ORANGE WATER AND SEWER AUTHORITY

A public, non-profit agency providing water, sewer and reclaimed water services to the Carrboro-Chapel Hill community.

MEMORANDUM

TO: **Natural Resources and Technical Systems Committee**

Terri Buckner (Chair)
Stephen Dear
Michael Hughes
Heather Payne
Dana Raborn
Will Raymond
Amy Witsil
John Young
Alan Rimer (*ex officio*)

THROUGH: Ed Kerwin

FROM: Ruth Rouse

DATE: February 28, 2014

SUBJECT: **March 5, 2014 NRTS Committee Meeting**

The NRTS Committee will meet on Wednesday, March 5, 2014 from 5:30 to 7:00 PM in the OWASA Boardroom. Ruth Rouse, Planning and Development Manager, will present information on the Long-Range Water Supply Plan (LRWSP) update.

Agenda

- Update of Long-Range Water Supply Plan
  - Charter document (Attachment 1)
  - Goals and objectives (Attachment 2)
  - Discussion
- Next meeting
  - April 2, 2014

I have enclosed a draft charter and goals/objectives. These documents are high level drafts which we will use to guide discussion. We look forward to seeing you on March 5.

Ruth C. Rouse

Ruth Rouse, AICP
Planning and Development Manager

c: Robert Epting

Attachments
Enclosure 1: Draft Charter for Long-Range Water Supply Plan
Enclosure 2: Draft Long-Range Water Supply Plan Goals and Objectives

Enclosure 1

DRAFT CHARTER FOR LONG-RANGE WATER SUPPLY PLAN

Orange Water And Sewer Authority
400 Jones Ferry Road
Carrboro, NC 27510

Enclosure 1

DRAFT CHARTER FOR LONG-RANGE WATER SUPPLY PLAN

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PROJECT VISION

We will implement environmentally, socially, and financially acceptable and technically practical water supply and demand management strategies to ensure a reliable and high quality supply of water for the community for the next 50 years. We will seek to involve and engage the community as we define and evaluate our community's needs, identify and evaluate our options, and proceed to implement the preferred strategies. Our plans will be periodically re-evaluated and adjusted as assumptions, trends, and conditions change over time.

PROJECT OVERVIEW

The goal of this project is to develop a plan that helps guide OWASA's decisions, actions, and investments to ensure a reliable and high quality supply of water for the next 50 years.

PROBLEM STATEMENT

OWASA's mission is to provide its customers with high quality water, wastewater and reclaimed water services through responsible, sustainable, and creative stewardship of the resources and assets we manage. Since it can take many years – even decades - to plan, design, permit, and construct new water supplies, work must be done early to ensure we take timely action to meet drinking water needs far into the future (water supply planning done on 50-year basis). This project will ensure we meet our core mission.

COMMUNITY NEED

The last update of our Long-Range Water Supply Plan was completed in 2010. Since that time, water demands have continued to decline andupdated planning documents have been developed by the Towns and UNC. In light of these and other factors, the OWASA Board of Directors has concluded that the LRWSP needs to be updated to reflect the best information available.

Update of the plan is one of the seven strategic initiatives identified in the Board's draft Strategic Plan for Fiscal Years 2014-2017.

The plan will document the optimum mix of technically, environmentally, economically, and socially feasible water supply and demand management alternatives that meet projected demands and level-of-service objectives under a range of future conditions and uncertainties that are presented in the Plan.

As a first step in the planning process, the Board of Directors will establish the proposed over-arching goals and objectives, water supply level-of-service requirements, and criteria (and associated weighting) to be used to evaluate a range of potential supply and demand management options. Consistent with OWASA's community engagement goals expressed in the draft Strategic Plan, the Board will also need to determine the proposed scope and process for engaging the public in this important planning initiative.

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HIGH-LEVEL SCOPE/DELIVERABLES

	HIGH-LEVEL DELIVERABLE AND/OR SERVICE
1.	More detailed information on individual tasks are found in Attachment 1. Specific task scopes will be developed as the project progresses (e.g., the community engagement process).
2.	Updated water demand projections that incorporate the best information available and appropriately reflect the uncertainty surrounding local governments' population and economic growth projections and UNC's projections.
3.	Updated estimates of water supply yield, including more rigorous assessment of potential effects of climate change on yield.
4.	List of supply and demand management alternatives; financial and non-financial evaluation of those alternatives (evaluation criteria identified in Task 1)
5.	Communication plan to provide community with meaningful input to the process.
6.	Concise final plan which summarizes OWASA water supply goals and objectives, projected water supply needs, alternatives considered to meet those needs, the cost and schedule to implement the selected alternatives, and the assumptions used to develop the plan.
7.	Implementation plan which includes legal/policy frameworks and funding

EXCLUSIONS

	EXCLUSIONS
1.	Alternatives which involve the transfer of water from outside the Jordan Lake watershed will not be considered.
2.	Alternatives which were evaluated in the 2010 Long-Range Water Supply Plan but eliminated from detailed consideration will not be considered during the update. These include: new reservoir on Sevenmile Creek, dredging University Lake, expanding Cane Creek Reservoir, expanding University Lake, and putting a permanent intake on the Haw River.
3.	Demand management alternatives for which firm, measurable savings cannot be documented (such as public education and outreach) will not be included in the plan update. However, such measures will be considered during the planned development of OWASA's formal Water Conservation Plan.

ASSUMPTIONS

	ASSUMPTIONS
1.	OWASA strongly supports and promotes activities which result in additional water conservation by its customers.
2.	The plan will carefully consider input from the Town of Carrboro, Town of Chapel Hill and UNC. The plan elements will be developed iteratively such that others are clear on potential policy issues associated with different water supply and demand management alternatives.
3.	The Plan is an opportunity to engage OWASA's customers. Further details on community engagement will be developed in Task 1.

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ASSUMPTIONS	
4.	The Plan should include a list of actions that could be used if extended drought or other operational emergency outside the assumptions used to develop Plan put community at risk; in other words, the Plan should include a back-up strategy if the water supply and demand management alternatives selected may not be adequate for some future situation.
5.	Supply and demand management evaluations will be based on desktop analyses using readily available data.
6.	Energy use and greenhouse gas emissions are assumed to based on operation of the applicable strategy (embedded energy for materials in construction will not be included in the analyses).

CONSTRAINTS

	SCOPE	TIME	COST	DESCRIPTION
1.	N/A	N/A	X	Consulting support – tasks such as updating yield and demand projections to address climate change considerations, and preparing life-cycle cost evaluations for certain alternatives will require consulting support. The level of detail provided by consultants should be based on balancing the risk of developing a higher level analysis against OWASA's affordability goal.
2.	N/A	X	X	The timetable and scope of the project will depend in part on the Board's decisions regarding the community engagement process. Providing meaningful opportunities for stakeholder input to the process (including customers, local governments, UNC, etc.) will require additional time and project support. This is internally driven schedule so low risk.

HIGH-LEVEL RISKS

High-Level Risks	
1.	Climate change could impact yield of reservoir system, demands – should be accounted for during planning process.
2.	Local governments development policies/ordinances, changes in UNC and UNC Hospitals plans, changes in the OWASA service area, and other factors could result directly or indirectly in faster (or slower) growth than anticipated.
3.	Demand management strategies result in reduced revenues; policies which could reduce demand should be evaluated against current pricing structure

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Enclosure 1

SERVICE IMPACT

	Service Group	Impact Potential			Notes
		Low	Med	High	
1.	Water Supply and Treatment			X	Will ultimately affect staffing needs, facility operations and maintenance requirements, etc.
2.	Finance and Customer Service	X			Potential effects related to drought surcharge billing, potential financial incentive program for demand management, etc.
3.	Engineering and Planning		X		Will affect future engineering design and project support services.
4.	Office of Executive Director			X	Will affect policy evaluation and implementation, public education and outreach, drought response planning, demand management program, etc.

ESTIMATED TIMELINE

Estimated Start Date	Target Delivery Date
March 2014	Oct 2016 (does not include budget/implementation); schedule will likely slide with in depth stakeholder involvement (low impact)

PROJECT SPONSORS AND STAKEHOLDERS

Role	Description	Responsibility	Name(s)
Project Sponsor	Executive Leadership and Decision Maker	Executive Leadership, Champion and Requester	Board of Directors
Project Manager	Project Manager	Supports the Initiator and/Sponsor in Document Preparation	Ruth Rouse, Planning and Development Manager

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COMMUNITY ENGAGEMENT PROCESS

The success of our water supply plan will depend on the effectiveness of our partnerships – with local governments, our customers, the business community, conservation organizations, regulatory agencies, and others. To obtain their participation in the development of the plan, and their commitment to helping implement the plan, we need to develop an effective public engagement plan for the project.

Effective community engagement is a key goal expressed in our draft Strategic Plan, and it is implied in our Commitments to Our Customers, and our Mission and Values statement.

Examples of key goals of the public engagement process for this project are:

- ✓ Involve stakeholders in the exchange of information and ideas, and in the decision-making process so that we can better understand and incorporate public values, and ultimately improve the quality of the decisions;
- ✓ Increase public awareness of and support for the findings, recommendations, and implementation of the plan;
- ✓ Obtain commitments from stakeholders that will have key roles in the implementation of the plan;
- ✓ Build trust in OWASA;
- ✓ Develop and implement outreach strategies to better serve minority communities, persons with limited English proficiency, and socio-economically disadvantaged individuals;
- ✓ Better understand and seek to minimize sources of conflict among interested and affected parties by building agreement on proposed strategies;

The public engagement plan for this project will identify the target stakeholders and strategies and general timetable and methods for informing and involving them throughout the project. It will also document the projected staffing, support service, and funding requirements for implementation of the community engagement process.

CRITICAL SUCCESS FACTORS

- ✓ Project goals and objectives, evaluation criteria, scope, technical approach, and community engagement process are clearly defined and agreed upon as a first step in the process.
- ✓ The plan development process is open and transparent.
- ✓ The plan is developed through a highly collaborative process with the public, local governments, UNC, and others.
- ✓ Demand projections reflect the best information available from local governments and UNC, and the inherent uncertainty in forecasts of population and economic growth, water use trends, climate, etc.
- ✓ OWASA provides the necessary funding for (a) the consulting services needed to ensure quality technical analyses in support of the plan, and (b) an effective community engagement process for the project.
- ✓ The public is provided (a) timely information about the purpose, technical approach, and technical findings and recommendations of the plan, and (b) meaningful opportunities to provide feedback throughout the various phases of the planning process.
- ✓ For any action item coming out of the plan, the partner organization responsible for implementation endorses the action and agrees in principle to undertake it.
- ✓ The plan includes a proposed process for periodic review and update.

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ORANGE WATER AND SEWER AUTHORITY: LONG-RANGE WATER SUPPLY PLAN UPDATE
SOME CORE QUESTIONS/ISSUES, TASKS, RESOURCE REQUIREMENTS

	PROCESS TASK*	CORE QUESTIONS/ISSUES	SUBTASK(S)	RESOURCE REQUIREMENTS
PROCESS	Task 1	**What are the goals/objectives/core values/decision criteria/planning horizon? How do we compare/weight economic and non-economic factors? What level of service is desired (conversely, what level of risk is acceptable)?**	Obtain Board's policy guidance before moving ahead	
		What is the desired process for public participation, review and comment?	Obtain Board's policy guidance before moving ahead	To be determined once guidance is received from Board
PROJECTIONS	Task 2	**What will the community's future water demands be under different growth and climate scenarios?**	Compile and analyze most up-to-date information regarding local population, employment, growth and development Get input from local governments and UNC on boundaries for low and high growth Develop estimates of how climate change may impact demands	May need consulting assistance to estimate how changing climate may impact customer demands
	Task 3	**What is the reliable yield of our local supplies under historic record and with climate change?**	Re-evaluate estimates of reliable yield of our supplies; incorporate climate change into yield estimates	May need consulting assistance to provide guidance to incorporate climate change into yield estimates
	Task 4	**Do we anticipate any projected shortfalls in supply that need to be addressed through increases in supply and/or reductions in future demands? If so, when do we expect those will occur and what is the projected magnitude and duration of the shortfalls?**	Compare projected demands vs. estimated capacity for the various scenarios to be considered	

ORANGE WATER AND SEWER AUTHORITY: LONG-RANGE WATER SUPPLY PLAN UPDATE
SOME CORE QUESTIONS/ISSUES, TASKS, RESOURCE REQUIREMENTS

	PROCESS TASK*	CORE QUESTIONS/ISSUES	SUBTASK(S)	RESOURCE REQUIREMENTS
IDENTIFICATION AND EVALUATION OF OPTIONS	Task 5	**What potentially viable supply alternatives should we consider?** - Jordan Lake - mutual aid - Jordan Lake - agreement with Cary - Jordan Lake - western intake and treatment - Quarry Reservoir - deep option - Quarry Reservoir - mine longer - Haw River - temporary intake - Expand current reclaimed water system - Indirect potable reuse - Other	Review supply options evaluated in 2010 LRWSP Update; decide if any are to be added or deleted Present supply alternatives to evaluate to Board Evaluate alternatives to determine potential yield and cost	Consulting assistance to update capital, operating and maintenance costs of the alternatives
		What potentially viable demand management alternatives should we consider? - Toilet replacement program - Other incentives such as to xeriscape - WaterSense homes program -Water use efficiency requirements - Greater reliance on mandatory use restrictions - Other	Review demand management options evaluated in 2010 LRWSP Update; decide if any are to be added or deleted Present demand management alternatives to evaluate to Board Evaluate demand management alternatives to determine potential demand reduction and cost	May need consulting assistance in evaluating capital, operating and maintenance costs of the alternatives
		Do we need to modify our pricing structure?	Evaluate pricing with the demand management scenarios to determine impact on revenue Present alternative pricing structures to Board	
	Task 6	**Do the alternatives meet agreed-upon criteria?**	Develop short-list of potentially feasible options to meet water supply needs	
	Task 7	**What are the advantages and disadvantages of the different supply and demand management alternatives which meet the agreed-upon criteria?**	Evaluate and rank the alternatives against the different evaluation criteria and weighting factors established at the outset	Consulting assistance to evaluate the advantages and disadvantages of the alternatives

ORANGE WATER AND SEWER AUTHORITY: LONG-RANGE WATER SUPPLY PLAN UPDATE
SOME CORE QUESTIONS/ISSUES, TASKS, RESOURCE REQUIREMENTS

	PROCESS TASK*	CORE QUESTIONS/ISSUES	SUBTASK(S)	RESOURCE REQUIREMENTS
PLAN	Task 8	**What is the preferred mix of supply and demand management alternatives?**	Select the optimium mix of alternatives that are required to meet and/or manage the projected demands	May need consulting assistance to determine the optimum mix of alternatives
		What are the projected capital and operating and maintenance costs for the preferred option(s)?		
		What actions do we and others need to take to implement the plan?		
		What will be the process and timetable for evaluating and updating the plan?		
IMPLEMENTATION	Task 9	**What resources are required to implement the plan and on what timetable?**	Board approval of investments and commitments to implement the preferred alternative and plan Staff bring resource requirements to Board annually as part of budget process	To be determined as update to LRWSP completed in Task 8
	Task 10		Implement the preferred alternative and plan	

* Corresponds to Task Number on Graphic "Potential Process for Key Water Supply Planning Tasks" dated December 6, 2013

Enclosure 2

Long-Range Water Supply Plan (LRWSP) Goals and Objectives

DRAFT – for discussion purposes only

Strategic Initiative: Provide reliable and high quality supply of water for the next 50 years.

Draft Project Vision: We will implement environmentally, socially, and financially acceptable and technically practical water supply and demand management strategies to ensure a reliable and high quality supply of water for the community for the next 50 years. We will seek to involve and engage the community as we define and evaluate our community's needs, identify and evaluate our options, and proceed to implement the preferred strategies. Our plans will be periodically re-evaluated and adjusted as assumptions, trends, and conditions change over time.

DRAFT LRWSP Goals and Objectives

The goals and objectives are organized along the three pillars of sustainability: social performance, environmental performance, and financial performance. As with many decisions, selection of the optimum mix of supply and demand management strategies will require balancing the multiple and sometimes competing objectives.

1. **Social Performance:** Our operations and facilities affect the well-being of the people, businesses, institutions and the community we serve. We will address the needs of and enhance our relationships with our customers, the community, our employees, the local governments and other public agencies that we work with.
    a. Annual average-day raw water demand does not exceed the reliable capacity of OWASA's existing and planned water supply sources. Reliable capacity is defined as the supply of water that can be withdrawn assuming a recurrence of the 2001-02 drought while maintaining 20 percent of our water supply storage as an emergency reserve. This could be achieved through a mix of supply and demand management alternatives.
    b. Our plan will include contingency measures for meeting water demands if and when an extreme event (such as an exceedance of the 2001-02 drought of record or sudden loss of water supply storage capacity) is projected to cause us to drawdown our remaining supply to 20 percent or less of total storage.
    c. We will maintain a diverse and resilient portfolio of water supply and demand management strategies so we are positioned to meet the community's water needs as we face increasing uncertainty in the future.
    d. Selected water supply strategies must enable us to meet all applicable drinking water-related standards.

e. The selected supply and demand management strategies should reduce the need for implementation of water use restrictions and associated drought rate surcharges.
    i. Mandatory water use restrictions and associated drought rate surcharges will not be implemented more frequently than once in ## years on average.
    ii. In any given year, mandatory water use restrictions will not be in place more than ## percent of the year.
f. The community is engaged in the development of the LRWSP such that OWASA understands and reflects the community's values in the selected mix of supply and demand management options. Key stakeholders are involved in evaluating and implementing demand management strategies.

2. **Environmental Performance:** We will pursue strategies that help us preserve natural resources; conserve energy, water, and other natural resources; minimize waste and pollution emissions, and reduce our environmental impacts.
    a. Water supply and demand management alternatives are evaluated against their relative projected energy use and greenhouse gas emissions.
    b. Water supply and demand management alternatives are evaluated against their relative impacts on streams, wetlands, groundwater, air quality, habitat, and other environmental considerations.
    c. The selected set of water supply and demand management strategies will be environmentally acceptable to the community and regulatory agencies.
3. **Financial Performance** The economic well-being of our customers and our community depend upon our ability to ensure high quality and reliable water services at an acceptable financial cost.
    a. Water supply and demand management alternatives are evaluated against their relative life cycle financial costs (capital and operating and maintenance costs).
    b. The selected set of water supply and demand management strategies represents a reasonable balance of financial considerations with our social and environmental performance objectives.

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