

**UNION COUNTY, NORTH CAROLINA  
DEPARTMENT OF PUBLIC WORKS**



**REQUEST FOR PROPOSALS**

**COMPREHENSIVE WATER AND WASTEWATER  
MASTER PLAN**

October 5, 2009

# REQUEST FOR PROPOSALS

## Comprehensive Water and Wastewater Master Plan for Union County

DUE DATE: **October 30, 2009**

Time: **2:00 PM**

Submittal Location: **Union County Public Works,  
500 N. Main St., Suite 500,  
Monroe, NC 28112**

In accordance with Union County guidelines, submittals for the services specified will be received by Union County at the above specified location, until the time and date cited. Submittals received by the correct time shall be considered. Submittals received after the due date and time will not be considered for selection.

Submittals, one original and seven copies, must be submitted in a sealed envelope/box labeled **Comprehensive Water and Wastewater Master Plan RFP, Union County Public Works and submitter's name and address clearly indicated on the envelope**. Instructions for preparing the RFP are provided herein.

A pre-proposal conference is scheduled for **10:00 a.m. on Friday October 16, 2009** at the Union County Personnel Training Room, 500 North Main St. Monroe, NC. All consultants are urged to attend. Questions regarding proposals should be directed to Scott Huneycutt, Assistant Director at [scott.huneycutt@co.union.nc.us](mailto:scott.huneycutt@co.union.nc.us) or by calling 704-296-4211 no later than Wednesday October 23, 2009.

Selection criteria are outlined in the request for proposal documents. Union County reserves the right to reject any or all proposals to waive technicalities and to make an award deemed in its best interest. With limited response, Union County reserves the right to extend the solicitation opening date as appropriate in order to assure a competitive procurement process.

### **1. PURPOSE**

The Union County Department of Public Works ("UCPW") hereby requests qualified consultants to submit a Statement of Qualifications (SOQ) and a Technical Proposal (hereafter called Proposal) for professional services for preparing the Union County 2030 Water and Wastewater Master Plan for the 20 (twenty) year period beginning in 2010.

This Water and Wastewater Master Plan will assess the utility's many separate elements, and combine these elements into a single "road map" for the future. This Master Plan will serve as a guide to future system development and investment decisions. Based on the shared values of the utility and the community it serves, the Master Plan provides a holistic vision for Union County's water resources development and utilization, as well as concrete strategies to carry out this vision.

The most recent comprehensive planning efforts have been the June 2006 Wastewater Master Plan, and the 2005 Water Master Plan Update. In addition numerous partial updates to these plans have been undertaken for specific projects or service delivery needs.

The plan will also include the parallel development of a fiscal plan that will identify the financial requirements for the implementation of this Master Plan including:

A final draft of the Union County Comprehensive Land Use Plan has been submitted to the County's Planning Board. If the Comprehensive Plan has not been formally adopted at the time work begins on the Master Plan then the consultant will at the direction of the UCPW develop population and employment figures from the best available information. The UCPW's goal is to complete the 2030 Water and Wastewater Master Plan based on information from and in overall compliance with the Comprehensive Land Use Plan.

Proposals will be evaluated to determine the Consultant's capability to provide professional services for water and wastewater planning, which may include any or all of the following:

- Experience in water and wastewater master planning and the development of integrated water resource management plans
- Understanding of local, regional and state-wide water and wastewater issues
- Coordination of water and wastewater planning with regulatory agencies
- Coordination of water and wastewater planning with comprehensive planning
- Fiscal Planning
- Demand forecasting
- Identification and evaluation of alternatives for water and wastewater systems
- Identification and evaluation of alternatives for long term water supply
- Hydraulic water modeling
- Complex hydraulic sewer modeling (gravity and pressure)
- Development of CIP requirements
- Public Education/Involvement

The County encourages potential proponents to meet the base requirements of this RFP and to suggest alternative approaches and methodologies.

Submittals made in response to this request for Statement of Qualifications and Technical Proposal will be reviewed by a committee and ranked based on criteria identified in Selection Process Section of this RFP. A short-list of firms may be made based on a review of the qualifications and technical proposals. At the discretion of Union County, firms may also be interviewed.

## **2. PROJECT BACKGROUND**

### **2.1 General**

The Water and Sewer System presently serves an aggregate of approximately 38,900 water and 27,800 sewer customers. The County is located along the North Carolina/South Carolina state line southeast of the City of Charlotte and Mecklenburg County. Water and sewer service needs are increasing in the County, in large part due to its proximity to the City of Charlotte and Mecklenburg County and the presence of a strong transportation network which includes US 601, US 74, the CSX railroad and I-485 Charlotte Outer Belt.

**2.2 The Water System.** The County’s water system has grown in recent years to provide water service to a significant portion of the County, including all major urbanized areas except the City of Monroe. Water service is provided to the communities of Indian Trail, Stallings, Waxhaw, Wingate, Weddington, Wesley Chapel, Fairview, Hemby Bridge and large areas of low density land use. The water system has approximately 38,900 customers.

The 2008 population of the County, according to the U.S. Census Bureau, was approximately 193,000. Of that population, approximately 105,000 people, or 54% of the total population, are served by the County water system. The City of Monroe separately serves approximately 36,000 people or 19% of the population. The County’s water customers use a total of 10.3 million gallons per day (“MGD”), or approximately 98 gallons per capita per day (“GPCD”). If the consumption of the largest industrial user is subtracted from the total use, the daily per capita use is 93 GPCD.

The following table summarizes the water usage from each of the two current sources. The Catawba River Water Treatment Plant (“Catawba WTP”) source includes a small percentage of use outside of the County.

Calendar Year 2008 County System Water Use (MGD)

Source	Average Day	Maximum Day	Plant Capacity
Catawba WTP	9.30	19.81	18.0
Anson County	1.02	1.90	4.0
Total	10.32MGD	21.71MGD	22.0MGD

The primary water suppliers are the Catawba WTP and the Anson County, North Carolina water system. The County and the Lancaster County (South Carolina) Water and Sewer District have jointly developed the Catawba WTP in South Carolina. The Catawba WTP has a treatment capacity of 36.0 MGD and started production in April 1993. Each entity is entitled to 50% of capacity (18.0 MGD), and each has rights to future expansions up to the total permitted capacity of 100 MGD. Both entities have mutually engaged an engineering firm to commence the permitting and design for expanding the capacity of the Catawba WTP from 36 MGD to 54 MGD to accommodate the expected growth in the County’s water system. This water resource will serve to solve water supply problems in the high growth area of western Union County. The Catawba WTP is providing high quality water which meets all drinking water standards.

The Anson County water system provides water to the Marshville/Wingate area. Anson County has a twenty-year agreement with the County, which expires in 2014, to provide 4.0 MGD to the County. The County must purchase a minimum of 1.0 MGD pursuant to that agreement. Anson and Union officials are negotiating the terms of an extension to the agreement, to include additional capacity. The County expects to reach terms that are acceptable to both parties.

**2.3 Sanitary Sewer System.** Union County’s sewer system currently serves over 27,800 customers. The collection system piping is comprised of both gravity and force mains with pipe diameters ranging from 4 inches to 48 inches. Union County’s sewer collection and treatment system currently consists of over 550 miles of pipe, approximately 65 sewer lift stations and five sewer treatment facilities. Sewer pump stations range in size from 2HP to 250HP and pump capacity from 10 gallons per minute (“GPM”) to 3000 GPM. The sewer treatment facilities range in size from .05 MGD to 6.0 MGD, providing a total treatment capacity of 8.15 MGD. In addition to the current 8.15 MGD of sewer treatment capacity, the County has 2.65 MGD and 3.0 MGD contracted capacity in the City of Monroe’s wastewater treatment plant (“WWTP”) and Charlotte Mecklenburg Utility’s McAlpine Creek WWTP, respectively.

## Calendar Year 2008 County System Sewer Treatment (MGD)

Facility	Average Day Flow	Permitted/Contracted Capacity
County (5 facilities)	4.50	8.15
Charlotte/Mecklenburg Utility	0.92	3.00
City of Monroe	1.24	2.65
	6.66	13.80

Additional wastewater treatment capacity will be needed in the 2018-2020 time frame. The County is currently evaluating the expansion of the 12-Mile Creek Wastewater Treatment Plant to meet service needs in the western portion of the County. The County is also discussing with the City of Monroe joint participation in an expansion of their wastewater treatment plant to meet growth needs in eastern Union County along with the construction of a separate wastewater treatment plant in the northern area of the County.

### 3. REQUESTED SCOPE OF SERVICES

The following provides more detailed information on the requested scope of services. Each Consultant is encouraged to provide a more in-depth analysis of the services that may be needed to achieve the County's objectives.

#### 3.1 Objectives of Project

- a. Develop an integrated water resources management plan that optimizes the water supply alternatives with wastewater reuse and disposal within the framework of inter basin transfer restrictions
- b. Look to regional solutions that provide synergies for Union County and potential partners in resource development and utilization.
- c. Develop solutions that maximize the use of existing infrastructure
- d. Identify feasible, reliable and cost effective water and wastewater system capacity solutions for Union County in accordance with the recently updated County-wide Land Use Plan and the development plans of the municipalities we serve.
- e. As necessary develop system growth projections based on the updated County-wide Land Use Plan and other independent economic and area-wide growth assessments
- f. Establish wastewater trunk line corridors, estimated size, and locations for lift stations.
- g. Develop a master water transmission and distribution network to provide adequate water service and pressure to all developed and projected service areas including fire flows.
- h. Prioritize water and wastewater needs based on year and impact.
- i. Evaluate future regulatory requirement impacts on operation and maintenance.
- j. Receive input from municipalities served by the County's system in a workshop format.
- k. Evaluate supply, distribution, conveyance, collection and treatment elements of the current system and expansions.
- l. Establish planning level cost estimates for recommended system improvements.
- m. Develop a comprehensive, high-level fiscal plan that evaluates and recommends funding alternatives for the implementation of this plan including assessment and balancing of impacts to current rate payer, impact fees to new development and issuance of new debt.

- n. Match long-term capacity needs with planned growth pattern and projections as identified in the Land Use Plan and other population growth projections. Develop a detailed implementation schedule for the master plan.
- o. Develop a Capital Improvement Plan (CIP) for the first 10 years.

### **3.2 Schedule**

The Proposer is expected to provide a schedule for the delivery of these services as part of their submittal. The County is facing critical needs for the development of additional Water and Wastewater treatment capacity and needs to make decisions within the first six months of this effort regarding alternative solutions. As such the project schedule and project approach needs to address how the consultant will advance this effort to provide the County with sufficient guidance for facility planning in the required time frame.

### **3.3 Deliverables**

- a. An Early-out report addressing system capacities and recommended alternative and fiscal analysis of implementing these alternatives.
- b. A draft report for County review and comment that would include a more in-depth analysis of the collection and distribution system needs, residuals management fiscal plan for program implementation. Ten (10) copies will be submitted to the County for review.
- c. Meet with the County to obtain and discuss review comments.
- d. Incorporate draft review comments in Comprehensive Water and Wastewater Master Plan.
- e. Prepare final draft report for County review and comment. Ten (10) copies will be submitted to the County for review.
- f. Meet with the County to obtain and discuss review comments.
- g. Prepare final report incorporating County review comments.

### **3.4 The final written report shall contain as a minimum the following:**

- a. An Executive Summary of no more that five pages.
- b. Map of entire service area(s), full color.
- c. Map of existing service area(s), full color.
- d. Map of existing water and wastewater infrastructure locations, and size, full color.
- e. Map of proposed plan water and wastewater infrastructure locations and size, full color.
- f. CIP project summary sheets with conceptual project cost estimates for each identified project. Unit costs will be estimated, in order of preference, based upon recent local bid tabulations, regional unit cost summaries, and generalized unit costs.
- g. Fiscal Plan identifying the source and use of funds for the program implementation with analysis of impacts to current and future rate payers.
- h. Ten (10) bound copies submitted to the County. One (1) electronic copy on DVD in \*.pdf format submitted to the County. Ten (10) bound copies of the Executive Summary.
- i. GIS coverage's in ESRI format of proposed infrastructure layers including attributes.

### **3.4. The County will provide the following to the selected consultant:**

- a. Wastewater Master Plans dated 2000 and 2006.
- b. Water Master Plan dated 2000 and 2005.
- c. County Land Use Plan.
- d. Existing water and wastewater system information.
- e. Status of County's current design and construction projects.

- f. Access to Public Works Staff and County-assigned Project Manager.
- g. Final report to be completed no later than 6 months after contract award.

#### 4. RFP REQUIREMENTS

Proposals should be submitted in three ring binders, tabbed for each section outlined below and any appendices you may choose to include. The total length of the proposal, excluding any cover letter or appendices, should be no more than 50 pages. Font size should be no smaller than Arial Narrow 11pt.. Please provide the following information in the sequence of the following major heading described below. Supplemental materials providing additional information may be included as appendices.

##### 4.1 Project Team

- Given the scope, complexities, and schedule of the project, identify the specific Project Manager and key staff you are proposing for this project. The Project Manager should have extensive experience in County-wide, Regional, and River Basin utilities planning. For each team member provide a brief summary of their experience as it applies to this project. Resumes for each individual can be included as an appendix to the proposal. **It shall be understood that it is the intent of Union County to insist that those key personnel indicated as the project team in the RFP, actually execute the project.**
- Include an organizational chart as it relates to this project including all key staff, their location, percent available to work on this project, and identification of any subconsultants that will be used.
- Describe the capabilities of your staff to provide the technical services required under this RFQ.

##### 4.2 Project Approach and Schedule

- Provide a detailed project approach for providing the scope of work identified for this project and achieving the project goals
- Provide a schedule identifying major tasks, duration, and major milestones for this project.
- We encourage proposer to identify alternative approaches or additional tasks they believe will best accomplish the goals of this planning effort

##### 4.3 Specific Experience

- Similar work over the last 7 years – List up to 5 similar projects, preferably within the SE United States, your organization has completed over the last 7 years. For each project, provide the following information:
  - Name and Location
  - Nature/description of the project
  - Cost of the Master Planning effort
  - Project start and completion dates
  - Owner's name and contact information
- List any sub consultants in which your organization has relationship with and list the categories of work those sub consultants normally perform.

We do not want a list of every project the firm has undertaken. Keep it relevant to the needs of this undertaking. If you want to provide more detail put it in a separate appendix to the proposal.

#### **4.4 Company Profile**

- Provide Firm name.
- Provide address of principal office where work will be performed.
- Provide Phone number, fax number, website address and e-mail address information.
- Provide information on the year Firm was founded.
- Provide the name of the individual whom will be the County's primary contact.
- Provide a general statement of Firm's history and financial stability.
- Provide number of years your organization has been in business as a consultant in its current capacity
- If you are proposing to use subconsultants or partners for any portion of the project list the categories of work to be performed by subconsultants.
- For every sub consultant or partner provide the same company profile as described above

## **5. SELECTION PROCESS**

Maintaining the integrity of the RFP process is of paramount importance for the County. To this end, please do not contact any members of the Union County or their staff until the award of this contract is presented for approval, other than the County's designated contact person identified in the introduction to this RFP. Representatives of Union County will read, review and evaluate the qualifications independently based on the evaluation criteria. Union County reserves the right to conduct interviews with a shortlist of selected respondents.

### **The following factors will be used in the initial evaluation process.**

- a. Reputation, Quality and Experience of Firm (20 points possible)
  - How substantial is the firm's experience in providing similar services for a State, county, Town or City of comparable size and complexity?
  - Is the firm knowledgeable in regards to the requirements for services of this type county, (i.e., contractors, State and county codes, etc)?
  - Has the firm worked for the County in the past? If so, when and in what capacity? Was the work satisfactory to the County? Was that work finished within budget?
  - Did all references listed have a favorable experience with the firm? Would they work with them again? How comparable was their project?
  - Did the firm demonstrate an understanding of Interbasin Transfer regulations, NCDENR regulations and cost estimation capabilities?
- b. Proposed Project Team (20 points possible)
  - Does the proposed project staff appear to have the appropriate experience and capabilities to perform the specified project?

- Does the firm's organizational structure support the project team and project objectives? What systems /process does the firm employ to assure knowledge sharing so we get the benefit of the firms experience and not just the experience of the individuals assigned to the project.
  - The availability of key team member to participate in this project
- c. Overall approach and Methodology (30 points possible)
  - How does the proposal: (1) integrate the water and wastewater service needs, (2) facilitate input from, and address the needs of municipalities and other stakeholders, (3) balance growth needs with equity to existing rate payers, (4) assure that the recommended solutions are feasible from a cost, regulatory and public perception perspective.
  - Provides for an ongoing Capital Planning and Fiscal Management tool for the Department upon completion of the project.
  - Assure that the water and sewer system models can be used effectively by UCPW staff after completion of the project.
- d. Cost control/value engineering (15 points possible)
  - Although cost is not a criteria in this selection, we look for the proposer to demonstrate how they will effectively deliver this service in a cost effective manner, making optimum use of their team members' time and effort and those of Union County, and building on, not redoing, older planning efforts.
  - Does firm address its approach to Project Management in regards to quality assurance, cost control and approach and plan for implementation?
- e. Project schedule (15 points possible)
  - The County is desirous of completing this plan as expeditiously as possible. The firm shall demonstrate in the proposal how they will be able to complete this effort in no more than 12 months from notice to proceed, and deliver an Early-out report as described in Section 3.2 within 6 months of NTP.

It is anticipated that the review of qualifications will be completed by November 20, 2009. Interviews may or may not be conducted after that time. All firms submitting a RFP will be notified of the results of the selection process and if they have been selected for further consideration for this project. At that time we will enter into contract negotiations with the selected firm.