



REQUEST FOR BOARD ACTION

ITEM NO. 13.

DATE OF MEETING: October 18, 2010

REQUESTED BY: Michael G. Mack, Director, PCU

SHORT TITLE: Resolution Approving Amendment # 6 to the Existing Professional Services Agreement and Authorizing a Change Order to McKim & Creed for the Rocky Point/Topsail Water & Sewer District Phase 5A Project to Include the EA and PER Amendments for the Wallace Booster Pump Station Improvements.

BACKGROUND: Phase V of the Rocky Point/Topsail Water and Sewer District has a remaining balance of approximately \$2,200,000 including \$919,000 in grant money from USDA-RD funding available for the installation of some additional water facilities and line extensions within the District. At the June 21, 2010 Board of Commissioner's meeting, the Board of Director's of the Rocky Point/Topsail Water and Sewer District approved the recommend prioritization listing of additional water facilities and waterline extensions to complete the Phase 5 project. The Surf City interconnection was the highest priority project and has been designed, permitted, and installed. The remaining high priority project is a 12-inch parallel water main from the Town of Wallace supply to RPTWSD Booster Pump Station # 1. In addition, approximately 20 miles of additional waterline extensions throughout the District were also on the recommended list. The Wallace parallel water main project has been designed and permitted; however, an Environmental Assessment (EA) and Preliminary Engineering Report (PER) Amendment must now be completed and approved by the USDA-RD prior to bidding. The amendments will also address the 20 miles of proposed waterline extensions.

In order to complete the EA and PER Amendments, design, permitting, bidding, and construction services for these projects, staff requested and received a proposal from McKim & Creed to add the necessary tasks to their existing service contract. McKim & Creed has provided a Scope of Work and Contract Amendment No. 6 to complete these services for \$278,580. Funds for this additional scope are available in Phase 5 Capital Project Fund (# 69-407434 – Capital Outlay) and staff is recommending approval of this Amendment.

SPECIFIC ACTION REQUESTED: To consider a resolution by the Rocky Point/Topsail Water & Sewer District Board of Directors approving Amendment # 6 to the existing professional services agreement and authorizing a Purchase Order with McKim & Creed in the amount of \$278,580 for the amendment.

COUNTY MANAGER'S RECOMMENDATION

Respectfully recommend approval.

JB
Initial

RESOLUTION

NOW, THEREFORE BE IT RESOLVED by the Rocky Point/Topsail Water and Sewer District Board of Directors that:

Amendment # 6 to the existing professional services agreement is approved and a Purchase Order with McKim & Creed in the amount of \$278,580 for the amendment is authorized.

Account # 69-407434 Phase 5 Capital Project Fund \$278,580

The Chairman/County Manager is authorized to execute any/all documents necessary to implement this resolution.

AMENDMENTS:

MOVED _____ SECONDED _____

APPROVED _____ DENIED _____ UNANIMOUS

YEA VOTES: Tate ___ Blanchard ___ Brown ___ Rivenbark ___ Williams ___

Jimmy T. Tate, Chairman 10/18/10
Date

ATTEST 10/18/10
Date



ENGINEERS

SURVEYORS

PLANNERS

October 6 2010

PW100314

Mr. Michael Mack, Director
Pender County Utilities
Post Office Box 995
Burgaw, NC 28425

RE: Rocky Point Topsail Water & Sewer District Phase 5 Amendment # 6 -
Phase 5A and Wallace Water System Improvements

Dear Mr. Mack:

We are pleased to present this proposal to provide professional services for the Rocky Point Topsail Water and Sewer District (District) Phase 5 Amendment # 6 - Phase 5A and Wallace Water System Improvements project.

This Agreement encompasses professional services for the preparation of an Environmental Assessment (EA) Amendment and a Preliminary Engineering Report (PER) Amendment as well as design, permitting, contract bidding and award, and construction services for the project.

PROJECT UNDERSTANDING

The District is in process of constructing the Phase 5 water system to provide a safe and dependable source of drinking water for residents of the Phase 5 area near Hampstead and Topsail Township in Pender County.

This Agreement includes professional services for the Phase 5 A project as well as the Wallace Booster Pump Station Improvements project. The proposed Phase 5A project will extend water service to new customers located throughout the District. Additionally, the proposed Wallace Booster Pump Station Improvements project will upgrade and increase the capacity of the District's existing water booster pump station located near North Chubb Road (Wallace Booster Pump Station) in order to meet the near term water supply needs of the District. The proposed Wallace Booster Pump Station Improvements project will also add an iron and manganese chemical sequestrant / dispersant system at the Wallace Booster Pump Station in order to eliminate or reduce intermittent rusty

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or dirty water problems in the distribution system associated with small amounts of iron and manganese in the well water from Wallace.

This agreement is based upon bidding the Phase 5A water line extensions and the Wallace Booster Pump Station Improvements as two separate construction contracts, as it is anticipated that the Wallace Booster Pump Station Improvements will be bid prior to completion of design the Phase 5A project. The Phase 5A and Wallace Booster Pump Station Improvements projects are further described as follows:

Phase 5 A

The Phase 5A project includes up to 165,000 LF of 2-inch to 8-inch water lines to extend water service to new customers located within the District limits. Note that actual water line lengths and diameters will be determined as part of the PER stage of the project, to include a prioritization of lines to be constructed based on potential customer densities. While the approximate 165,000 LF will be evaluated in the PER, it is anticipated that the actual length constructed will be less due to limits of available funding. Note that proposed water line locations were determined and provided by the District. Attachment 1 provides a map and list of water line locations that are included in this amendment and was used as a basis for this proposal.

Wallace Booster Pump Station Improvements

The Wallace Booster Pump Station Improvements project will provide the District with additional finished water supply from Wallace via an upgrade to the N. Chubb Road booster pump station to increase pumping capacity from approximately 620 GPM to 765 GPM. The N. Chubb Road booster station upgrade will include new pumps, motors, electrical service, motor control center, control panel, and a standby generator.

The Wallace Booster Pump Station Improvements project includes installation of approximately 6,100 LF of 12-inch PVC water main along US 117, from the District's connection with its potable water supplier, Wallace, to the existing N. Chubb Rd. booster pumping station, parallel to the District's existing 10-inch water main, which will remain in service. The purpose of this parallel 12-inch water main is to improve suction pressure to the District's existing N. Chubb Rd. booster pumping station to accommodate the proposed expanded capacity of the

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booster pumping station. This project will also include a pressure reducing valve and vault to be installed along the existing 10-inch NC 11 water main, near US 117, to regulate system pressure to the District's customers in the Pender Lea area following the pump station upgrade. Additional pressure reducing valves will be installed on approximately 20 existing residential water services to regulate operating pressure to the homes within the high pressure zone along US 117, extending from directly south of the N. Chubb Rd. booster pump station to Newkirk Rd.

Please note that the Wallace Booster Pump Station Capacity Improvements project was previously designed and permitted; however, a chemical sequestrant system was not included in the previous project design. This proposed project will include design of a chemical sequestrant system and modification of the existing Wallace Booster Pump Station public water supply permit to include the sequestrant system.

The proposed iron and manganese chemical sequestrant/dispersant system is proposed to be constructed at the existing Wallace Booster Pump Station in order to eliminate or reduce intermittent rusty or dirty water problems in the distribution system associated with small amounts of iron and manganese in the well water from Wallace. Controlled injection of the NSF approved blend of phosphates and polyphosphates to the water sequesters existing iron and manganese concentrations, preventing or reducing mineral scale and tuberculation in the water distribution system. Other benefits of the chemical sequestrant system may include control of copper and lead leaching from residential plumbing and reduction of chlorine demand, potentially improving disinfection control in the water distribution system. The proposed system consists of a chemical storage tank, containment basin, duplex metering pumps, piping, appurtenances, and associated instrumentation and controls.

Our detailed scope of work is as follows:

SCOPE OF SERVICES

McKim & Creed will provide the following services for the referenced project:

TASK 1 - PER AMENDMENT

A PER amendment for the original Phase 5 water system improvements project was completed in July of 2004. This Agreement encompasses professional services for the preparation of a PER Amendment for the Phase 5 A water line extensions and Wallace Booster Pump Station Improvements.

Utilizing information from the existing Phase 5 model, modify the hydraulic model for the proposed Phase 5A project and evaluate water line sizing. Following completion of the modeling, prepare an Amendment to the PER. This task includes the following:

- Hold a kickoff meeting with District Staff to review proposed water line locations and project expectations.
- Project water demands for the proposed water line extension areas.
- Revise the existing hydraulic model for Phase 5 to include approximately 165,000 LF of water line extensions noted in the project understanding section of this proposal. Note that fire hydrant flow data for locations to be determined within the RRTWSD will be necessary in order to calibrate the model. We will request the fire hydrant flow data from the District during the PER stage of the project.
- Determine resulting residual pressures and evaluate for regulatory compliance.
- Evaluate the N. Chubb Road booster pumping station for system improvements to include an upgrade to capacity and required electrical and mechanical upgrades.
- Evaluate the approximately 6,100 LF of parallel 12" water main along US 147 for suction pressure improvements to the N. Chubb Road booster pumping station.
- Evaluate the impacts and requirements for the addition of a chemical sequestration system to improve turbidity and reduce mineral scaling.
- Provide a planning level cost opinion and implementation schedule.
- Evaluate permitting and regulatory requirements for the project. It is anticipated that a new Public Water Supply Permit, a DOT Encroachment Agreement, an erosion control permit, a stormwater permit, and possibly CAMA and Corps of Engineers permit will be required for the project.
- Prepare necessary exhibits for depiction of the proposed project.

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- Prepare the PER Amendment. The PER Amendment will primarily address the aspects of the project that are different from the Phase 5 project, including the Phase 5 A water line extensions and Wallace Booster Pump Station Project letter amendment.
- Provide the draft PER Amendment to the District for review.
- Revise the PER for District comments.
- Upon District approval, submit the PER Amendment to USDA Rural Development for review and comments.
- Address comments that are received from USDA Rural Development and make necessary revisions to the PER Amendment.
- Submit final PER Amendment to USDA Rural Development.

TASK 2 -EA AMENDMENT

An EA amendment for the original Phase 5 water system improvements project was completed in July of 2004. This Agreement encompasses professional services for the preparation of an EA Amendment for the Phase 5A water line extensions and Wallace Booster Pump Station Improvements. We will prepare the required Environmental Assessment Amendment as follows:

- Prepare the EA document as per the guidelines of USDA Rural Development. The EA Amendment will address the aspects of the project that are different from the existing EA, including the Phase 5A water line extensions and Wallace Booster Pump Station project.
- Submit the Environmental Assessment Amendment to the USDA Rural Development for review and comments.
- Address review comments that are received from USDA Rural Development and make necessary revisions to the document.
- Resubmit final amended Environmental Assessment Document to USDA Rural Development and the District.
- Note that this contract does not include scoping, Clearinghouse or other public reviews of the EA Amendment document.

TASK 3 - DESIGN AND PERMITTING

The proposed design and permitting scope is anticipated to be conducted in two separate phases, including Task 3A- design and permitting of the Phase 5A water

line extensions and Task 3B- design and permitting of the Wallace Booster Pump Station Improvements.

TASK 3 A -PHASE 5A DESIGN & PERMITTING

Following District approval of the PER, the Phase 5A design phase will begin. The following items are included for the Phase 5 A design portion of the project:

- Kickoff meeting with District staff.
- Prepare base maps.
- Perform field reconnaissance on proposed water line routing. Make recommendations for routing to District staff to include permitting concerns, NCDOT, and physical constraints associated with existing utilities.
- Potential easements will be identified and communicated to the District.
- Provide hydraulic calculations as necessary for permit submittal support to NCDENR Public Water Supply.
- Prepare and submit 30% plans for review to the Owner. Construction Plans will be prepared at 1" = 50' scale on 24" x 36" media.
- Phase 5A Plans will include cover sheet, index with vicinity map, general notes, water main plan sheets, and detail sheets. Water line plan sheets will show routing of the water mains, existing utility conflicts, limits of construction, easements, and details of interconnections to the existing system as applicable.
- Water main diameters will be sized as determined by hydraulic investigations performed by McKim & Creed and sizing will be approved by the Owner.
- Conduct design review conference with District staff based on the 30% submittal.
- Prepare 60% plans and specifications for review by the District.
- Conduct design review conference with District staff based on the 60% submittal.
- Prepare 90% plans and specifications for review by the District.
- Conduct design review conference with District staff based on the 90% submittal.
- Prepare final plans and cost estimate. Finalize construction contract documents and submit 100% design to Owner for review.

- Upon Owner approval, provide plans and specifications to USDA Rural Development for review and revise plans and specifications for Rural Development comments, as applicable.
- Upon Owner approval, proceed with the following permit submittals and respond to permit agency comments:
 - NC DENR Public Water Supply (PWS) Permit
 - NC DENR Erosion Control Permit
 - NC DENR Stormwater Permit
 - NC DOT Encroachment Agreement
 - CAMA General permit, if applicable
 - USACOE permit, if applicable

The District will be responsible for all permitting fees.

TASK 3 B - WALLACE BOOSTER PUMP STATION IMPROVEMENTS DESIGN & PERMITTING

Following authorization to proceed, the Wallace Booster Pump Station Improvements chemical sequestrant system design phase will begin. The following items are included for the Wallace Booster Pump Station Improvement sequestrant system portion of the project:

- Kickoff meeting with District staff.
- Investigate the suitability, cost, and availability of potential NSF approved sequestrant / dispersant compounds for this application.
- Analyze available water quality data for the existing well systems to determine effective chemical dosage requirements.
- Prepare the necessary design calculations to size the storage tank, metering pump capacity, piping, injector, and appurtenances required for the system.
- Analyze the design of the existing booster pump station to determine the appropriate location for the proposed equipment (inside or outside the pump station).
- Determine the electrical, instrumentation, and control requirements for the system.
- Prepare the necessary engineering plans and specifications for the proposed system (mechanical plan, sections, and details; electrical power and I&C).

- Revise the existing Wallace Booster Pump Station Improvements Engineering Report to include the sequestrant / dispersant system.
- Prepare Engineer's opinion of probable construction cost.
- Prepare and submit the PWS permit application for a permit modification.
- Respond to PWS review comments.

The District will be responsible for all permitting fees.

TASK 4 – CONTRACT BID AND AWARD SERVICES

McKim & Creed will provide bid and contract award assistance. This proposal is premised upon bidding the Phase 5A and Wallace Booster Pump Station Improvements projects as two separate contracts, including Task 4A "Phase 5A Water Line" extensions bid and award, and Task 4B "Wallace Booster Pump Station Improvements" bid and award.

Upon approval of the District for each separate Phase (Task 4A and Task 4B), McKim & Creed will perform the following Bid and Award Services:

- Prepare and furnish Bidding Documents for review and approval by Owner and its legal counsel, as appropriate.
- After acceptance of the Bidding Documents by Owner, advertise project for a 30-day period in local plan room (Dodge) and local newspaper (Star News). District will be responsible for all advertising costs.
- Provide three sets of reproducible plans and specifications to the Owner for on-site Contractor review purposes.
- Issue Bidding Documents to prospective Bidders. Maintain a record of prospective bidders to whom Bidding Documents have been issued.
- Respond to bidder inquiries and prepare Addenda as required. Addenda shall be submitted in reproducible format to the local Dodge plan room.
- Provide faxed copies of Addenda to plan holders.
- Schedule and conduct pre-bid meeting.
- Schedule and conduct bid opening.
- Review and tabulate bids, summarizing all Contractors' bids on each bid item using Excel spreadsheet. Deliver to the Owner in Microsoft Excel 2003 format.
- Review contractor references and provide a recommendation of award.

TASK 5 - CONSTRUCTION ADMINISTRATION SERVICES

McKim & Creed will provide the following construction administration services for the Phase 5A project. (Note that the existing construction administration budget from the previous Wallace Booster Station Improvements project, under a separate existing contract, will be utilized for construction administration for the Wallace Booster Pump Station project. Therefore, construction administration services for the Wallace Booster Pump Station project are not included in this contract).

- Schedule and conduct pre-construction conference. Prepare and distribute minutes.
- Schedule and conduct progress meetings on a monthly basis. Prepare and distribute minutes.
- Review and approve shop drawings from contractor.
- Endeavor to resolve problems in a timely manner as work proceeds and involve appropriate parties in resolving disputed and problems associated with the project.
- Pay request review & recommendation for payment to Owner.
- Change order review and recommendation to Owner.
- Prepare punch-list and coordinate completion of punch-list items with contractor.
- Certify completion of project to NCDENR Public Water Supply Section
- Prepare revised after construction drawings on bond media and on CD ROM format (AutoCAD Release 2005).

TASK 6 - CONSTRUCTION OBSERVATION SERVICES

McKim & Creed will provide the following construction observation services for the Phase 5A project. (Note that the existing construction observation budget from the previous Wallace Booster Station Improvements project, provided under a separate existing contract, will be utilized for construction observation for the Wallace Booster Pump Station project. Therefore, construction observation services for the Wallace Booster Pump Station project are not included in this contract).

- Provide construction observation of 40 hours per week for approximately 25 weeks and, including substantial and final completion inspections, and

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field verification of quantities of work completed for pay application processing.

TASK 7-ADDITIONAL SERVICES

The Engineering Services stated above do not include the costs of:

- Permitting fees
- Easement surveying or descriptions
- Wetland delineations
- Advertisement fees
- Submitting the EA Amendment to the Clearing House, scoping or revising the EA Amendment for Clearing House or other public comments
- Closeout or scope changes to the Phase 5 project
- Biological surveys
- Threatened and endangered species surveys
- Environmental Impact Statements
- Geotechnical Investigations
- Hydrogeological Investigations
- Court appearances for litigation or preparation for the same

It is anticipated that some additional services listed above may be required for this project and for the purposes of this proposal have included a not to exceed limit of \$20,000 for such services. This amount will not be exceeded without the Owner's prior written approval.

OWNER RESPONSIBILITIES

The District will be responsible for the following:

- Fees associated with permitting and advertising project for bid.
- Cost associated with water sampling or water quality analysis.
- Provide access to County mapping and as-built documentation as needed. Data shall be provided in electronic form if available.
- Provide copies of all applicable reports, surveys, and delineations.
- McKim & Creed will require the following information for use in this project. Owner will assist McKim & Creed in obtaining this information as necessary:

1. Fire hydrant flow test data in locations TBD during modeling and PER
2. Water samples and water quality information for the Wallace wells and the District's distribution system.

BASIS FOR COMPENSATION

McKim & Creed will provide the services outlined in this proposal for the fee types and prices in the table below:

Task	Fee	Fee Type
Task 1: PER Amendment	\$7,800	Fixed Fee
Task 2: EA Amendment	\$12,000	Fixed Fee
Task 3 A: Phase 5 A Design & Permitting	\$99,946	Fixed Fee
Task 3 B: Wallace BPS - Sequestrant Design & Permitting	\$20,000	Fixed Fee
Task 4 A: Phase 5 A Bid & Award Services	\$14,278	Fixed Fee
Task 4 B: Wallace BPS - Sequestrant Bid & Award Services	\$5,000	Fixed Fee
Task 5: Phase 5A Construction Administration Services ¹	\$28,556	Fixed Fee
Task 6: Phase 5A Construction Observation Services ¹	\$71,000	Hourly
Task 7: Additional Services (Limit)	\$20,000	Hourly
Total Fee	\$278,580	

¹ Note that the existing construction administration and observation budgets from the previous Wallace Booster Station Improvements project will be utilized for construction administration and observation for the Wallace Booster Pump Station project. Therefore construction administration and observation services for the Wallace Booster Pump Station Improvements project are not included in this amendment.

Note that Tasks 3A, 4A, and 5 are based upon USDA Rural Development fee curves for an estimated Phase 5A project cost of \$2.2 million. The total fee for these services is 6.49% of the estimated construction cost or \$142,780.

Mileage associated with the use of personal vehicles will be reimbursed at the federal rate. Company truck mileage will be reimbursed at the rate of \$0.84/mi.

SCHEDULE

We are prepared to begin work immediately upon Authorization to Proceed and anticipate the following project schedule:

Task	Completion Date
Notice to Proceed	October 18, 2010
PER Amendment Schedule	
Complete Modeling & Submit PER to District for Review	November 30, 2010
Upon District Approval, Submit PER to Rural Development	December 14, 2010
Finalize PER for Rural Development's Comments	January 13, 2011
EA Amendment Schedule	
Submit EA Amendment to District for Review	December 12, 2010
Upon District Approval, Submit EA to Rural Development	December 19, 2010
Finalize EA for Rural Development's Comments	January 18, 2011
Wallace BPS Chemical Sequestant System Schedule	
Begin Design	October 18, 2010
Provide Design and Cost Estimate to District for Approval	November 18, 2010
Finalize Design and Submit PWS Modification Application	November 30, 2010
Receive PWS Permit Modification	February, 2011
Advertise for Bid	March, 2011
Open Bids	April, 2011
Award Construction Contract	May, 2011
Begin Construction	June, 2011
Complete Construction	December, 2011
Phase 5 A Water System Improvements Schedule	
Submit Phase 5 A 30% Design to District	January 13, 2011
Submit Phase 5 A 60% Design to District	February 12, 2011
Submit Phase 5 A 90% Design to District	March 14, 2011
Submit Phase 5 A Final Design, Cost Estimate, and Permit	April 13, 2011
Upon District Approval, submit Design to Rural Development and	April 27, 2011
Receive Phase 5 A Permits & Rural Development Approval	July 26, 2011
Advertise Phase 5 A for Bid	August, 2011
Open Phase 5 A Bids	September, 2011
Award Phase 5 A Construction Contract	October, 2011
Begin Phase 5 A Construction	November, 2011
Complete Phase 5 A Construction	May, 2012

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Please note that the project schedule is subject to change based on review times required by review agencies.

We appreciate the opportunity to provide professional engineering services for this project and look forward to continuing our relationship with Pender County.

Sincerely,

MCKIM & CREED, PA

Tony Boahn, P.E.
Vice-President

kh/bc

Enclosure:

DRAFT