees paid to ENGINEER by CLIENT, whichever is greater. In no event, however, shall any liability to CLIENT exceed the amount of applicable insurance that ENGINEER has procured for services under this Agreement.

8. Payment Terms. ENGINEER shall invoice CLIENT for Services in accordance with ENGINEER standard invoicing practices. Invoices are due and payable on receipt and should be remitted by check or wire transfer of immediately available funds. If CLIENT fails to make any payment due ENGINEER for services and expenses within thirty (30) days after receipt of invoice, the amounts due ENGINEER will be increased at the rate of 1.5% per month (or the maximum rate of interest permitted by law, if less) from accounts not paid within thirty (30) days.

If CLIENT reasonably objects to any portion of an invoice, CLIENT shall provide written notification to ENGINEER of CLIENT'S objection and the basis for such objection within fifteen (15) days of the date of receipt of the invoice. CLIENT shall not offset amounts due ENGINEER under a Work Authorization for any credit or disputes arising under a different Work Authorization. CLIENT shall waive any objections to ENGINEER invoice if it fails to timely provide such written notice to ENGINEER.

Failure of CLIENT to make payments when due shall be cause for termination of this Agreement (in accordance with Paragraph 2, above) or, at the option of ENGINEER, suspension of services under this Agreement until ENGINEER has been paid all amounts due.

In the event of litigation or other proceeding to enforce any payment obligation under this Agreement, the prevailing Party shall be entitled to recover from the other Party attorneys' fees and costs as may be reasonably incurred by reason of the litigation.

9. Subsurface Investigations. In soils, foundation, groundwater, and other subsurface investigations, the actual characteristics may vary significantly between successive test points and sample intervals and at locations other than where observations, exploration, and investigations have been made. Because of the inherent uncertainties in subsurface evaluations, changed or unanticipated underground conditions may occur that could affect total project cost and/or execution. These unforeseen conditions are not the responsibility of the ENGINEER.

10. ENGINEER'S Personnel at Construction Site. The presence or duties of ENGINEER'S personnel at a construction site, whether as onsite representatives or otherwise, do not make ENGINEER or ENGINEER'S personnel in any way responsible for those duties that belong to CLIENT and/or the construction contractors or other entities, and do not relieve the construction contractors or any other entity of their obligations, duties, and responsibilities, including, but not limited to, all construction methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the construction work in accordance with the construction Contract Documents and any health or safety precautions required by such construction work. ENGINEER and ENGINEER'S personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions and have no duty for inspecting, noting, observing, correcting, or reporting on health or safety deficiencies of the construction contractor(s) or other entity or any other persons at the site except the ENGINEER'S own personnel.

The presence of ENGINEER'S personnel at a construction site is for the purpose of providing to CLIENT a greater degree of confidence that the completed work will conform generally to the Contract Documents and that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved by the construction contractor(s). ENGINEER neither guarantees the performance of the construction contractor(s) nor assumes responsibility for construction contractor's failure to perform their work in accordance with the Contract Documents.

11. Opinion of Probable Construction Costs. ENGINEER'S opinion of probable construction costs, if rendered as a service under this Agreement, is based on assumed labor costs and approximate quantities of material and equipment, and therefore is of a conditional character. ENGINEER cannot guarantee the cost of work to be performed by others since market or bidding conditions can change at any time and changes in the scope or quality of the project may affect estimates.

12. Delays Beyond the Control of the ENGINEER. Events that are beyond the control of the ENGINEER may delay the performance of the Scope of Services. In the event that the performance of the Scope of Services by the ENGINEER is delayed beyond his control, the ENGINEER shall notify the CLIENT in writing of such delay and the reasons therefore, and the CLIENT extend the time of performance appropriately.

13. CLIENT'S Responsibilities and Representations:

- a. Representative: The CLIENT shall designate a single representative with respect to the services to be rendered under this Agreement who shall act on behalf of the CLIENT and issue instructions to the ENGINEER.
- b. Criteria and Information: The CLIENT shall provide all criteria and full information as to its requirements for the Project, including objectives, constraints, projected demands and service areas, well and water quality data and performance requirements.
- c. Access: The CLIENT shall arrange access for the ENGINEER to all public and private properties where such access is required for the performance of services under this Agreement.
- d. Reviews: The CLIENT shall examine all studies, reports, sketches, drawings, specifications, proposals, and other documents presented by the ENGINEER and shall render decisions pertaining thereto within a reasonable time as not to delay the services of the ENGINEER.
- e. Permitting Fees: The CLIENT shall be responsible for payment of all required regulatory application fees, and those fees are not included in this Agreement unless specifically stated otherwise.

14. Permitting. The ENGINEER cannot guarantee any regulatory approval or a timeframe in which that approval might be granted. The CLIENT should be aware that significant delays can occur during regulatory review, and those delays may impact project schedule and scope of work. No such delays are currently anticipated, but should any materialize, the ENGINEER will present to the CLIENT alternatives for addressing the matter causing the delay.

15. Mutual Indemnity. To the fullest extent permitted by law, CLIENT and ENGINEER each agree to indemnify the other Party and the other Party's officers, directors, partners, employees, and representatives, from and against losses, damages, and judgments arising from claims by third parties, including reasonable attorney's fees and expenses recoverable under applicable law, but only to the extent that they are caused by a negligent act, error, or omission of the indemnifying Party or any of the indemnifying Party's officers, directors, members, partners, agents, employees, or subconsultants in the performance of services under this Agreement.

16. Mutual Waiver of Consequential Damages. Neither the CLIENT nor the ENGINEER shall be liable to the other or shall make any claim for any incidental, indirect or consequential damages arising out of, related to, or connected in any way to the Project or this Agreement. This mutual waiver includes, but is not limited to, damages, related to loss of use, loss of profits, loss of income, loss of reputation, unrealized savings, or diminution of property value and shall apply to any cause of action including negligence, strict liability, breach of contract, and breach of warranty.

17. Authorization by Purchase Order: Purchase Order terms are not consistent with these Terms and Conditions. If CLIENT issues a Purchase Order for authorization of services, it is hereby understood that the Terms and Conditions herein shall replace any Terms and Conditions contained in or attached to the Purchase Order.

18. Dispute Resolution. Except as indicated herein, CLIENT and ENGINEER agree that they shall first submit any and all unsettled claims, counterclaims, disputes, and other matters in question between them, arising out of or relating to the Agreement to mediation in accordance with the North Carolina Rules Implementing Statewide Mediated Settlement Conferences in Superior Court Actions. Any such disputes not resolved by mediation shall be submitted to arbitration in accordance with the North Carolina Revised Uniform Arbitration Act (N.C.G.S. § 1-569.1 et seq).

19. Governing Law and Venue: This Agreement shall be governed by the laws of the State of North Carolina and the venue for any civil action between the parties shall be located in North Carolina.

20. Special Conditions. None.



HIGHFILL
INFRASTRUCTURE
ENGINEERING, P.C.

ATTACHMENT A: BACKGROUND, SCOPE OF SERVICES, AND SCHEDULE

3804 Park Avenue, Unit A
Wilmington, North Carolina 28403
Tel 910-313-1516

BACKGROUND, SCOPE OF SERVICES, AND SCHEDULE

IBT Certificate Process
Pender County (CLIENT)
Last Updated: November 19, 2015

Project Background and Purpose

Pender County Utilities' (PCU) water treatment plant (WTP) is currently permitted for a production capacity of 2 million gallons per day (MGD), but it is expandable to 6 MGD capacity with relatively minor modifications. PCU obtains its water from the Cape Fear River via the Lower Cape Fear Water and Sewer Authority (LCFWASA). While much of Pender County is experiencing significant growth, the heaviest is generally along the US 17 corridor, which includes the Rocky Point/Topsail and Scott's Hill Water and Sewer Districts. PCU's ability to deliver water to these districts is currently restricted by a 12-inch diameter transmission main along NC 210. PCU plans to supplement the main with a larger line in order for the distribution system to accommodate increasing demands. Because the larger main will enable PCU to distribute more than 2 MGD across multiple designated IBT river basins, an IBT Certificate is required.

Per North Carolina General Statute (N.C.G.S.) § 143-215.22L an environmental assessment may be used to assess the environmental impacts associated with a proposed transfer that occurs within a major river basin. Pender County is entirely within the Cape Fear River basin, subdivided by the following sub-basins: Cape Fear River, South River, Northeast Cape Fear and New River. Pender County qualifies as a "coastal county" under the N.C.G.S. § 143-215.22L (w). This section dictates the regulatory requirements for coastal counties to obtain an IBT certificate.

Scope of Services

Task 10 – Project Management

Work under this task includes overall management of ENGINEER's project scope, budget, schedule, personnel and quality control processes through project completion.

Task 10 Deliverables:

- Kickoff meeting, meeting agenda, and meeting summary (electronic deliverables)
- Monthly status reports to CLIENT (electronic deliverable)
- Coordination calls/meetings with CLIENT (These meetings are assumed to be primarily phone calls or online meetings. The frequency is expected to be biweekly, on average, for 18 months.)

Task 20 – Local Water Supply Plan (LWSP) Update, Notice of Intent (NOI) Preparation, Environmental Assessment (EA) Workplan Development

Work under this task includes the following activities:

1. Planning projections:
 - a. Collect historical data needed to create a water use profile and perform water demand and wastewater flow forecasting. ENGINEER will receive the following data from CLIENT, as available:
 - i. Annual, daily, and hourly water production (2006-2015)
 - ii. Customer billing data (2006-2015, incorporate historical billing adjustments)
 - iii. GIS and parcel data for matching customers with river basins and water and sewer districts.
 - iv. Any annual water audits prepared between 2006-2015
 - b. Water demand and wastewater flow forecast:
 - i. Define the services area(s) – Define the spatial extent of the service area of the primary applicant and co-applicants using GIS (existing and future).
 - ii. Unit Consumption analysis – Review historic water billing information to establish the unit consumption for residential, commercial and industrial users.
 - iii. Land Use and Population analysis – In order to ascertain the potential for future growth in the defined service area, the ENGINEER will leverage local sources of information (population projections, projected growth rates, land use) to determine the residential and non-residential growth potential.
 - iv. Projection of future water demand and wastewater flow – use the defined service areas, unit consumption data and projection of future growth to calculate the future water demand through 2050.
 - c. Uncertainty analysis – Develop a 95% confidence interval for the future water demands. ENGINEER will rely on CLIENT input to fine-tune the analysis and provide a range of future water demand projections that will be used to help establish the most appropriate IBT limit.
 - d. Water mass balance – Develop a water mass balance that defines the net quantity of water expected to be transferred from the source basin to each of the IBT sub-basins for the planning period.
2. LWSP Update – Provide the projections developed above to CLIENT and co-applicants for use in their LWSP submittals to the NC Division of Water Resources (DWR). Assist CLIENT in submitting CLIENT's update, as needed.
3. Path forward meeting with CLIENT and DWR – Schedule and attend one meeting with CLIENT and DWR in Raleigh to discuss intentions and procedure prior to submitting the NOI.
4. Prepare NOI and EA Workplan:
 - a. The purpose of the EA Workplan is to provide background on the water and wastewater systems, discuss projected water use, define alternatives, and provide preliminary information documenting the likely projected IBT over the planning period. It also will include mapping (infrastructure system, study area, etc.) and an outline of the proposed EA. This will be used as a basis for dialogue with DWR to ensure all parties are in alignment regarding the path forward for this project. The EA Workplan will be finalized after receiving comments from DWR and clarifying or discussing those comments as needed so that the final EA Workplan is satisfactory to DWR.

- b. As defined in the new legislation, PCU will submit a NOI of a potential request for an IBT certificate in accordance with the N.C.G.S. §143-215.22L. The HIGHFILL Team will draft the NOI for PCU review.
5. EA Workplan meeting with CLIENT and DWR - Schedule and attend one meeting with CLIENT and DWR in Raleigh to review the EA Workplan.

Task 20 Deliverables:

- Assist CLIENT in updating LWSP for submittal to DWR, and share data with up to four co-applicants (electronic deliverable)
- Draft and final NOI for review and comment by CLIENT (electronic deliverable)
- Submit final NOI both as an original with signatures from CLIENT and a PDF copy to DWR
- Draft and final EA Workplan to CLIENT and DWR (electronic deliverable)
- Two (2) meetings with CLIENT and DWR in Raleigh, with meeting agendas and summaries (electronic deliverables)
- A final PDF copy of DWR meeting summaries will be provided to CLIENT and DWR (electronic deliverable)

Task 20 Assumptions and Clarifications:

- ENGINEER will assist CLIENT with development of CLIENT's LWSP update for submittal to DWR as needed. Information will be provided to co-applicants for them to complete their LWSP updates.
- Two (2) rounds of revisions of the NOI and EA Workplan are included in the scope.
- DWR will concur with the Final EA Workplan.
- The two meetings included in this task will take place in Raleigh, each with approximate 2-hour duration.

Task 21 – EA Preparation and Agency Review

Work under this task includes the following activities:

1. Develop and deliver to CLIENT a draft EA that examines the effects of the proposed increase in water withdrawal from the Cape Fear River and the associated IBT. Following is the proposed EA outline:
 - a. Project Description
 - b. Project Purpose and Need
 - i. Population and Demand Projections
 - ii. Water Supply Needs
 - iii. IBT Request
 - c. Alternatives Evaluation
 - d. Existing Environment
 - i. Water Resources
 1. Surface Water

2. Groundwater
 - ii. Wetlands
 - iii. Topography
 - iv. Soils
 - v. Wildlife Resources
 - vi. Aquatic Resources
 - vii. Land Use
 - viii. Agricultural Land and Prime Farmland
 - ix. Forested Land
 - x. Public Lands and Scenic and Natural Areas
 - xi. Archaeological and Historic Resources
 - xii. Air Quality
 - xiii. Noise Levels
 - e. Environmental Consequences
 - i. Direct impacts
 - ii. Secondary and cumulative impacts
 - f. Mitigation
 - i. Federal and state mitigation measures
 - ii. Local mitigation measures
 - g. References
 - h. Appendices
2. After CLIENT's review, meet with CLIENT to discuss how review comments will be incorporated/addressed.
 3. Analyze the impacts of the proposed IBT and alternatives using DWR's Cape Fear River and Neuse River Basin OASIS hydrologic model.
 - a. Meet with CLIENT and DWR to discuss how the alternative scenarios will be analyzed using the model.
 - b. Provide a Technical Memorandum (TM) to document assumptions, input parameters, results and conclusions.
 4. Develop and submit the final EA:
 - a. After addressing CLIENT's comments, submit the (revised) draft EA to DWR electronically for review.
 - b. Address DWR's comments and provide an electronic copy of the resulting final EA to CLIENT for review.
 - c. Submit the final EA to DWR in pursuit of a Finding of No Significant Impact (FONSI).
 - i. Upon FONSI issuance, DWR will submit the EA and FONSI to the State Environmental Review Clearinghouse.

Task 21 Deliverables:

- Draft EA for CLIENT review (electronic deliverable)
- One meeting with CLIENT
- One meeting with DWR and CLIENT in Raleigh (modeling discussion)
- One meeting with DWR in Raleigh (reviewing Agency EA comments)

- Electronic copies of meeting agendas and summaries
- Draft and final modeling TM (electronic deliverable)
- Final Draft EA incorporating DWR comments (electronic deliverable)
- Nine hard copies of Final EA will be provided: Two for CLIENT, six for DWR distribution to the State Clearinghouse and other agencies, and one for ENGINEER. Final EA documents are anticipated to be up to 400 pages long with up to 10 color figures (all figures 8 ½ x 11). One PDF copy of the Final EA will also be provided to CLIENT and DWR.

Task 21 Assumptions and Clarifications:

- Up to four alternative scenarios to the proposed IBT will be considered in the draft and final EA and in the hydrologic modeling.
- No significant impacts are expected to be identified during the course of the environmental analysis, and an EA will remain an appropriate document for the IBT request. Preparation of an Environmental Impact Statement (EIS) is not included in this scope.
- One review period, for the draft EA, by CLIENT will be sufficient, and the EA will be revised one time based on CLIENT comments.
- The Cape Fear River and Neuse River basin OASIS model will be the only river basin model used for this analysis.
- The OASIS model and model results presented in the EA, incorporating comments from DWR, will be acceptable for the EMC decision process.
- Each alternative scenario will be run through the OASIS model one time.
- The modeling TM, once finalized, will be provided to PCU and DWR for one review and then incorporated into the impacts sections of the draft EA and included in the draft EA as an appendix.
- No water quality modeling will be required as part of this EA.
- Only available GIS data will be used in analyses, no digitization will be required.
- The EA will be revised one time based on Agency comments.
- No new alternatives will be developed as a result of the Agency review process.
- Agencies will not have significant comments regarding secondary and cumulative impacts.
- Agency comments on the Draft EA will not require additional hydrologic modeling or GIS analysis (minor modifications may be made to maps, but data queries will not need revision).
- Agencies will not require field studies or hard copy file reviews at agency offices.
- No changes to the EA will occur after the State Clearinghouse review period.
- The State Clearinghouse will declare the EA complete at the end of the 30-day public comment period and provide a letter of completion of the EA and FONSI process.
- DWR will develop the FONSI.

- No meetings beyond those specifically described above are required to finalize the EA.

Task 22 – IBT Petition

Following the issuance of a FONSI for the EA by DWR, ENGINEER will prepare an IBT Petition. The petition will rely on information in the EA but will be organized according to the requirements of the IBT Statute. ENGINEER will provide a draft petition to CLIENT for review. After addressing CLIENT review comments, ENGINEER will submit the draft petition to DWR for review. After addressing DWR comments, ENGINEER will prepare and submit a final petition to DWR for consideration by the Environmental Management Commission (EMC). The petition will be structured such that DWR can answer each of the 9 findings of fact required as part of the quasi-judicial process to approve an IBT. One meeting with DWR is included to review the final draft of the petition.

Task 22 Deliverables:

- Draft and Final IBT Petition (electronic deliverable)
- One meeting with CLIENT and DWR

Task 22 Assumptions and Clarifications:

- The IBT Petition will be revised two times, once based on CLIENT comments and once based on DWR comments.
- The IBT Petition will include CLIENT and all co-applicants that will be a part of the IBT Certificate.
- CLIENT will secure all co-applicants signatures on the IBT Petition.

Task 23 – DEQ Public Hearing; EMC Meetings

One public hearing is required following the completion of the EA and FONSI, and following the development of the IBT Petition. DWR will advertise and reserve meeting space for the public hearing and will participate in the hearing. At least one hearing officer from the EMC will facilitate the hearing. ENGINEER will attend meeting and will assist CLIENT with preparation.

Public notice requirements for the public hearing are the CLIENT's responsibility. ENGINEER will provide support, securing advertisements for the public hearing and sending notice via email to the required parties identified in the IBT Statute. ENGINEER will document this process in a spreadsheet.

Following the 30-day public comment period and DWR's preparation of a hearing officer's report, the EMC will consider CLIENT's request, issue a final determination of fact, and prepare the IBT Certificate. Two ENGINEER team members will attend the EMC meetings (one Water Allocation Committee meeting and one full EMC meeting) when this request is on the meeting agenda. Associated support includes review of EMC meeting materials with DWR and CLIENT.

ENGINEER will also provide support to CLIENT prior to the EMC Meetings, updating CLIENT as meeting agendas and materials become available from DWR.

Task 23 Deliverables:

- Attendance at three meetings (public hearing and two EMC meetings)

Task 23 Assumptions and Clarifications:

- The public hearing will be held in Pender County.
- The EMC meetings will be held in Raleigh.
- DWR will conduct and record the public hearing, collect comments during the 30-day comment period following the hearing, and prepare a hearing officer's report. The ENGINEER will have a limited role in these activities, answering questions DWR may have during the process and reviewing materials as requested.
- ENGINEER will provide 16 hours of support time to DWR for presentation(s) development for the EMC meetings.
- Two ENGINEER team members are expected to participate in each meeting.
- ENGINEER will assist CLIENT in procuring and tracking required advertising and providing proper notice. CLIENT will pay all advertising and publication costs.

Task 24 – Stakeholder Engagement

Early in the project the ENGINEER will meet, in a workshop setting, with the potential co-applicants identified by the CLIENT. The workshop's goal will be to brief the potential co-applicants on CLIENT's water supply planning and the IBT certification process, as well as to determine their long-term plans for water supply and what entities may request water from CLIENT within the next 30-years.

ENGINEER will also provide support to CLIENT in engaging stakeholders throughout the IBT process, with the intent of helping to bolster support for the IBT. These activities may include meeting with the Cape Fear Riverkeeper, presentations to the Pender County Commissioners, meeting with potential IBT certificate co-applicants, briefing presentations to the EMC, and organizing support for the IBT prior to the public hearing. Three additional meetings are included with such stakeholders throughout the course of the project.

ENGINEER will also prepare a model resolution in support of the IBT for the Pender County Commissioners. The model resolution will be provided ahead of the public hearing such that signed resolutions will be submitted as part of the 30-day comment period associated with the public hearing.

Task 24 Deliverables:

- Attendance at four meetings in the Pender County area and meeting summaries (electronic deliverable)
- Draft and final model resolution, to be reviewed one time by CLIENT (electronic deliverable)

Task 24 Assumptions and Clarifications:

- Additional meetings will be considered additional services.

Task 25 – Development of Mitigation Plan Documents

An approved IBT Certificate will include conditions requiring water conservation, drought management, and compliance and monitoring plans to specifically address protection of the source

basin. ENGINEER will prepare these documents in accordance with the IBT Certificate conditions utilizing CLIENT's existing plans as a starting basis.

ENGINEER will also prepare a detailed IBT tracking spreadsheet as part of the compliance and monitoring plans.

Task 25 Deliverables:

- Water conservation plan
- Drought management plan
- Compliance and monitoring plan
 - IBT tracking and reporting spreadsheet
- Attend one meeting with CLIENT in Pender County to review final plans and advise how to implement IBT tracking.

Task 25 Assumptions and Clarifications:

- The IBT Certificate will require the plans to be provided to DWR within 90 days of issuance.

Task 26 – Additional Services

The IBT process can be unpredictable. Other activities outside this scope of work may be necessary to support and achieve the project goals. Stakeholder engagement outside of the regulatory requirements for meetings may be necessary. The goal of this additional services task is to include, but not be limited to, additional stakeholder outreach to engage stakeholders early in the development of the EA and gather input (beyond meetings covered in the above tasks), additional hydrologic modeling, and additional meetings with CLIENT or DWR. Activities under this task will require approval of CLIENT.

Schedule

Pender County Commissioner approval is anticipated on December 14, 2015, and work will begin in earnest in January 2016. The Scope of Work described above is anticipated to be complete in October 2017. For planning purposes, the figure below shows how we anticipate the work progressing.

ENGINEER will endeavor to complete work tasks in accordance with this schedule. CLIENT acknowledges that certain aspects of the project, including regulatory review time, are outside the ENGINEER'S direct control and may impact schedule significantly.

Pender County IBT Anticipated Schedule

Task	Name	2016												2017								
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
1	Project Kick-off	◆																				
2	LWPS Update, NOI, EA Workplan		▲		▲																	
3	EA Preparation and Agency Review					▲		◆		▲												
4	IBT Petition Preparation																					
5	DENR Public Hearing and EMC Meeting																					
6	Engage Stakeholders																					
7	Certificate Required Plans																					
8	Project Management																					
9	Additional Services - As Needed																					

- ◆ Project Kickoff and Key Status Meetings with PCU
- ▲ Regulatory Meetings, Meetings with DWR and Public Hearing
- ★ IBT Certificate Award by EMC



ATTACHMENT B: 2016 SCHEDULE OF RATES

HIGHFILL
INFRASTRUCTURE
ENGINEERING, P.C.

Employee Classification	Hourly Rate
Principal, Chief Engineer	\$180-195
Senior Project Manager	\$150-185
Project Manager, Senior Engineer	\$130-155
Engineer (PE)	\$105-135
Engineering Intern (EI)	\$90-110
Senior CAD Designer	\$90-110
CAD Designer	\$70-95
Senior Construction Observer	\$75-95
Construction Observer	\$65-80
Senior Technician	\$75-95
Technician	\$65-80
Project Administrative Assistant	\$50-65

Expenses/Subcontractors	Rate
Subcontractor	Cost + 10%
Reimbursable Project Costs	Cost + 10%
Mileage	then-current IRS rate
Water and Sewer Modeling Software License Recovery Fee	5% of fee ceiling (up to a maximum of \$1,000) to be included on first invoice

Rates are valid through 2016.