ORANGE COUNTY BOARD OF COMMISSIONERS

AGENDA

BOCC Regular Work Session (Following Joint Meeting with Commission for the Environment)
October 14, 2014
Meeting – 7:00 p.m.
Richard Whitted Meeting Facility
300 West Tryon Street
Hillsborough, NC

(7:00 – 7:20)	1.	RENA and Cedar Grove Community Centers Update
(7:20 – 7:45)	2.	Upper Neuse River Basin Association Update
(7:45 – 8:10)	3.	Orange Well Net Update
(8:10 – 8:40)	4.	Jordan Lake Allocation Application
(8:40 – 9:10)	5.	Emergency Communications
(9:10 – 9:35)	6.	Website Design Presentation
(9:35 – 10:00)	7.	Board of Commissioners Meeting Calendar for Year 2015

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ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: October 14, 2014

Action Agenda Item No. 1

SUBJECT: RENA and Cedar Grove Community Centers Update

DEPARTMENT: Asset Management Services ("AMS"), Department of Environment, Agriculture, Parks & Recreation ("DEAPR")

PUBLIC HEARING: (Y/N) No

ATTACHMENT(S):

INFORMATION CONTACT:
Jeff Thompson, (919) 245-2658
David Stancil, (919) 245-2522

PURPOSE: To receive and update on the progress of the Rogers Eubanks Neighborhood Association (RENA) Community Center and the Cedar Grove Community Center.

BACKGROUND:
RENA Community Center. The 4,000 square foot RENA Community Center is nearing completion and is scheduled to be turned over to the Rogers Eubanks Neighborhood Association at the end of October 2014. County staff has met several times with RENA and the community, including several site visits as the project has progressed. RENA intends to move in and get oriented in the space prior to a grand opening/ribbon cutting ceremony that will be scheduled in November 2014.

Cedar Grove Community Center. The construction document design work is in process and is scheduled to be completed in November 2014. Staff and other regulatory agencies overseeing the project have met with regard to providing feedback to the designer on construction and operating topics. A second feedback session will be held prior to the project being advertised for bid. Staff is also working on preparing the operating plan for the facility that will be included in the FY2015-16 operating budget cycle. A meeting with community residents will be scheduled to discuss operating and programming scenarios once the bid documents have been approved.

The required abatement and roofing work will be separately bid in October, targeting a scheduled completion of this scope potentially in late January, 2015. This scope will be complete prior to the main community center work starting in approximately February, 2015. The main project is scheduled for eight month duration, so the facility will be available for occupancy in the fall of 2015.

Staff will also be working with the Piedmont Food and Agricultural Processing Center ("PFAP") on completing the wing storage lease documentation for the Board's review and approval in early 2015.

The Cedar Grove Community Center project development timeline is as follows:

TASK	PROPOSED BEGINNING DATE	END BY DATE
BOCC Action: Final approval of bid documents prior to bid	**11/18/14**	**11/18/14**
Community Meeting on Programming and Operations	12/2014	1/2015
Project Bid process	11/9/14	11/13/15
BOCC Action: Bid Award ***(tentative upon BOCC calendar approval)***	**1/22/15**	**1/22/15**
Construction, Commissioning, Opening (est. 8 months duration)	2/15/15	10/30/15

Progress photos will be provided for both projects during staff's presentation at the work session.

FINANCIAL IMPACT: None at this time. Funding for operating the Cedar Grove Community Center will need to be addressed in the FY 2015-16 budget.

RECOMMENDATION(S): The Manager recommends the Board receive the update on the progress of the Rogers Eubanks Neighborhood Association Community Center and the Cedar Grove Community Center.

ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: October 14, 2014

Action Agenda Item No. 2

SUBJECT: Upper Neuse River Basin Association Update

DEPARTMENT: Environment, Agriculture, Parks & Recreation (DEAPR)

PUBLIC HEARING: (Y/N) No

ATTACHMENT(S):
A) Falls Lake Watershed
B) Consensus Principles
C) UNRBA Surface Water Monitoring Locations in the Falls Lake Watershed
D) Falls Lake Sampling Locations
E) Tentative UNRBA Project Schedule
F) Rules Review Process Flowchart

INFORMATION CONTACT:
David Stancil, 919-245-2510
Tom Davis, 919-245-2510
James Bryan, 919-245-2319

PURPOSE: To receive an update on the recent activities of the Upper Neuse River Basin Association (UNRBA).

BACKGROUND: The Falls Lake Nutrient Management Strategy (Falls Lake Rules) require local governments, the North Carolina Department of Transportation (NCDOT), the agricultural community, and other regulated parties located in the Falls Lake watershed (Attachment A) to reduce nitrogen and phosphorus nutrient loading to the lake by 40% and 77%, respectively, by 2036. Regulated parties anticipate significant financial and technical difficulties with meeting the mandated nutrient reduction targets. The fiscal note prepared by the State at the time the Falls Lake Rules were developed estimated the cost of compliance with the rules to be at least $1.5 billion. Many affected parties believe the phosphorus reduction goal of 77% is not attainable at any cost.

As a result of the challenges with meeting the goals of the Falls Lake Rules, the Upper Neuse River Basin Association (UNRBA), of which Orange County is a member, is working to revise Stage II of the Falls Lake Rules. The activities of the UNRBA are guided by the Consensus Principles, which were adopted by nearly all of the jurisdictions in the Falls Lake watershed, including the Orange County Board of Commissioners on March 16, 2010 (Attachment B). The Consensus Principles emphasize the protection of Falls Lake as a water supply for the City of Raleigh, while also stating the need for re-examination of Stage II of the Falls Lake Rules.

Consensus Principles

Consensus Principle #9 includes the following with regard to the development of the Falls Lake Rules:

> "…relied on a limited database which will be substantially enhanced by a more rigorous program of sampling, monitoring and analysis." Furthermore: "The EMC [Environmental Management Commission] should therefore begin a re-examination of its nutrient management strategy for Falls Lake by January 1, 2018. The re-examination should consider, among other things, (*i*) the physical, chemical, and biological conditions of the Lake with a focus on nutrient loading impacts and the potential for achieving the Stage 1 goal by 2021 as well as the feasibility of both achieving the Stage 2 reduction goals and meeting the water quality standard for chlorophyll-a in the Upper Lake, (*ii*) the cost of achieving, or attempting to achieve, the Stage 2 reduction goals and meeting the water quality standard for chlorophyll-a in the Upper Lake, (*iii*) the existing uses in the Upper Lake and whether alternative water quality standards would be sufficient to protect those existing uses…".

Consensus Principle #10 states:

> "The limited resources available to DWQ [Division of Water Quality, now Division of Water Resources - DWR] and DENR [Department of Environment and Natural Resources] for the implementation of the nutrient management strategy and the need for a robust and active sampling and monitoring program, as well as additional modeling, make it desirable for the affected local governments to share resources and undertake these important activities, and other activities associated with the re-examination of the Nutrient Management Strategy, collectively. The affected local governments should share resources and assist with funding for the examination of the Nutrient Management Strategy."

UNRBA Projects

Given the challenges with meeting Stage II of the Falls Lake Rules, as well as the guidelines outlined in the Consensus Principles document, the UNRBA is already either working on, or is planning to begin, the following projects:

- Estimation of nutrient sources and jurisdictional loading of nutrients to Falls Lake
- Modeling the response of Falls Lake to nutrient input and internal lake processes
- Monitoring of changes in the lake as a result of compliance activities in the watershed
- The linkage of water quality conditions to the designated uses of Falls Lake
- Estimation of BMP credits for measures without DWR-established credits
- Support of various options under the existing regulatory framework in North Carolina

The UNRBA has retained a consultant to help examine options for meeting the requirements of Stage II the Falls Lake Rules while incorporating the goals of the Consensus Principles. According to the *Framework for a Re-examination of Stage II of the Falls Nutrient Strategy* prepared by the consultant, CardnoEntrix:

> "The re-examination should consider existing data, models, nutrient management strategies, the Consensus Principles, water quality standards (including designated uses and water quality criteria), implementation costs, and regulatory flexibility."

Reports

To date, CardnoEntrix has completed the following reports as part of the re-examination process:

- Task 1: Framework for a Re-examination of Stage II of the Falls Nutrient Strategy
- Task 2: Review Existing Data and Reports for Falls Lake and the Watershed
- Task 3: Estimation of Nutrient Loading to Falls Lake
- Task 4: Review of Existing Models and Recommendations for Future Studies

In addition, CardnoEntrix has also completed two technical memoranda:

- TM1: Comparison of Flow Estimation Methods
- TM2: Evaluation of the Sensitivity of the Falls Lake Nutrient Response Model

Water Quality Sampling

During July 2014, CardnoEntrix received approval from DWR for three required technical memoranda that had been prepared and submitted for DWR review that describe in detail the watershed sampling project that will form the foundation of the re-examination process:

- Quality Assurance Project Plan (QAPP)
- Falls Lake Watershed Monitoring Plan
- Modeling Framework

The QAPP and the Monitoring Plan describe the three-to five-year watershed sampling effort that was initiated in August 2014. The water quality sampling program will provide information for the following purposes:

- Determination of nutrient source allocation and jurisdictional nutrient loading to Falls Lake;
- Falls Lake response modeling;
- Development of data for consideration of additional regulatory options; and
- Linkage of water quality conditions in Falls Lake to the designated uses of the Lake.

Attachment C illustrates the locations that will be sampled in the Falls Lake watershed for the determination of jurisdictional loading, as well as the stations that are designed to provide information about nutrient loading to the lake. Attachment D illustrates additional water quality sampling locations that other organizations are monitoring within Falls Lake.

Modeling Data Gaps

UNRBA re-modeling of Falls Lake is expected to start in approximately two years, and is intended to update the lake response model that DWQ utilized in the development of the Falls Lake Rules. The UNRBA contractor identified several gaps in the data used by DWQ in the modeling completed during the development of the Falls Lake Rules, including:

- DWQ held constant the total organic carbon and chlorophyll-a input values assumed for the tributaries feeding into Falls Lake. These concentrations were based on levels measured within the lake, not in the tributaries. It is probable that these concentrations were artificially high to begin with and were unable to decrease at all over the course of the modeling study.
- There are no stream gages on any of the streams that flow into Falls Lake east of I-85, thus no flow information was incorporated for any of these 12 streams.
- Atmospheric deposition of nitrogen in the lake or watershed was not accounted for by DWQ.

- Streambank erosion, possibly a significant source of phosphorus in the watershed, was not considered as a possible source by DWQ.
- Internal lake processes, such as sediment re-suspension, were also not accounted for by DWQ.

BMP Credit Review and Nutrient Trapping Analysis

CardnoEntrix is also currently working on a nutrient reduction BMP credit literature review and the analysis of nutrient trapping that occurs within the larger impoundments in the watershed. While the nutrient trapping analysis will be important for the remodeling of the watershed, the BMP credit determination project will be beneficial to entities, including UNRBA member governments, which must use BMPs to meet required nutrient reduction goals. DWR approval of additional BMP credits is expected to take nearly a year per each additional BMP as a result of the stringent credit determination process currently proposed by DWR. With several measures in need of credit determination, the process of developing a thorough BMP "tool kit" for regulated entities to employ may take a decade or more.

Schedule

A tentative schedule for upcoming UNRBA projects is included as Attachment E. As can be seen from this schedule, the UNRBA anticipates conducting the studies discussed earlier in this document through 2020. Stage II of the Falls Rules is defined as the period extending from 2021 to 2036, with the overall goal of meeting nutrient related water quality standards throughout Falls Lake by 2041.

Upcoming Opportunity for Comments about the Rules

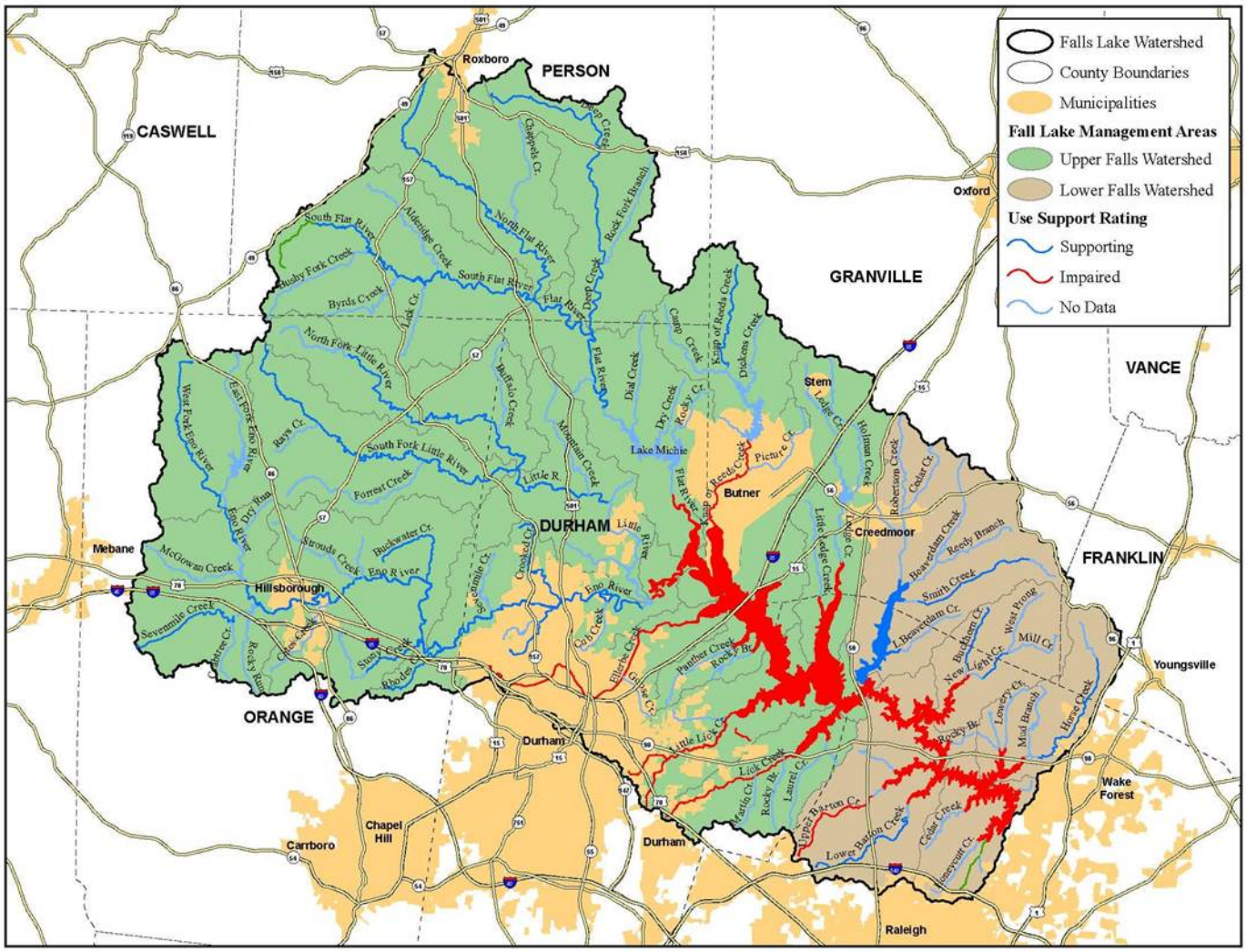
The Regulatory Reform Act of 2013 (HB74) mandated that all rules expire within ten years of their effective dates, unless readopted. This rulemaking process allows for comments and revisions on the full range of regulated activities, including the Falls Lake Rules (15A NCAC 02B .0275 through .0282 and amended .0235 and .0315). The Rules Review Commission (RRC) is scheduled to begin the review of subchapter 2B rules in October 2014. The review process for all rules must be finished by June 2019. There is a three-step review process (Attachment F). The initial step is the agency's determination report and public comment period. In the determination the agency identifies each rule as "unnecessary and no public comment", "necessary and with substantive public interest", or "necessary and without substantive public comment". DWR has identified the Falls Lake Rules as "necessary and with substantive public interest". The second step in the review process is for the RRC to review the agency reports and the final step is the issuance of the RRC's final determination report. DWR anticipates re-adoption of all rules under review to begin in 2015.

FINANCIAL IMPACT: There is no financial impact to the County at this time. Given the numerous studies planned for the re-examination of Stage II and the timeframe established by the Falls Lake Rules, it is expected that UNRBA dues will remain elevated for several years.

RECOMMENDATION(S): The Manager recommends that the Board receive the update on the recent activities of the Upper Neuse River Basin Association (UNRBA) and provide comments and questions as necessary.

Attachment A. Falls Lake Watershed

FALLS LAKE WATERSHED



Attachment B. Consensus Principles.

CONSENSUS PRINCIPLES TO GUIDE
FALLS LAKE NUTRIENT MANAGEMENT STRATEGY

1. Falls Lake is currently classified by the North Carolina Environmental Management Commission (EMC) as WS-IV, B: NSW, CA. Pursuant to this classification, the designated uses of Falls Lake include aquatic life propagation and biological integrity (including fishing and fish), wildlife, primary and secondary recreation, agriculture, and water supply. Falls Lake serves as a water supply for the City of Raleigh (Raleigh) and six other municipalities in Wake County.

2. The EMC has established a water quality standard for chlorophyll-*a* of 40 ug/L to protect the designated uses of all waters in the state, including Falls Lake.

3. Since the time it was constructed, portions of Falls Lake have experienced nutrient conditions that have contributed to monitored exceedances of the chlorophyll-*a* standard. In 2005, the General Assembly directed the EMC to develop a nutrient management strategy for Falls Lake. The legislation was amended so that the nutrient management strategy and implementing rules are to be established no later than January 15, 2011.

4. In 2008, the Division of Water Quality (DWQ) found that the chlorophyll-*a* levels at certain locations in Falls Lake exceeded the water quality standard. The EMC found, in the 2009 Neuse Basin Plan, that new nutrient management measures were needed to address nutrient-related problems in Falls Lake.

5. The level of nutrient loading reductions necessary to protect and improve water quality in Falls Lake make it appropriate to establish a two-stage nutrient management strategy – the first stage (Stage 1) designed to achieve the water quality standard for chlorophyll-*a* in the lower lake below Highway 50 (Lower Lake), where the water supply intake is located, and to improve water quality in the upper lake above Highway 50 (Upper Lake), and the second stage (Stage 2) designed to further address water quality in the Upper Lake.

6. The first stage of nutrient loading reductions and protection measures for Falls Lake, as described below, are designed to achieve sufficient improvements in water quality to result in the removal of the Lower Lake from the 303(d)[1] list of impaired waters by 2021.

7. The Stage 1 management measures should include reductions in loading from all major categories of sources including point sources, agriculture and other fertilizer using activities, new development, and existing development.

[1] Under Section 303(d) of the U.S. Clean Water Act, waters of the state that have water quality violations resulting in the failure to meet the designated and protected uses are designated as "impaired".

a. Point Sources: Large point sources as a group should be required to achieve by 2016 a 20% reduction in 2006 nitrogen loads and a 40% reduction in 2006 phosphorus loads. The allowable mass load for these point sources should be allocated among them based on 110% of current flows.[2] Smaller point sources should be required to meet limits of technology by 2016.

b. New Development: As soon as is reasonably feasible, and no later than eighteen months after adoption of rules by the EMC, new development throughout the Falls watershed should be required to meet a nitrogen annual loading limit of 2.2 pounds per acre and a phosphorus annual loading limit of 0.33 pounds per acre, a portion of which may be achieved through offset payments.

c. Existing Development: No later than three years after adoption of the rules by the EMC, all jurisdictions throughout the Falls watershed should be required to begin and continuously implement a program to reduce existing development nutrient loads to 2006 levels within ten years from adoption of the rules by the EMC.

    1. Where septic systems account for more than 20% of the nitrogen loading in the portion of a subwatershed of Falls Lake within a jurisdiction (according to DWQ's watershed model), that jurisdiction should be required, as a part of its Stage 1 existing development program, to begin and continuously implement a program to reduce loading from septic systems, discharging into waters of the State within that jurisdiction and subwatershed, which accounted any part for nutrient loading for the jurisdiction.

    2. A jurisdiction that includes any part of a subwatershed of Falls Lake in which chlorophyll *a* levels have exceeded 40 ug/L in more than 75% of the monitoring events in any calendar year should be required, as a part of its Stage 1 existing development program, to begin and continuously implement a program to reduce nutrient loading into waters of the State within that jurisdiction and subwatershed.

    However, the total amount of nutrient loading reductions in Stage 1 is not increased for local jurisdictions by the requirement to add specific program components to address septic loading or high nutrient loading levels.

d. State and Federal Agencies: State and federal agencies, including but not limited to DOT, shall be required to reduce nitrogen and phosphorus loading from new and existing development to a similar degree and within a similar time schedule as local governments.

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[2] The Consensus Principles rely on, and do not seek any change from, the apportionment of load allocations as proposed by DWQ in the draft rules issued on January 14, 2010

8. Stage 2 management measures should be designed to achieve water quality standards in the Upper Lake and to maintain water quality in the Lower Lake. The compliance date for achieving all additional reductions from point sources and agriculture should be no earlier than 2036. Additional existing development reductions, as determined pursuant to paragraph 9 should begin in 2021 and should be continuously implemented according to timelines proposed by each local government in plans periodically submitted to and approved by the EMC, subject to the limitations on the EMC's authority regarding existing development criteria contained in the Jordan Lake legislation.[3]

9. The process by which the proposed regulatory scheme has been developed relied on a limited data base which will be substantially enhanced by a more rigorous program of sampling, monitoring and analysis. In addition, it may not be feasible to attain all currently designated uses in the Upper Lake and attempting to do so may result in substantial and widespread economic and social impact. The EMC should therefore begin a re-examination of its nutrient management strategy for Falls Lake by January 1, 2018. The re-examination should consider, among other things, (i) the physical, chemical, and biological conditions of the Lake with a focus on nutrient loading impacts and the potential for achieving the Stage 1 goal by 2021 as well as the feasibility of both achieving the Stage 2 reduction goals and meeting the water quality standard for chlorophyll-*a* in the Upper Lake, (ii) the cost of achieving, or attempting to achieve, the Stage 2 reduction goals and the water quality standard in the Upper Lake, (iii) the existing uses in the Upper Lake and whether alternative water quality standards would be sufficient to protect those existing uses, and (iv) the impact of the management of Falls Lake on water quality in the Upper Lake. As the first step in the re-examination, a Scientific Advisory Board should analyze and review the information identified above along with the additional monitoring and modeling data compiled since the model was approved and should present its recommendations for changes in the Nutrient Management Strategy and its implementing rules to DWQ and the EMC by

[3] Session Law 2009-216 (the Jordan Lake legislation), at Section 3(d)(2)(f), sets the following limitations on the authority of the Environmental Management Commission for its review and approval of local government programs to control nutrient loading from existing development: "The Commission shall approve the program if it meets the requirements of this subdivision, unless the Commission finds that the local government can, through the implementation of reasonable and cost-effective measures not included in the proposed program, meet the reductions in nutrient loading established by the Department pursuant to sub-subdivision b. of this subdivision by a date earlier than that proposed by the local government. . . .In determining whether additional or alternative load reduction measures are reasonable and cost effective, the Commission shall consider factors including, but not limited to, the increase in the per capita cost of a local government's stormwater management program that would be required to implement such measures and the cost per pound of nitrogen and phosphorus removed by such measures. The Commission shall not require additional or alternative measures that would require a local government to:

1. Install or require installation of a new stormwater collection system in an area of existing development unless the area is being redeveloped.
2. Acquire developed private property.
3. Reduce or require the reduction of impervious surfaces within an area of existing development unless the area is being redeveloped."

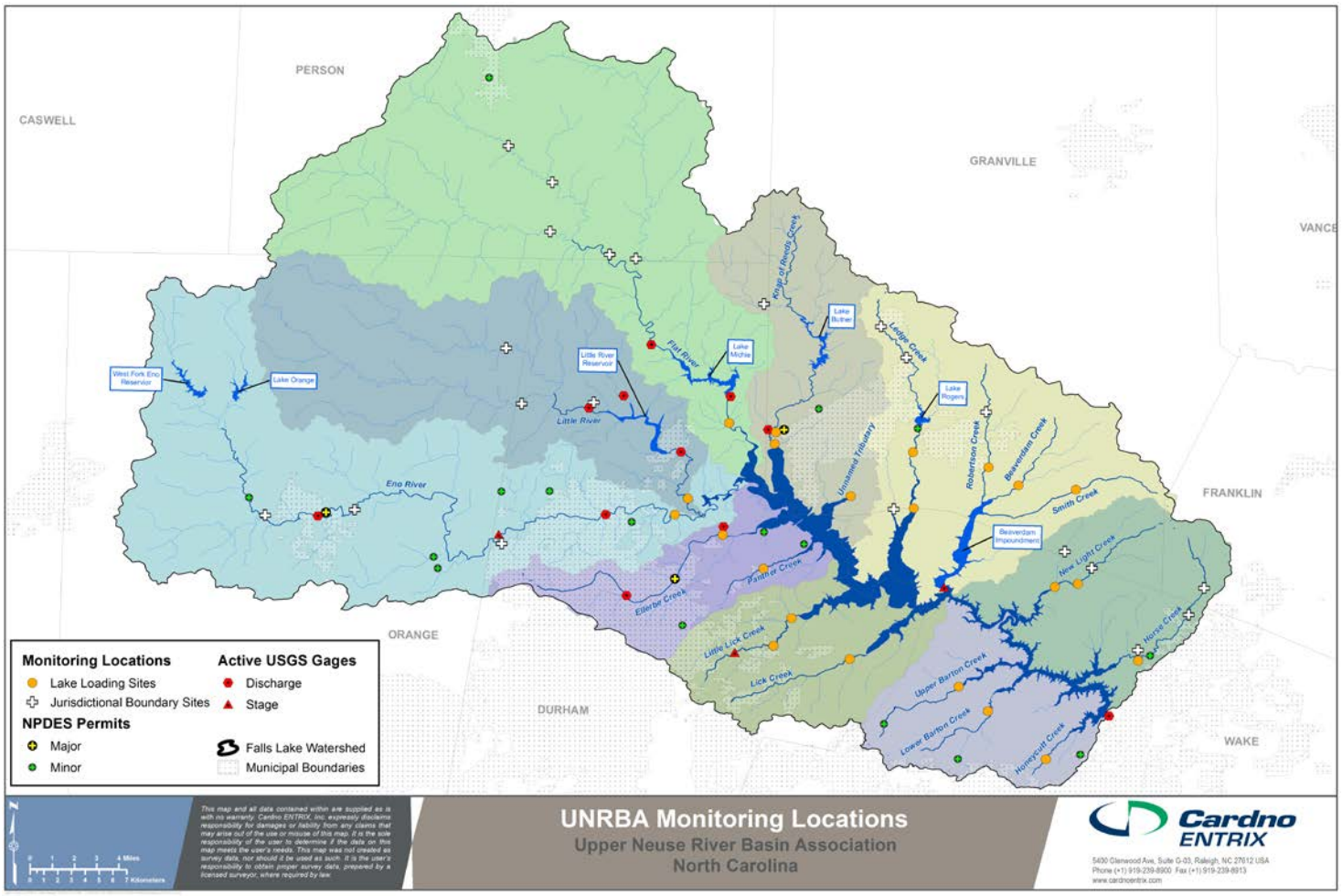
January 1, 2019. In light of the report from the Science Advisory Board, the EMC should direct the DWQ to prepare proposed rule revisions, if any, and an updated fiscal note on Stage 2 by August 1, 2019. In its development of any proposed rule revisions, DWQ shall consult with the local governments and other interested parties. Except to the extent that management measures identified as a part of Stage 2 are required to achieve the Stage 1 goal, local governments should not be required to begin implementing Stage 2 management measures without a determination by the EMC of whether alternative goals and/or standards should be established for the Upper Lake.

10. Annual monitoring of chlorophyll-*a* in Falls Lake should be funded and implemented through a collective effort by all jurisdictions partially or wholly within the Falls Lake watershed. The limited resources available to DWQ and DENR for the implementation of the nutrient management strategy and the need for a robust and active sampling and monitoring program, as well as additional modeling, make it desirable for the affected local governments to share resources and undertake these important activities, and other activities associated with the re-examination of the Nutrient Management Strategy, collectively. The affected local governments should share resources and assist with funding for the examination of the Nutrient Management Strategy. The affected local governments created the Upper Neuse River Basin Association, among other reasons, as a means to more effectively perform functions related to Falls Lake and the Upper Neuse River Basin. The Association with an expanded mission and authority, or some similar organization, should be considered for expanded duties that the local governments may agree to assume consistent with this paragraph and paragraph 11 of this document. The results of the additional monitoring and modeling and other relevant information gathered by the collective efforts of the local governments should be shared on a regular basis with DWQ and made available to the Scientific Advisory Board and the EMC in connection with the review described in Paragraph 9.

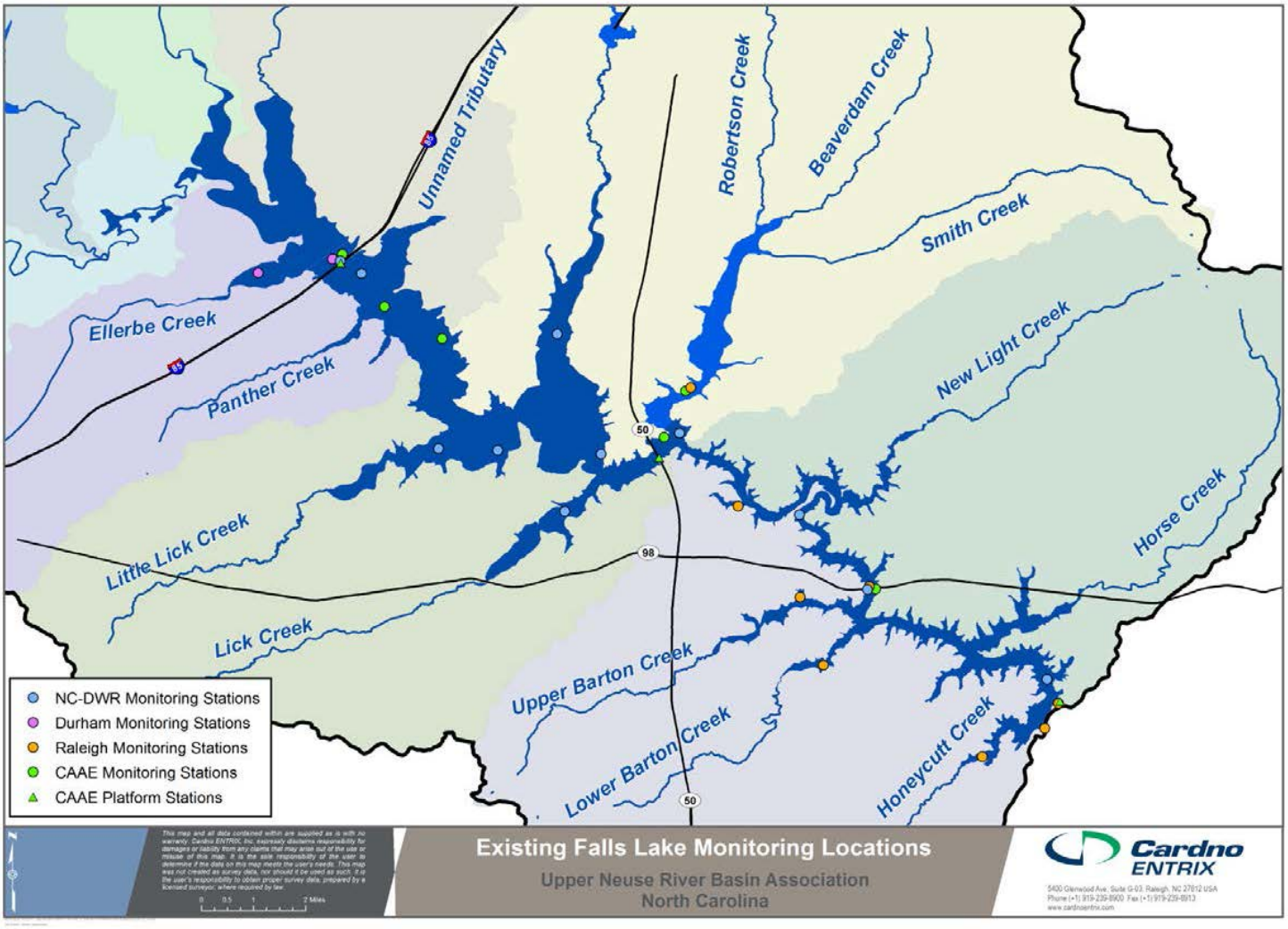
11. A robust and innovative trading program among all regulated sources is critical to the success of the nutrient management strategy for Falls Lake. In addition, local governments should be able to use any combination of point and nonpoint control/reduction strategies, including land preservation, within their respective jurisdictions to meet their overall obligations under the nutrient management strategy.

12. Nothing in these principles is intended to imply that the EMC is precluded from complying with the requirements of federal law.

Attachment C. Falls Lake watershed with UNRBA lake loading and jurisdictional boundary water quality sampling locations shown.



Attachment D. Falls Lake with existing sampling locations shown.



Attachment E. UNRBA Falls Lake nutrient management strategy re-examination process tentative schedule.

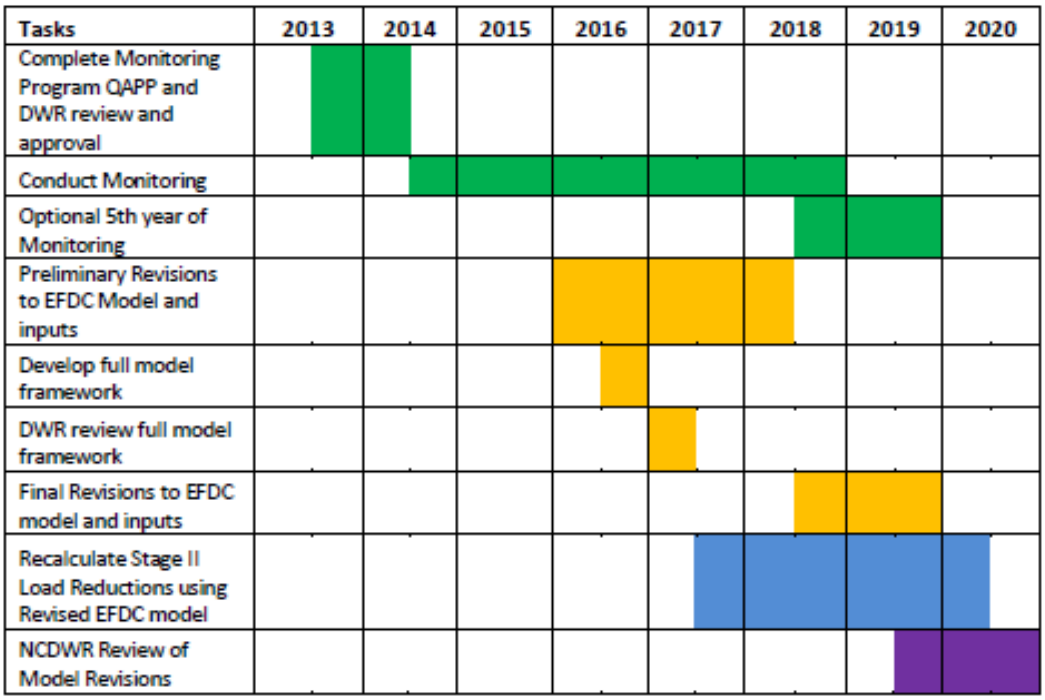
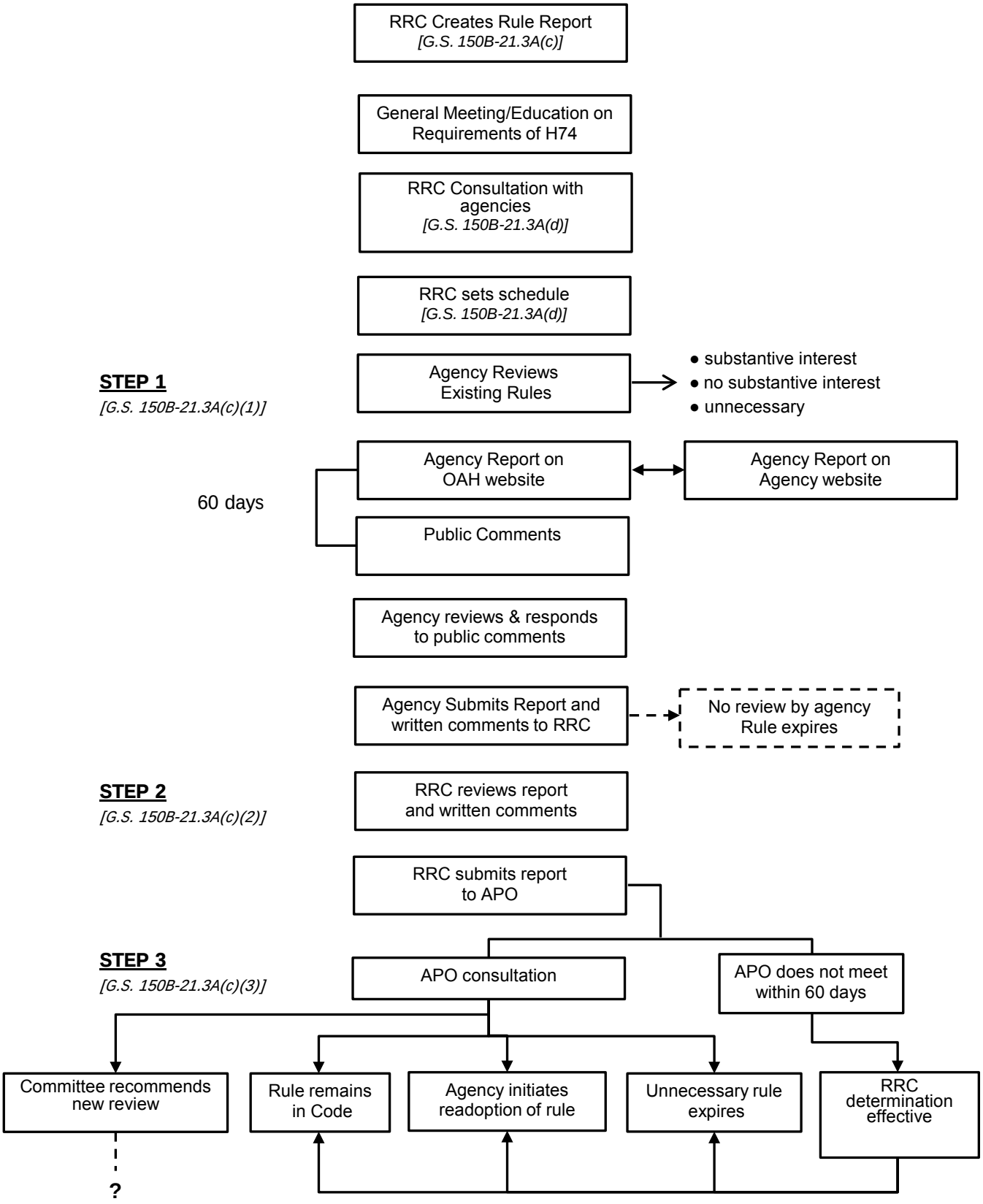


Figure 3 Potential Schedule for the nutrient response model refinements and Re-examination of Stage II of the Falls Lake Rules

Attachment F - Rules Review Process Flowchart

H74 Periodic Review and Expiration of Rules



ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: October 14, 2014

Action Agenda Item No. 3

SUBJECT: Orange Well Net Update

DEPARTMENT: DEAPR **PUBLIC HEARING: (Y/N)** No

ATTACHMENT(S):
A) Orange Well Net Well Details Table
B) Map of Well Locations
C) DWR Web Page Examples

INFORMATION CONTACT:
Tom Davis, 245-2510
David Stancil, 245-2510

PURPOSE: To receive an update regarding Orange Well Net (OWN), the groundwater observation well network.

BACKGROUND: The Department of Environment, Agriculture, Parks and Recreation's (DEAPR) groundwater observation well network, Orange Well Net (OWN) uses a combination of bedrock and regolith wells spread across the main types of bedrock geology present in Orange County. Regolith wells, which measure groundwater levels in the unconsolidated material present above bedrock in the subsurface, monitor natural stresses on the quantity of groundwater available in storage which are caused by variations in climatic conditions. Bedrock wells monitor changes in groundwater levels in the bedrock across the County.

Groundwater level data collection began at six bedrock wells in March 2010. Additional bedrock wells and regolith wells have been added over the last few years. Wells have also been removed from the network for various reasons. In July 2014, Capital Investment Plan (CIP) funds were utilized to establish a new regolith well at the Blackwood Farm to provide information regarding shallow groundwater conditions in concert with the existing bedrock well at this location that has been part of OWN since 2010. These funds were also used to complete bedrock and regolith wells in a wooded area at the future Northeast District Park site.

Attachment A is a listing of well construction details for the current OWN bedrock and regolith wells. Attachment B is a map showing the locations of the wells that are currently in use along with the underlying geology in Orange County.

All data collected by OWN is available to the public on the NC Division of Water Resources (DWR) web site:

http://www.ncwater.org/Data_and_Modeling/Ground_Water_Databases/leveltable.php?tl=1&net=orange&inactive=

The DWR web site includes maps of well locations, geologic information, and statistical curves that provide monthly minimum, mean, and maximum groundwater level information for each well in the network. This information can be used to compare recent groundwater levels with historical values. Examples of the information available on the DWR web site are included as Attachment C.

FINANCIAL IMPACT: There is no financial impact to the County at this time.

RECOMMENDATION(S): The Manager recommends that the Board receive the update on the groundwater observation well network known as Orange Well Net and provide feedback to staff.

Orange Well Net Well Details

Bedrock Wells

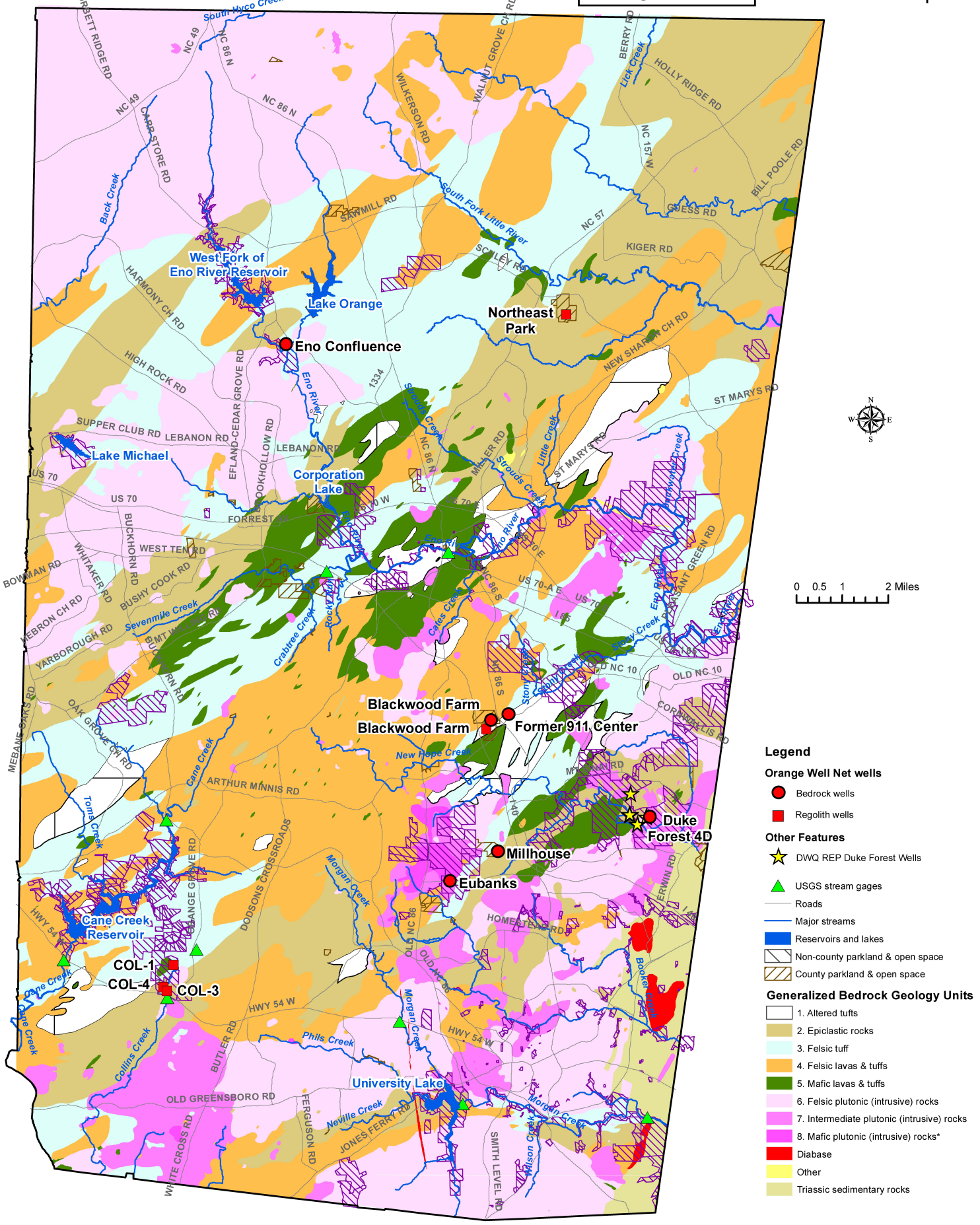
	Bedrock Well Location	Casing Depth, ft.	Total Depth, ft.	Top of Casing Elevation, ft.	Bedrock Geology
1	Millhouse Rd	67	164.7	515.22	Epiclastics
2	Eno Confluence Property	37	175.5	609.27	Felsic Tuff
3	Former 911 Center	85	400		Altered Tuff
4	Blackwood Farm	100	302	557.44	Felsic Lavas and Tuffs (Dacite) [1]
5	Duke Forest 4D	85	400	427.82	Felsic Plutonics or Intermediate Plutonics- CHECK
6	Eubanks Road	33	145.7	531.15	Mafic Plutonics (Gabbro)

Regolith Wells

	Regolith Well Location	Total Depth, ft.	Top of Casing Elevation, ft.	Bedrock Geology
1	Andrews Rd. (COL-1)	33.0	528.00	Felsic Tuff
2	Hwy 54 (COL-3)	43.7	528.18	Epiclastics
3	Orange Grove Road (COL-4)	35.2	504.86	Epiclastics
4	Blackwood Farm (BFS)	45.0		Felsic Lavas and Tuffs (Dacite) [1]
5	Northeast Park (NES)	42.0		Epiclastics

1 - Main bedrock lithology in the county, by area.

ATTACHMENT B



Dept. of Environment, Agriculture, Parks and Recreation
Land Records GIS Division 8/28/2014 <OC 220K O:\gishome
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Ground Water Level Database Access

Orange County Monitoring Well Database

Download text file

County	Id	Name	Aquifer	Depth
Orange	G 45F1	Eno Confluence Property	Felsic Tuff	192
Orange	H 44P1	Blackwood Farm	Felsic lavas and tuffs (Dacite)	302
Orange	H 44P2	911 Center	Altered Tuff	400
Orange	I 44B1	DF-4D	Felsic plutonics	397
Orange	I 44F1	Millhouse Road	Epiclastics	166
Orange	I 45G1	Rocky Ridge	Felsic lavas and tuffs (Dacite)	560
Orange	I 45J1	Eubanks Road	Mafic plutonics (Gabbro)	141
Orange	I 46R1	COL-1	Felsic metavolcanic	30
Orange	I 46R2	COL-3	Felsic metavolcanic	41
Orange	I 46W1	COL-4	Felsic metavolcanic	32
Orange	J 45J1	Ray Road	Felsic plutonics - East Farrington Granite	237

11 Wells

return to water level access page

1611 Mail Service Center • Raleigh, NC 27699-1611
Phone: (919) 707-9000 • Fax: (919) 733-3558
Comments, questions, or problems? Please contact the DWR Webmaster
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Ground Water Level Database Detail

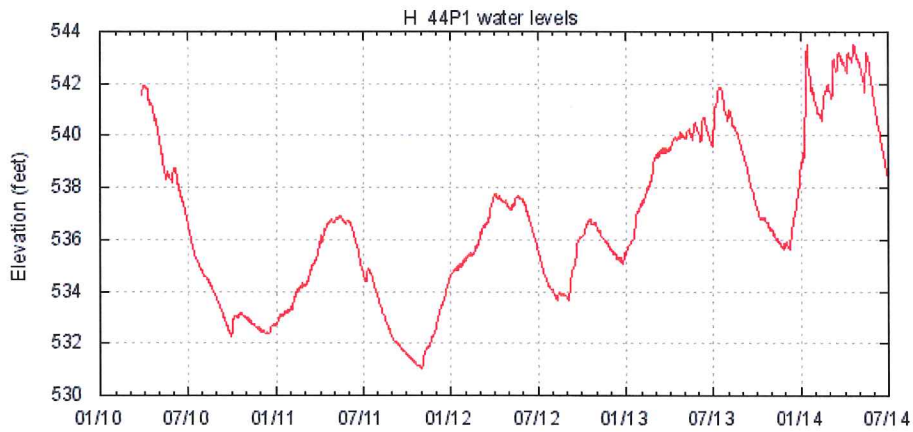
Field	Data
County	Orange
Quad	H 44P1
Name	Blackwood Farm
Latitude	36.018709
Longitude	-79.080016
Aquifer	Felsic lavas and tuffs (Dacite)
Land Surface NED elevation = 555.30 feet	556.00
Measuring Point (feet above land surface)	1.00
Depth	302.00
Casing Depth	100.00
Generalized Rock Unit	4
Number of Water Levels {date * feet below land surface * elevation} 03/26/2010 to 07/01/2014	1,582 ** 999.99 feet below land surface value indicates dry well -222.22 feet above land surface value indicates a flowing well

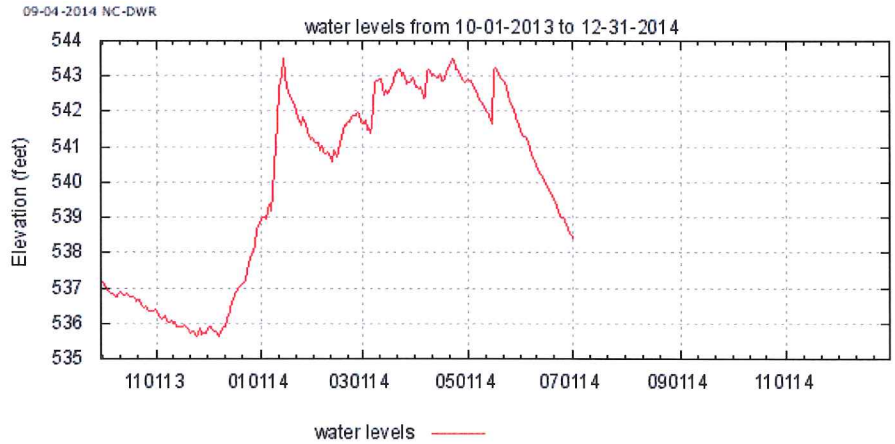
output file is tab-delimited text
NED = National Elevation Dataset, 1/3 arc second value (~10 X 10 meter grid)

return to well table

Orange County Monitoring Database Detail for H 44P1

Show Map -- Monthly Statistics Plot



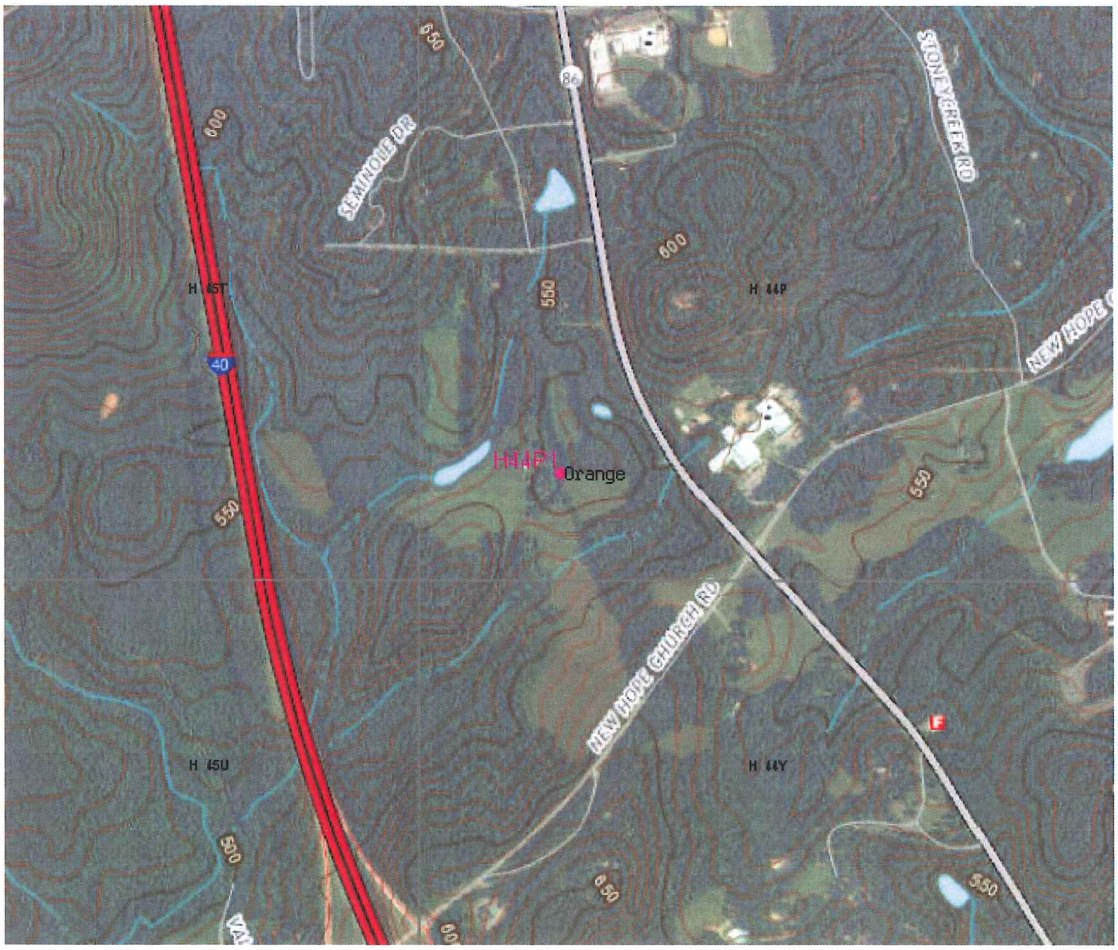


slope: +9.01 feet/year over this date range

Start Date: 10-01-2013 End Date: 12-31-2014 Replot

Hover over or click start and end date fields to change date range.

Well Location Map



Legend:

- Point of Interest
- 1 Minute Quads
- County Boundaries
- National Map Topo & Imagery

Set Map Buffer:
1000 meters

0 200 400 600 m

Show Mapquest Map

Show Google Map

Show Ground Water Mapserver

H44P1

1611 Mail Service Center • Raleigh, NC 27699-1611
Phone: (919) 707-9000 • Fax: (919) 733-3558
Comments, questions, or problems? Please contact the DWR Webmaster
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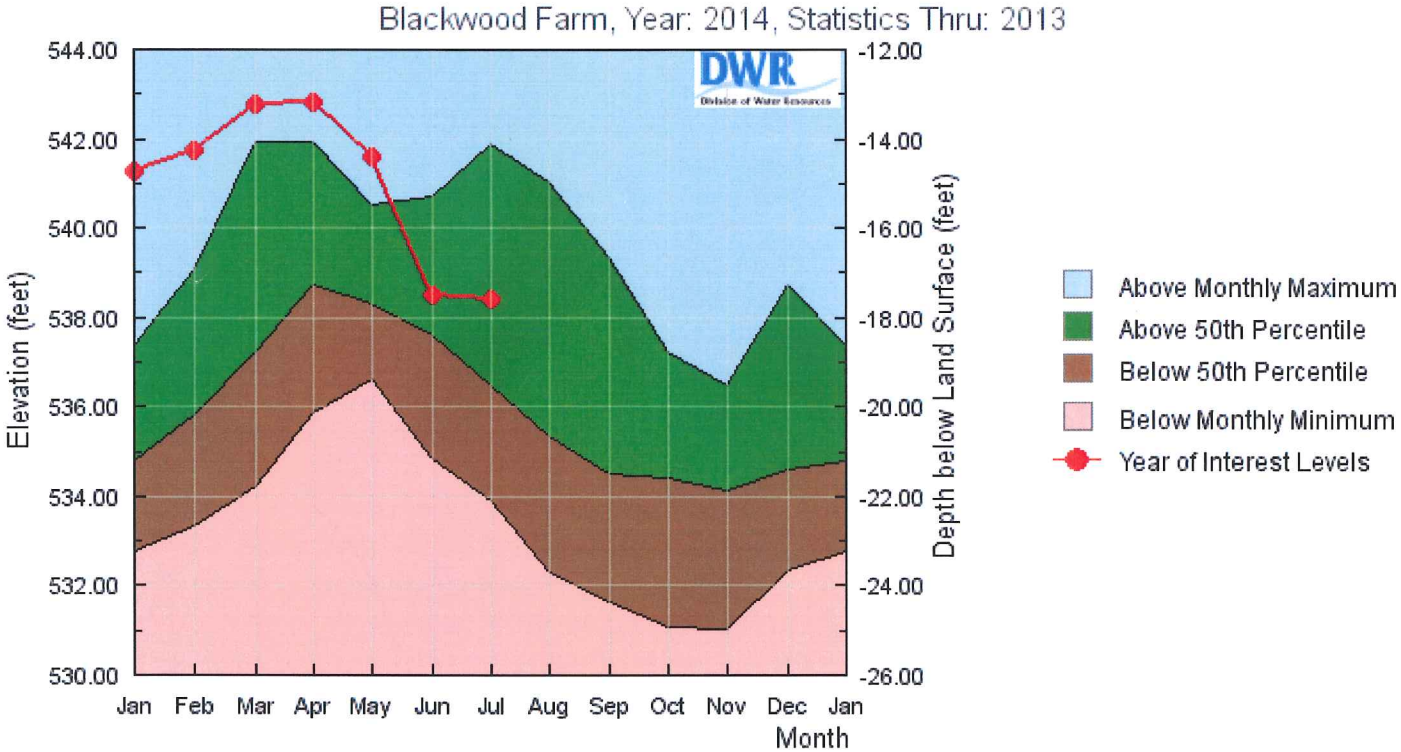
Ground Water Level Monthly Statistics



Well: H 44P1 -- Blackwood Farm

Statistical curves are monthly
minimum, mean, & maximum of the record through 2013.
Red points are 2014, latest date in month data.
Statistics based on all DWR and USGS data for well.

Choose Plot Type: (•) Min-Mean-Max ( ) Percentile Distribution
( ) DMAC Percentile Distribution

Select Year of Interest (red points): 2014

Select the last year for statistical curves: 2013

Plot will redraw with each selection change.

A distinctive feature of this plot is the drop in ground water levels associated with April - May - June (and sometimes longer) time period. This is when evapo-transpiration typically exceeds rainfall which leads to less recharge and a decline in ground water levels. Recovery of ground water levels usually begins in October - November (and sometimes later) when precipitation begins to exceed evapo-transpiration.

ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: October 14, 2014

Action Agenda Item No. 4

SUBJECT: Jordan Lake Allocation Application

DEPARTMENT: Planning

PUBLIC HEARING: (Y/N) No

ATTACHMENT(S):
A) Future Service Areas – Excerpt from Jordan Lake Allocation Application
B) Draft Jordan Lake Allocation Application – Cover and Introduction
C) Triangle Regional Water Supply Plan – Executive Summary

INFORMATION CONTACT
Craig Benedict, Planning, (919) 245-2592
Kevin Lindley, Planning, (919) 245-2583

PURPOSE: To receive information regarding the Jordan Lake Allocation Application and provide direction as necessary.

BACKGROUND: Orange County is in the process of applying for an increase in its existing Jordan Lake Allocation. The County currently holds an allocation of 1.0 million gallons per day (MGD) and is applying for an additional 0.5 MGD. This allocation is meant to provide a secure water supply through the year 2045 for portions of the County designated for economic growth. The County does not have a public water utility and there are no plans to develop a water utility service. Rather, the County will rely upon municipalities located adjacent to the economic development regions to provide the finished water. The Jordan Lake Allocation will be used to supplement the water supply of these municipalities, as needed.

There are three areas of economic interest (see Attachment A) which staff used to develop estimates of future demand, the Buckhorn-Mebane area (western Orange), Hillsborough area (central Orange) and Eno area (eastern Orange). These areas already have or will have water supplied by the City of Mebane, Town of Hillsborough, and City of Durham, respectively. The water from Jordan Lake can be accessed via Durham's interconnect with the Town of Cary. The water would then be used to augment the Durham supply or be sent to Hillsborough via the interconnect shared between Durham and Hillsborough.

The Buckhorn-Mebane area is supplied by the City of Mebane as the area does not have a viable method to access an allocation from Jordan Lake. The City of Mebane has access to a robust supply of water from the reservoir it shares with the City of Graham. In addition, Mebane has interconnections that allow access to the City of Burlington's water system, which has a robust water supply in its own right. The water demand from the Buckhorn-Mebane area is expected to be met from Mebane's water supplies, without the need to supplement with Jordan Lake water.

Orange County currently holds a Level II allocation. This means the water is not expected to be needed within the first five years of the thirty year demand projection. Typically, Level II allocations account for the projected need during the last 10-15 years of the thirty year water supply plan. The submitted allocation application requests an additional 0.5 MGD Level II allocation. The draft application also provides validation and peer-reviewed justification for the 1.0 MGD, Level II allocation the County currently holds.

The draft application was submitted to the State Division of Water Resources on May 1, 2014 (see Attachment B for cover and introduction; full application available at http://orangecountync.gov/planning/documents/Orange_Co_Application_05012014.pdf. County staff had been working with the Jordan Lake Partnership (JLP), a group of representatives from several municipalities located near Jordan Lake, and the Triangle J Council of Governments to develop a cohesive plan which showed all projected water demands for the various entities and how these would be met using current water supplies and interconnections, Jordan Lake allocations, conservation and reuse, along with other future water supplies. The work done to develop a regionally coherent water supply plan which demonstrates how all JLP members will be able to meet water demands through the year 2060 developed into the Triangle Regional Water Supply Plan (Plan).

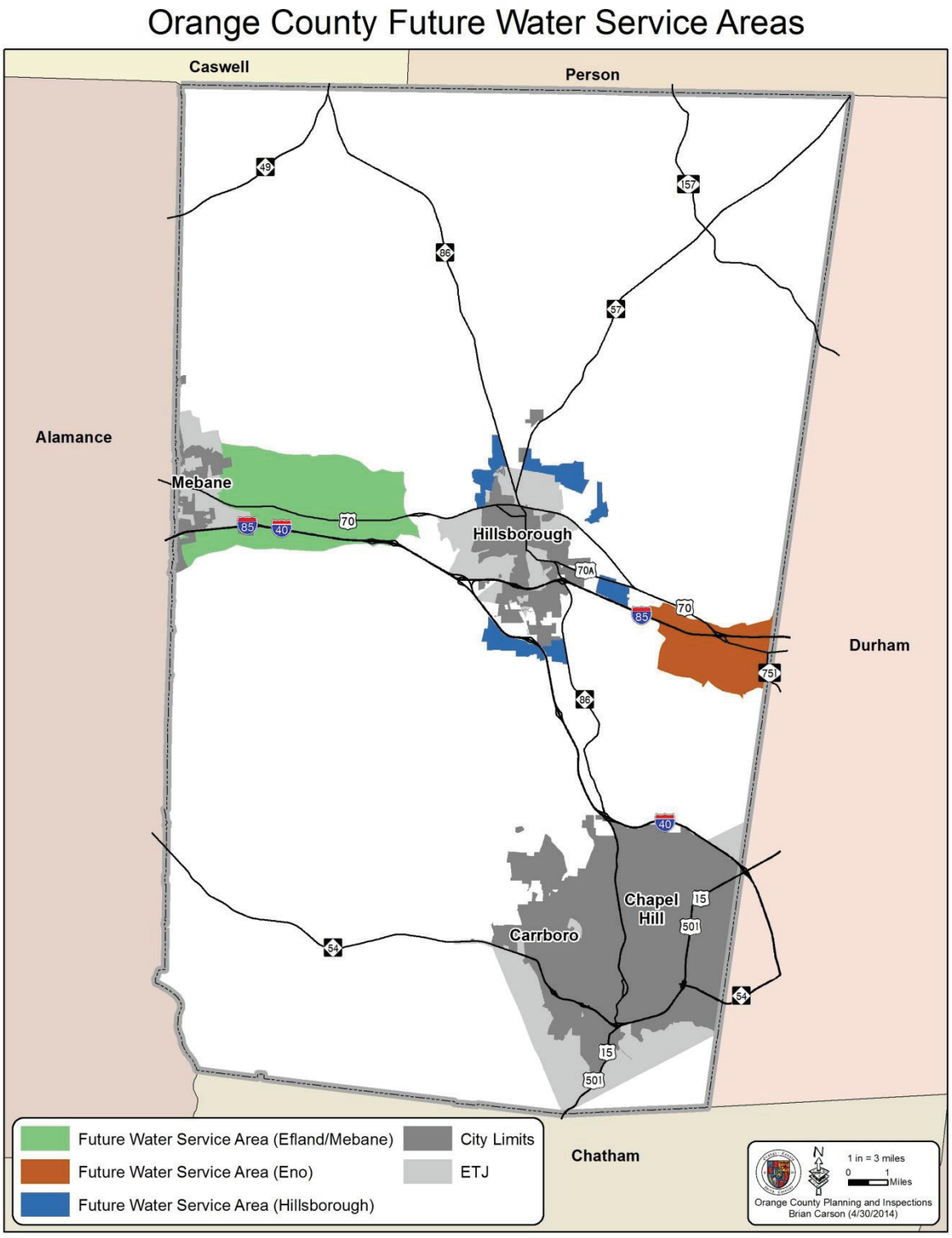
The Plan is a clear demonstration that all the individual partner requests for Jordan Lake Allocation in the current round were arrived at through careful consideration of all members. In other words, the Plan gives regional context to each municipality's Jordan Lake request. The County's application for a Jordan Lake allocation is one piece of a regional "preferred solution" developed by the JLP to meet future water demands. The Executive Summary of the Plan is attached (Attachment C).

County staff has received comments back from the Division of Water Resources regarding the County's draft allocation application. These comments will need to be incorporated into the application document and submitted as a final application by close of business on November 14, 2014. According to the Division of Water Resources project schedule, the applications will be forwarded to the Environmental Management Commission (EMC) and will be under review for approximately one year. The EMC is expected to approve or disapprove the allocation requests by November 2015.

FINANCIAL IMPACT: There is no financial impact associated with submitting the allocation request. If Orange County's request is approved, there will a yearly charge assessed of approximately $2,200 per MGD for a Level II allocation. This would represent an additional $1,100 more than the County is paying per year for its current 1.0 MGD allocation.

RECOMMENDATION(S): The Manager recommends the Board receive this information regarding the Jordan Lake Allocation Application and provide direction as necessary.

Figure I.1. Map of Service Areas.



ORANGE COUNTY
NORTH CAROLINA

JORDAN LAKE ALLOCATION APPLICATION

Orange County is seeking an allocation of 1.5 million gallons per day from Jordan Lake to secure water supply for areas within the County which are slated for development in the coming years.

ORANGE COUNTY
NORTH CAROLINA
COUNTY MANAGER'S OFFICE

200 South Cameron Street
Post Office Box 8181
Hillsborough, North Carolina 27278

Michael S. Talbert, Interim County Manager

Phone (919) 245-2300
Fax (919) 644-3004

May 1, 2014

Tom Fransen
Water Resources Management Section Chief
North Carolina Division of Water Resources
1611 Mail Service Center
Raleigh, NC 27699-1611

Dear Mr. Fransen:

This draft Jordan Lake Allocation Application being submitted by Orange County represents a request for storage allocation needed to meet Orange County's planning needs for additional water supply through 2045. This Application constitutes a request for water supply that makes up a portion of a Regional Water Supply Plan (RWSP) that has been developed by the Jordan Lake Partnership (JLP), a collection of 13 local governments and water systems that was created to collaboratively plan for the future of water supply in the Triangle Region, including for the future use of Jordan Lake.

The JLP's RWSP is built with the intention of meeting needs for all JLP members while keeping impacts on other water users (including downstream water systems), the environment, and rate payers at acceptable levels. Additionally, it is a goal of JLP to present a set of coordinated allocation requests for Jordan Lake water supply storage that result neither in overallocating the storage pool nor a situation in which water systems will have to compete for allocation.

As such, all Jordan Lake Allocation requests submitted by the Jordan Lake Partnership member entities have been made transparent to other partners, and should match the designated allocation requests that are presented in the JLPs RWSP.

As such, Orange County affirms that this request for a 1.5% Level 2 allocation is recognized to be:

☒	IN AGREEMENT	☐	NOT IN AGREEMENT

with the JLPs RWSP.

Orange County currently holds a 1 million gallon per day (MGD) Level 2 allocation from Jordan Lake, so this application represents an increase over our current allocation. As will be shown in the following documents, Orange County is anticipating growth along major transportation corridors in three distinct areas of the County. These have been

designated on the County's Land Use Plan as areas in which urban density growth is appropriate. This allocation request represents Orange County's efforts to procure a reliable source of water supply for these areas in advance of the anticipated growth over the next 30 years.

Because Orange County holds an allocation currently, we are familiar with the financial requirements necessary to maintain the allocation. The County understands and is committed to the financial responsibility that comes along with the granting of our allocation request. Thank you for the opportunity to apply for this additional allocation from Jordan Lake. County staff looks forward to working with both the State and the Environmental Management Commission throughout this application process.

Sincerely,

Michael S. Talbert
County Manager

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ORANGE COUNTY

JORDAN LAKE ALLOCATION APPLICATION

INTRODUCTION

The Jordan Lake Partnership (JLP) has been working collaboratively since 2009 to plan for the future of the Triangle Region's water supply. They have developed a draft Triangle Regional Water Supply Plan (TRWSP) to meet the 50-year water needs of the thirteen partners listed below:

- ***Town of Apex***
- ***Town of Cary***
- ***Chatham County (North water system)***
- ***City of Durham***
- ***Town of Hillsborough***
- ***Town of Holly Springs***
- ***Town of Morrisville***
- ***Orange Water and Sewer Authority (OWASA)***
- ***Orange County***
- ***Town of Pittsboro***
- ***City of Raleigh and Merger Partners***
- ***City of Sanford***
- ***Wake County (Research Triangle Park - South)***

The draft Triangle Regional Water Supply Plan has been provided to DWR by the JLP as an accompanying document to this Jordan Lake Allocation request. The TRWSP details the planning process used to develop the regional water supply plan, and the preferred regional alternative includes projected requests for Jordan Lake water supply allocation by several of the JLP members. This introduction briefly presents the preferred regional alternative, thus providing the regional context of Orange County's allocation request.

As part of the regional water supply planning process, JLP members collaborated to develop demand projections, identify water source options, construct and evaluate alternatives, and present a mutually-supported plan for meeting the future water supply needs of the Triangle Region. In doing so, JLP members supported each other through a careful peer review of each other's demand projections; through shared information about conservation and water use efficiency efforts; through inter-utility infrastructure planning efforts (e.g. a regional distribution system interconnection study and hydraulic model and a feasibility study for a new intake and water treatment plant on the western side of Jordan Lake); and by expanding the pool of potential water supply source options.

The 2060 future water service areas of the JLP members are shown in Figure 1.

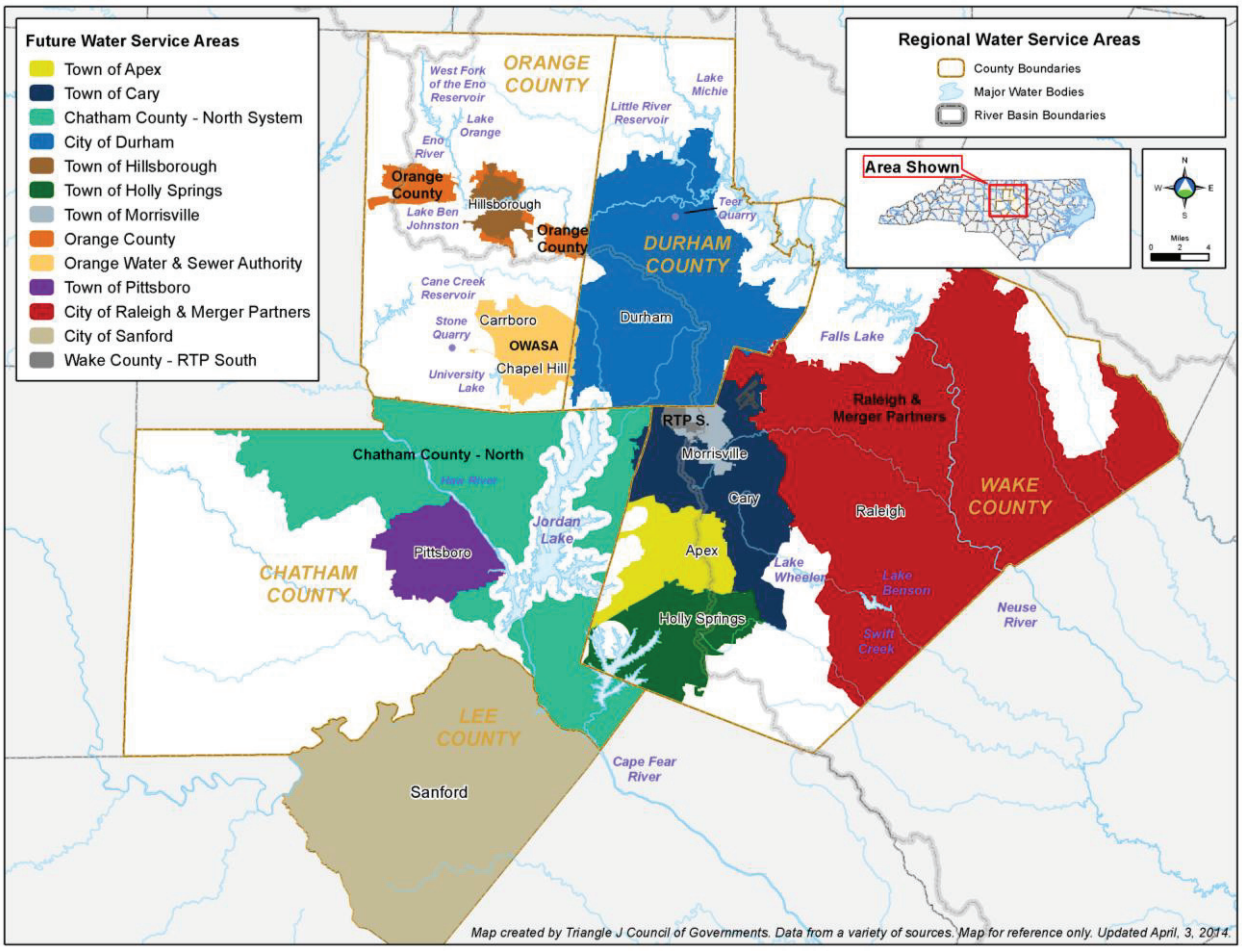

Figure 1. Future (2060) water service areas of the Jordan Lake Partners.

Developing the Regional Water Supply Plan

The TRWSP has two basic components: 1) identification of regional waters need through 2060, and 2) a plan for meeting those needs. The *Triangle Regional Water Supply Plan: Volume I – Water Needs Assessment* (May 2, 2012) presented the demand projections and initial estimates of water supply needs for all of the JLP members. The *Triangle Regional Water Supply Plan: Volume II – Regional Water Supply Alternatives Analysis* (Draft, April 18, 2014) presented the methodology used to create and evaluate regional water supply alternatives and the details of the preferred alternative and regional water supply plan. These documents should be consulted for more information. The following information summarizes the regional needs, recommended regional water supply alternative, and proposed Jordan Lake allocations requests.

Water Demand Projections and Projected Need

Figure 2 illustrates the total regional water demand projections as compared to the current available water supply (horizontal line) of 199 MGD for the thirteen JLP members. Each of the partners developed its own initial projections, which were then reviewed and scrutinized by the

other partners, and subsequently revised. The revised, peer-reviewed demand projections were approximately 10-15% lower than the initial projections, as shown by the red shaded boxes in the figure below, and represent an historic consensus among local water system professionals about the present status and long-term needs of the Triangle Region's water supply resources.

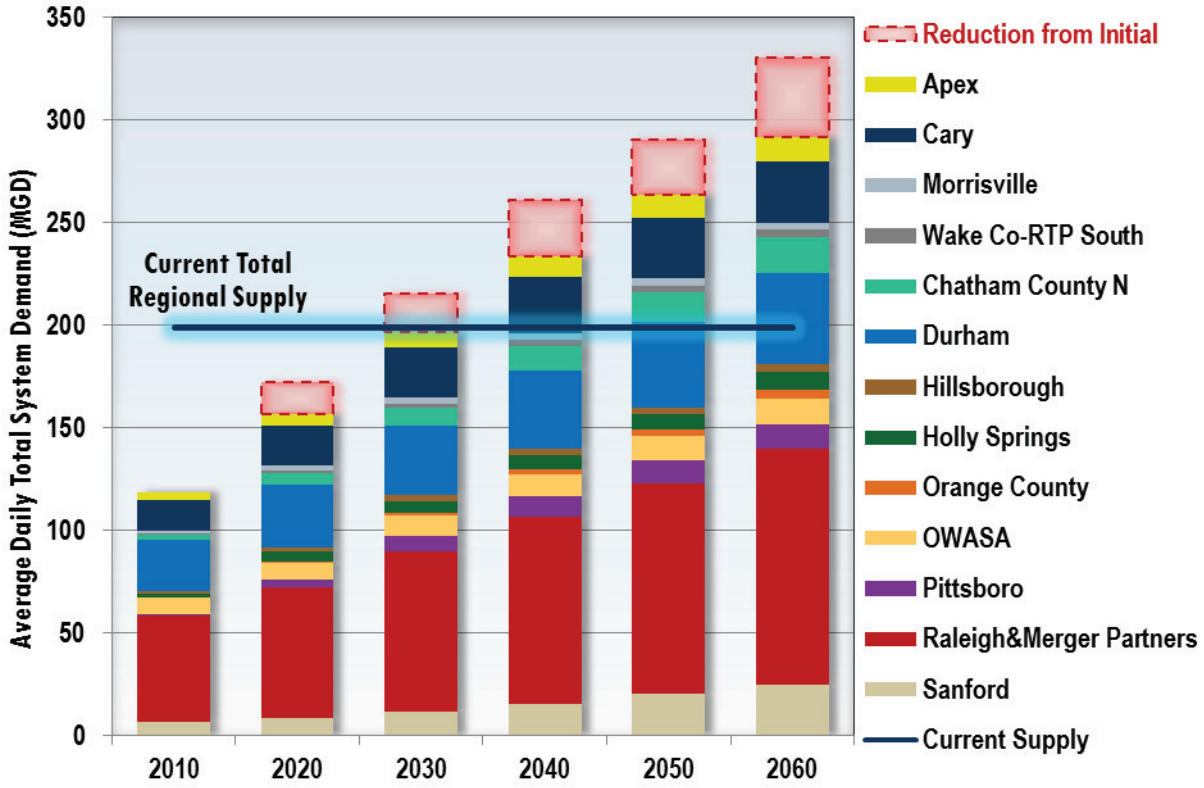

Figure 2. Regional demand projections, current supply, and reductions due to peer review.

Each water system's *need* is presented as the *average day demand minus the operational yield of its existing water supply sources (including existing Level I and Level II Jordan Lake allocations)*. Based on demand projections and existing supply, the need for each partner was computed for the 2010 -2060 planning period at five year intervals as shown in Table 1. The italicized columns for 2045 and 2060 highlight the key planning years for the Round 4 Jordan Lake Allocation process and the 50-year TRWSP, respectively.

Table 1. Projected Water Supply Need (MGD) by Partner.

Partner	2010	2015	2020	2025	2030	2035	2040	*2045*	2050	2055	*2060*
Apex *	0.0	0.0	0.0	0.0	0.0	0.3	1.4	*2.1*	2.5	2.8	*3.1*
Cary *	0.0	0.0	0.0	0.0	0.8	2.5	3.9	*5.1*	6.3	6.3	*6.3*
Morrisville *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	*0.1*
Wake Co. (RTP S.) *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chatham County N *	0.0	0.0	0.0	0.8	2.3	4.1	5.9	*7.0*	8.2	10.1	*12.1*
Durham *	0.0	0.0	0.0	0.0	0.0	0.0	0.2	*2.1*	4.0	5.2	*6.5*
Hillsborough	0.0	0.0	0.0	0.0	0.1	0.3	0.4	*0.6*	0.8	0.9	*1.1*
Holly Springs *	0.0	0.0	0.0	0.0	0.0	0.0	0.1	*0.6*	1.1	1.6	*2.1*
Orange County *	0.0	0.1	0.5	0.9	1.3	1.8	2.2	*2.6*	3.0	3.3	*3.7*
OWASA *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pittsboro	0.0	0.0	1.3	3.6	5.8	6.9	8.1	*8.4*	8.8	9.3	*9.8*
Raleigh & Merger	0.0	0.0	0.0	0.0	0.9	7.5	14.0	*19.7*	25.4	31.6	*37.7*
Sanford	0.0	0.0	0.0	0.0	0.0	1.3	3.2	*5.8*	8.4	10.6	*12.8*
Total	0.0	0.1	1.8	5.3	11.2	24.7	39.4	*54.0*	68.4	81.8	*95.2*

**** "Need" assumes that existing Level I and Level II Jordan Lake allocations are fully utilized***

Recommended Regional Alternative

The JLP evaluated a multitude of regional water supply alternatives that could meet the Region's needs as presented in Table 1. The *Triangle Regional Water Supply Plan: Volume II – Regional Alternatives Analysis* presents the methodology and analyses used to create and evaluate those alternatives. A preferred regional alternative for meeting the future needs of all partners through 2060 emerged from this effort and is referred to hereinafter as the "JLP Recommended Alternative."

Table 2 presents new water supply sources that would be brought online as part of the JLP Recommended Alternative. The Projected New Supply column lists the estimated yield of supply sources in addition to existing yields currently available. These sources may include either new supply sources or the expansion of existing sources.

The City of Raleigh's preferred source options remain uncertain with regard to timing and order of implementation, but include four priority sources, any of which could provide approximately 13.7 MGD of additional yield. These include 1) a new Little River Reservoir in eastern Wake County, 2) a reallocation of Falls Lake storage to increase the available water supply pool, 3) a direct withdrawal from the Neuse River upstream of Raleigh's Neuse River Wastewater Treatment Plant, and 4) a quarry reservoir adjacent to the Neuse River near Richland Creek. Under the JLP Recommended Alternative, Raleigh would meet its future demands from a combination of these Neuse Basin sources and would not require a Jordan Lake allocation.

Table 2. JLP Recommended Alternative sources to be constructed.

Partner	Source Name	Basin	Type	Year Online	Projected New Supply [MGD]
Multiple	Jordan Lake – Round 4	Haw	Storage Allocation	2015	28.2
Multiple	Jordan Lake – Future Rounds	Haw	Storage Allocation	2025 – 2045	8.2
Sanford	Cape Fear River Withdrawal	Cape Fear	River Withdrawal	2025, 2045	12.8
Pittsboro	Haw River Withdrawal	Haw	River Withdrawal	2015, 2020	4.0
Hillsborough	W. Fork Eno Reservoir Expansion	Neuse	Reservoir Expansion	2015	1.2
OWASA	Stone Quarry Expansion	Haw	Quarry Reservoir	2035	2.1
Orange County	Town of Mebane Purchase	Haw	Purchase	2015-2020	2 (0.5 – 2.5)
Raleigh	Neuse Basin Option 1	Neuse	TBD	2025	13.7 (9-15)
Raleigh	Neuse Basin Option 2	Neuse	TBD	2035-2045	13.7 (9-15)
Raleigh	Neuse Basin Option 3	Neuse	TBD	2050-2055	13.7 (9-15)
TOTAL	All New Sources				96.2-100

In total, the JLP Recommended Alternative provides approximately 100 MGD of additional supply by 2060, which would meet the Region's projected cumulative need of 95.2 MGD. The timing and sequence of bringing the new sources online would reduce the risk of a supply deficit for any partner during the planning period.

Jordan Lake Allocations proposed in JLP Recommended Alternative

The JLP Recommended Alternative includes new or expanded Jordan Lake Allocations for multiple partners, both in this current Round 4 and in future allocation cycles, to meet needs through 2060. Currently, 63% of Jordan Lake's water supply pool has been allocated, and a 1% storage allocation is assumed to yield approximately 1 MGD of average day supply. All existing allocations are currently held by Jordan Lake Partnership members, and the JLP Recommended Alternative proposes that all of these either be maintained or increased.

Table 3 presents current allocations, the proposed Round 4 allocation requests, and future proposed allocation requests through 2060. Round 4 requests would meet water supply needs through 2045; future allocations would meet 2060 needs. Table 3 indicates the total allocation amounts for each partner, who are expected to distinguish between Level I and Level II requests in their respective Round 4 allocation applications.

Table 3 includes all thirteen JLP members, even though Raleigh and Sanford are not expected to request Jordan Lake Allocations. The Towns of Apex and Cary currently hold a combined allocation that meets the needs of both communities. The Town of Cary also has finalized long-term agreements to serve the Town of Morrisville and the Wake County – RTP South service areas and is expected to make a joint allocation request. Table 3, therefore, includes the combined amount of the proposed allocation request, but it also shows the individual partners' amounts.

Table 3. JLP Recommended Alternative proposed Jordan Lake Allocations by Partner (MGD).

Partner	Current	Round 4 Requests	Future Rounds (2060 Need)
Apex	8.5	10.6	11.6
Cary	23.5	28.6	29.8
	32.0	46.2	48.5
Morrisville	3.5	3.5	3.6
Wake County (RTP South)	3.5	3.5	3.5
Chatham County - N	6	13	18.2
Durham	10	16.5	16.5
OWASA	5	5	5
Orange County	1	1.5	2
Holly Springs	2	2	2.2
Hillsborough	0	1	1
Pittsboro	0	6	6
Raleigh & Merger Partners	0	0	0
Sanford	0	0	0
TOTAL JLP	63	91.2	99.4

Moving toward implementation

The JLP Recommended Alternative is the result of more than four years of collaborative planning by the Partnership. The water supply needs of the thirteen partners have been vetted through multiple rounds of peer review and represent the most complete long-term picture of the Region's demands compiled to date. A thorough regional water supply alternatives analysis determined that the JLP Recommended Alternative would be most acceptable in terms of implementability, environmental and community impacts, customer costs, and overall acceptance by local governments and the general public.

The JLP efforts constituted the successful collaboration – including an unprecedented level of mutual trust and respect – among local entities planning, coordinating, and moving toward implementation of a water supply plan that will meet the long-term needs of the entire Triangle Region. Individual partners will continue to operate their own systems, but the success of this regional water supply plan will depend on each partner being able to implement its respective additional water supply sources as recommended.

The partners investigated the various impacts of the JLP Recommended Alternative – including effects on the environment, downstream water users, and the general public – and found these impacts to be acceptable and preferable to those of the other options. Hydrologic effects of the JLP Recommended Alternative were modeled with the recently updated Cape Fear-Neuse Basin OASIS model. Preliminary results indicate the proposed alternative will meet long term

demands without creating downstream shortages; is considered to be the most implementable from a regulatory and political perspective; and provides for coordinated allocation requests among JLP members.

The remainder of this document presents the allocation request for Orange County.

ATTACHMENT C

TRIANGLE REGIONAL WATER SUPPLY PLAN

Prepared For:

Jordan Lake Partnership

Prepared By:

Triangle J Council of Governments

September 24, 2014

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Cover Photo: NMNC. Falls Lake along Mountains to Sea Trail. 2012. Downloaded from Panoramio.com. Used under Creative Commons noncommercial, nonderivative license. 14 Oct. 2012.

Executive Summary

What is the Triangle Regional Water Supply Plan?

The Triangle Regional Water Supply Plan (TRWSP) is a collaborative assessment of projected water demands and sources in the Triangle Region of North Carolina, developed by the Jordan Lake Partnership (JLP), that demonstrates the ability of existing and new or expanded sources of supply to meet demands through 2060.

What is the Jordan Lake Partnership?

The JLP is a consortium of 13 local governments and water systems (Partners) that was created in 2009 to collaboratively plan for the future of water supply in the Triangle Region, including the use of Jordan Lake. Figure 1 lists the thirteen Partners and shows their 2060 water service areas.

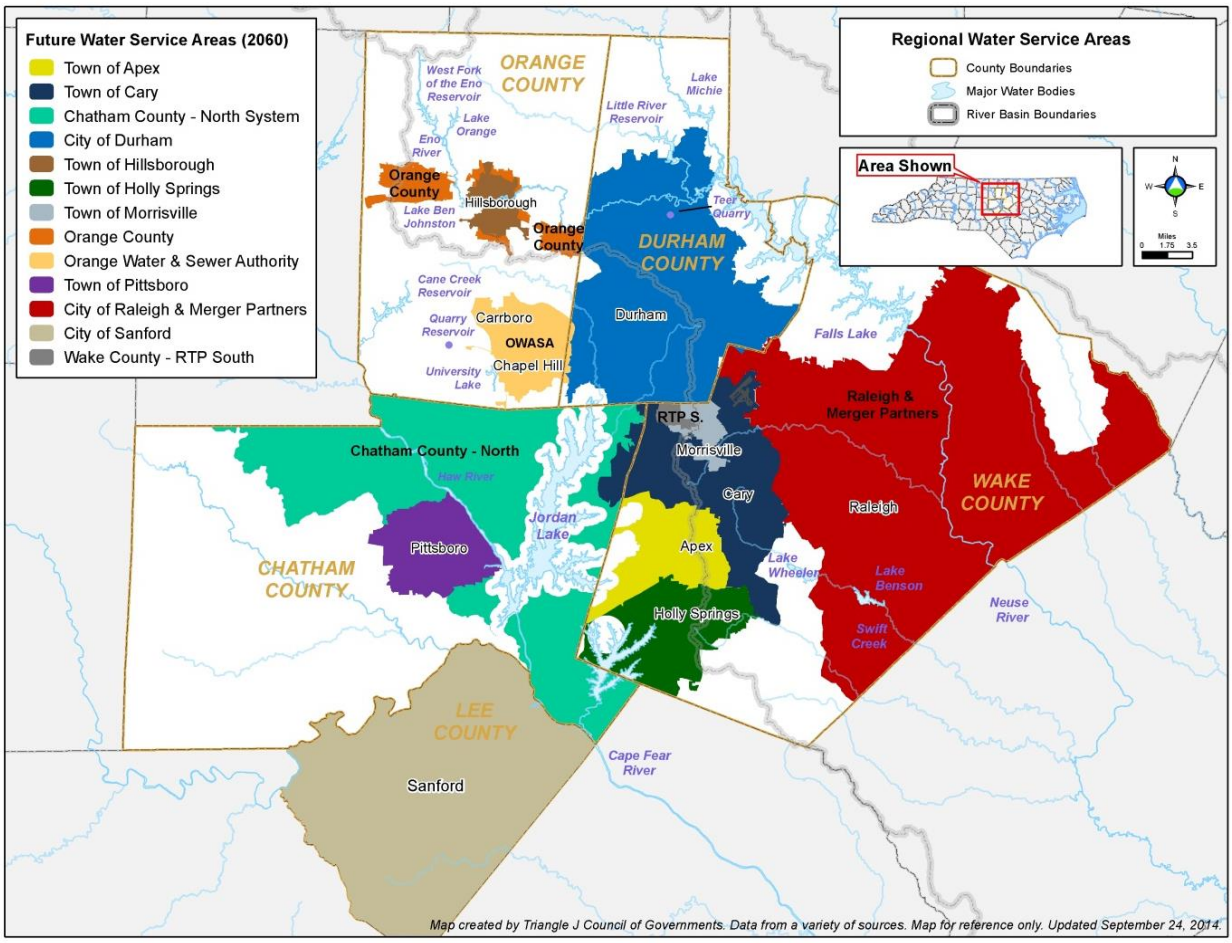


Figure 1. Future (2060) water service areas of the Jordan Lake Partners.

What are the Key Conclusions of the Plan?

- The Partners' current total water supply of 199 million gallons per day (MGD) is projected to meet their combined needs through approximately 2030.
- An additional 95 MGD of supply is needed to meet 2060 water supply needs (total 294 MGD).
- The 2060 demands can be met in an environmentally and economically sound manner through a combination of:
    - 36.4MGD: Allocation of most of the remaining Jordan Lake water supply storage (Apex, Cary, Chatham County, Durham, Orange County, Hillsborough, Pittsboro);
    - 20.6-22.6MGD: Expansion of existing reservoirs, off-stream quarry storage, and run-of-river withdrawals (Hillsborough, Orange County, OWASA, Pittsboro, Sanford); and
    - 41.1 MGD: Development of a combination – still to be determined – of new or expanded sources including reallocation from Falls Lake, a new intake in the Neuse River, off-stream quarry storage, and/or a new reservoir in eastern Wake County (Raleigh).
- Implementation of water use efficiency and conservation practices and expanded use of reclaimed water will continue to be essential strategies for meeting the region's future water needs.
- Hydrologic modeling has shown that the Triangle's water needs can be met without compromising the ability of downstream communities to meet their own water supply needs.
- The region's ability to meet projected water demands in 2060 may be compromised if any of the TRWSP's recommended future water supply sources are not implemented as planned.

Why was the Partnership Formed?

The Partners elected to be proactive in identifying potential water shortfalls and mutually acceptable and beneficial solutions for meeting future needs. The region experienced two historic droughts in 2002 and 2007-2008. Regional planning and collaboration – developing solutions on a geographic scale larger than individual water suppliers – will increase the resilience of our water supply under similar extreme conditions. In addition, the Partners wanted to use hydrologic modeling to confirm that other upstream and downstream water needs within the Cape Fear and Neuse River Basins would not be impacted by a proposed strategy that met the needs of the Triangle.

The challenges associated with utility management including increasing costs, greater regulatory requirements and increasing drought vulnerability can be more successfully met through inter-local collaboration in facility planning, design, construction, operation and management. The Partners, in various combinations, are engaged in joint projects including increasing the number and size of interconnections between water supply systems and consolidating utility systems through merger agreements. Some efforts include water supply planning over the entire hydrologic cycle where water, wastewater and stormwater service delivery are integrated to protect watersheds and improve response during drought or other water shortage conditions. The JLP was formed to complement these efforts, continuing to better prepare the Triangle Region to address water shortages on a regional basis.

What has the Partnership Accomplished?

The first step was for JLP members to develop demand projections through 2060, and a key part of this effort was engaging in a careful peer review of each other's demand projections. The Partners also shared information about conservation and water use efficiency efforts, identified existing interconnections and evaluated new interconnection opportunities. After determining future needs, the Partners developed a pool of potential water supply source options, and coordinated with the NCDENR Division of Water Resources (DWR) to use the combined Cape Fear-Neuse River Basin hydrologic model to define and evaluate alternatives. The result is the mutually-supported Triangle Regional Water Supply Plan for meeting the future water supply needs of the Triangle Region.

What are the Region's Water Supply Needs?

The region's existing and planned water supplies (Figure 2) are associated primarily with man-made reservoirs, along with a few run-of-river withdrawals and supplemental quarry storage. The region does not import water from outside the Neuse and Cape Fear River basins; though the Partners currently have a combined net transfer of surface water from the Neuse basin to the Cape Fear basin.

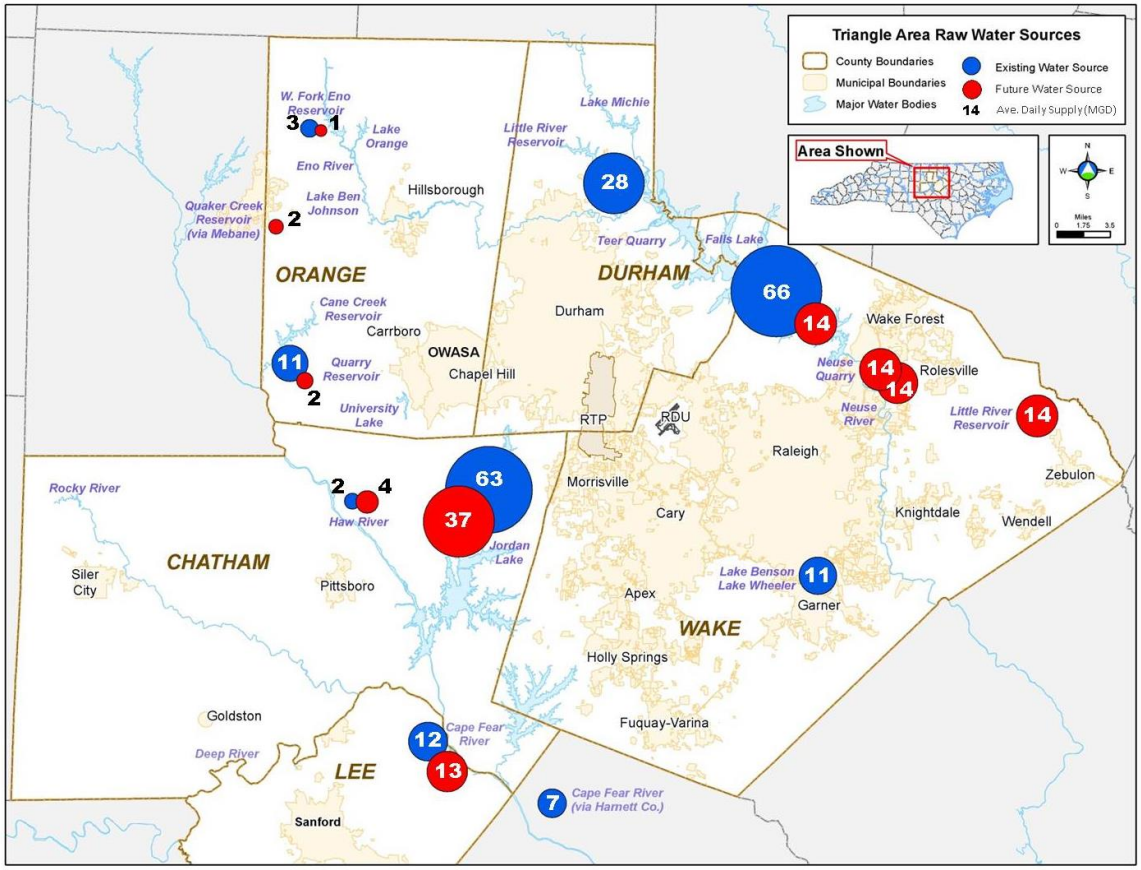


Figure 2. Existing and future water supply sources; JLP Recommended Alternative. Single dots sometimes represent multiple sources that are geographically close (e.g., OWASA's reservoirs) and/or more than one utility using the same source (e.g., Jordan Lake). The numbers by each source represent approximate yield in MGD, but have been rounded to whole numbers in this graphic. Details of each source are provided in the TRWSP.

The Triangle area is one of the fastest growing regions in the country, and as a result, the combined JLP water service area population is projected to increase from 1,066,000 in 2010 to 2,774,000 by 2060, a compounded rate of increase of about 1.9 percent. The corresponding water demands are projected to increase from 118 MGD in 2010 to 294 MGD by 2060, a compounded rate of increase of about 1.8 percent. The fact that water use is projected to grow slower than service area population illustrates the impact of the Partners' water efficiency and conservation programs, including increased use of reclaimed water.

While existing water supplies of 199 MGD are expected to meet the region's needs through approximately 2030, new water supplies of 95 MGD will be needed to meet 2060 estimated demands of 294 MGD. Figure 3 illustrates the growth in water demand for each partner. Raleigh makes up almost half of the JLP's combined demands – making the implementation of their future water supply projects essential to successfully meeting the needs of the Triangle Region.

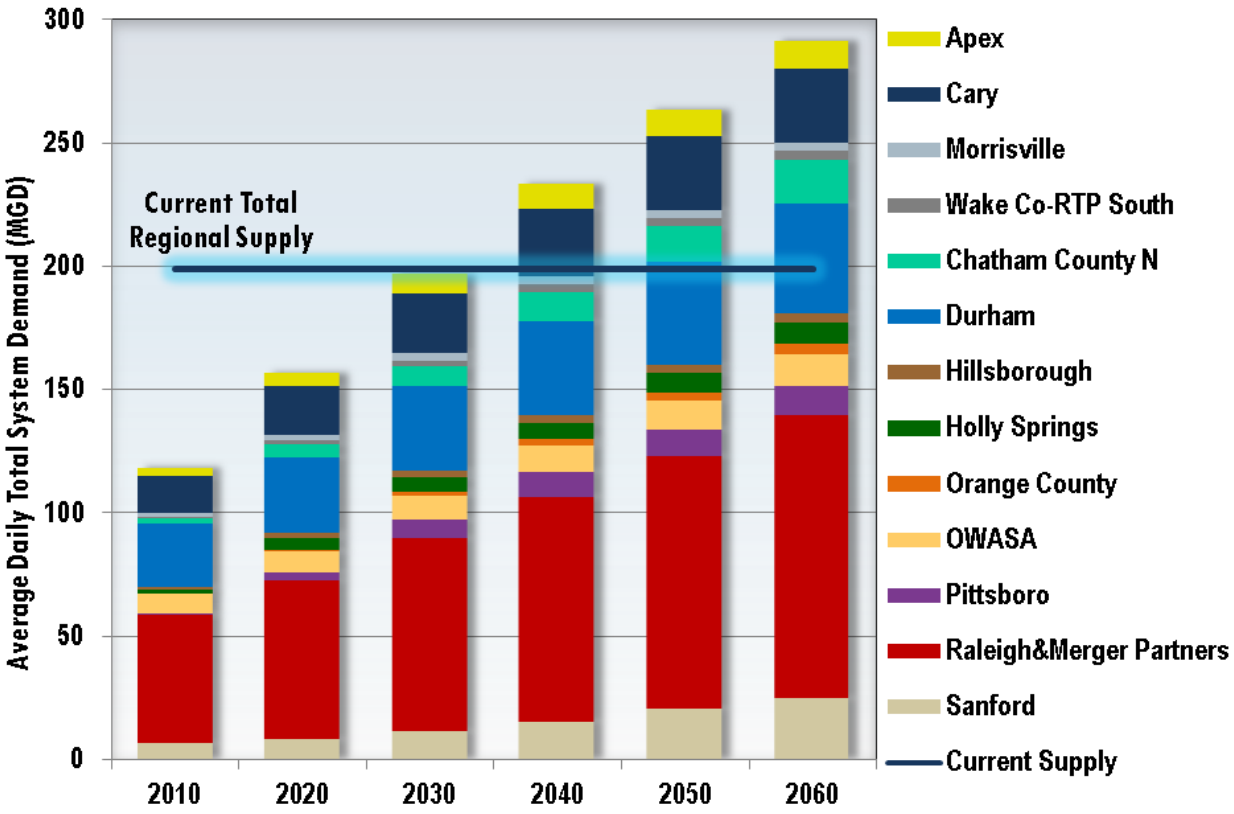


Figure 3: Regional demand projections and current supplies, including Jordan Lake allocations.

How will the Partners Meet 2060 Water Demands?

Many of the Partners have their own long-range master plans in which they have identified and evaluated a variety of water supply options. Using the information from these plans as a foundation, the JLP identified potentially feasible strategies for meeting the region's long-term water supply needs. These strategies were evaluated relative to each other according to their ability to meet regional water supply demands, costs, regulatory complexity and environmental impacts; and the strategy selected by the Partners is presented in detail in the TRWSP (JLP Recommended Alternative).

The JLP Recommended Alternative meets the region's cumulative 2060 water supply needs of 294 MGD with 36.4 MGD of new allocations from Jordan Lake, and development of about 63 MGD in water supply from increased and new withdrawals from river sources, increased and new supplemental quarry storage and a new reservoir on the Little River in eastern Wake County. Implementation of the JLP Recommended Alternative would decrease the existing net interbasin transfer from the Neuse River Basin to the Cape Fear River basin.

Currently, 63 percent of Jordan Lake's water supply pool has been allocated (a 1 percent storage allocation is estimated to yield approximately 1 MGD of average day supply). The JLP Recommended Alternative includes the same or increased allocations for all existing allocation holders (each is also a member of the JLP), as well as new allocations for several of the Partners. While the JLP is planning for 2060, the next round of Jordan Lake allocations (Round 4) will be based on 2045 needs. Table 1 presents current allocations and the total Jordan Lake allocation needs for 2045 (proposed Round 4 allocation requests) and 2060.

Table 1. JLP Recommended Alternative Jordan Lake Allocations (MGD).

Partner	Current Allocation	Total 2045 Need (Round 4 Allocation Basis)	Total 2060 Need
Apex	8.5 (32.0)	10.6 (46.2)	11.6 (48.5)
Cary	23.5	28.6	29.8
Morrisville	3.5	3.5	3.6
Wake County (RTP South)	3.5	3.5	3.5
Chatham County - N	6	13	18.2
Durham	10	16.5	16.5
OWASA	5	5	5
Orange County	1	1.5	2
Holly Springs	2	2	2.2
Hillsborough	0	1	1
Pittsboro	0	6	6
Raleigh & Merger Partners	0	0	0
Sanford	0	0	0
TOTAL JLP	63	91.2	99.4

Table 2 summarizes additional water supply (62-64 MGD) from sources other than Jordan Lake in the JLP Recommended Alternative. While most of the sources are expansions of existing water supplies, about 41 MGD of the proposed water supply – nearly half of the 95 MGD in new supplies needed to meet regional 2060 demands – will come from a combination of new projects that are planned by the City of Raleigh.

Table 2. JLP Recommended Alternative Water Supplies (MGD).

Partner	Source Name	Basin	Type	Projected New Supply (MGD)
Hillsborough	W. Fork Eno Expansion	Neuse	Reservoir Expansion	1.2
Orange County	Purchase from Town of Mebane	Haw	Purchase	0.5 - 2.5
OWASA	Quarry Reservoir Expansion	Haw	Quarry Expansion	2.1
Pittsboro	Haw River - Increased Withdrawal	Haw	River Withdrawal	4.0
Raleigh	Exploring 4 options; must develop 3	Neuse	New Reservoir; Reallocation of Falls Lake Storage; Neuse River Withdrawal; Quarry	41.1
Sanford	Cape Fear River - Increased Withdrawal	Cape Fear	River Withdrawal	12.8
TOTAL	All New Sources			61.7-63.7

Can Downstream Communities Meet 2060 Needs under the TRWSP?

Yes. The JLP used DWR's combined hydrologic model of the Neuse and Cape Fear River Basins to simulate 2060 water demands, including the JLP Recommended Alternative, under the entire 80+ year range of hydrologic conditions and historic droughts. The results indicate that the long term water supply needs of the Partners, as well as those of downstream water users, can be met under the TRWSP. A preliminary modeling analysis by DWR, as they work toward development of a Cape Fear Basin Water Supply Plan, confirmed these results.

What Could Affect the Success of the TRWSP?

The TRWSP conclusion that the Triangle Region will have enough water to meet projected water demands through 2060 hinges on the accuracy of many assumptions, on Jordan Lake water supply allocations consistent with Table 1, and on each Partner implementing its water supply projects. The JLP Recommended Alternative will require implementation of many complex projects, with numerous regulatory and environmental challenges. Key uncertainties include:

- Rate of population growth;
- Adoption of water efficiency and conservation practices including reclaimed water use;
- Water quality policies, environmental permits, endangered species impacts, environmental justice concerns or evolving regulations, especially as they relate to the development of new water supply sources;
- Legislative and/or regulatory actions regarding competing water uses; and

- Declining source yields due to issues such as hydrologic variability (from climate and/or land use impacts), faster than assumed sedimentation of reservoirs or changes in required downstream releases.

What are the Partnership's Next Steps?

Consistent with the TRWSP and Table 1, those Partners who use or plan to use Jordan Lake submitted draft allocation requests to DWR on May 1, 2014; final applications will be submitted later in 2014 and the JLP will continue to coordinate with DWR on the allocation process and development of the Cape Fear Basin Water Supply Plan.

The Partners are developing a regional water distribution system computer model that will be used to evaluate system interconnection capacities and performance under different demand scenarios, with the goal of identifying joint projects to increase reliability for all customers and optimize water supplies during times of water shortage.

Several of the Partners have begun planning for the design and development of a new intake, water treatment plant and transmission facilities on the western side of Jordan Lake. Working together to build new infrastructure minimizes environmental impacts, and decreases both capital and operational costs due to economies of scale. A new intake and treatment plant at Jordan Lake, along with major interconnections between systems, would also provide redundancy in the event the existing Cary-Apex intake had to be taken offline for any reason.

The Partners will continue to work together toward successful implementation of the TRWSP, and to look for areas where they can improve the region's ability to address water supply needs and effectively prepare for and respond to water shortage conditions through cooperation and preparation.

ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: October 14, 2014

Action Agenda
Item No. 5

SUBJECT: Emergency Communications

DEPARTMENT: Emergency Services

PUBLIC HEARING: (Y/N) No

ATTACHMENT(S):
A) Memo-BOCC Emergency Communications Capability Progress
B) GETS Factsheet
C) GETS "How It Works
D) Wireless Priority Service Factsheet
E) Making Combined WPS and GETS Calls

INFORMATION CONTACT:
Jim Groves, 245-6140
Bonnie Hammersley, 245-2306

PURPOSE: To receive information and tools that will enhance the Board's emergency communications capability during significant emergencies and disasters.

BACKGROUND: The Orange County BOCC requires a plan and process for emergency communications and information sharing during significant emergencies and disasters. While staff and the Board hope that emergency measures do not have to be implemented, the recent ice storm that impacted Orange County, the on-going Public Health activity regarding the Ebola outbreak in West Africa, and the continued threat of disasters due to natural or manmade hazards necessitate that the BOCC has a plan.

The Emergency Services Director will provide guidance on emergency communications during a significant emergency event or disaster, provide several options to the BOCC to improve emergency communications capability, and provide Board member with a Government Emergency Telecommunications System (GETS) card.

FINANCIAL IMPACT: This presentation is for informational purposes. Implementation of the information and guidance provided may range from no cost at all, to approximately $150,000 for implementation and $80,000 in recurring annual costs.

RECOMMENDATION(S): The Manager recommends that the Board receive the information and guidance, and provide feedback to the Emergency Services Director.

Orange County
Emergency Services

510 Meadowlands Drive
Hillsborough, NC 27278
919.245.6100

September 5, 2014

To: Bonnie Hammersley, County Manager

From: Jim Groves, Emergency Services Director

Re: BOCC Communications Capability Progress

Ms. Hammersley,

I met this morning with Colleen Bridger, Jim Northrup, Dave Hunt, Kirby Saunders (EM Coordinator), Leslie O'Connor (Public Health Preparedness Coordinator) to discuss the BOCC communications capability initiative. To establish a brief background, is my understanding from talking with Donna Baker that similar initiatives have taken place in the past, but they were never fully completed or implemented. It is my intent to change that outcome with this proposal, to include a presentation and feedback opportunity during an upcoming work session.

In establishing a communications capability, the group felt that it would fall into two (2) categories: 1) robust communications capability between each commissioner and their constituents, the County Manager, the Emergency Coordination Center (ECC), and County staff (as needed), and 2) the capability to conduct public meetings, including public access, when the BOCC may not be able to gather in a single facility or under the same roof (due to any reason).

With Category 1, the group felt that improving the BOCC's capability to use their personal devices (phones) and email would be the best option. By using their email addresses, OCES could push out Situation Reports on the Emergency or Disaster to keep them informed and able to answer questions by their constituents. OCES can also revise the elected official's disaster guideline to provide more detail on how and whom to communicate with during emergencies and disasters. To enable the BOCC to make calls, we propose that each Commissioner and County Manager's staff be registered with the Government Emergency Telecommunications Service (GETS), which provides a free priority mechanism to make landline calls. Basically this service routes calls by dialing dedicated telephone numbers followed by a passcode to process the call. We also propose that each Commissioner and County Manager's staff be registered with the Wireless Priority System (WPS), which is a fee based service (about $5 per device per month) that gives wireless phones priority access to cell towers. In addition, WPS and GETS can be used jointly if the need arises. More information can be found at http://www.dhs.gov/government-emergency-telecommunications-service-gets. Finally, Category 1 will be enhanced with our new mass notification system "Everbridge" which enables mobile devices to use various tools to communicate, including impromptu conferencing capability. We

will provide training on Everbridge, including a user's guide once installed and operational. Training and developing their resiliency at home would be important for the success of this proposal. They should have a hard wired phone to supplement any wireless phone in the house. In addition, they should consider installing a generator (or solar/wind option) and transfer switch so they their homes could be powered for heat, cooling, and to support communications devices such as fax, email, internet, etc. Our Emergency Management Division will begin implementation just as soon as we have BOCC approval or your go ahead.

Category 2 becomes more involved than Category 1 and may have additional costs associated with its implementation, depending on the options and capabilities desired by the BOCC. We are vetting this piece of the proposal through the County Attorney's Office to ensure it meets the intent of the Public Meeting Laws.

The group proposed a tiered approach to implementing Category 2. We felt that starting off with a conference call capability would be the quickest and most effective way of reaching the public, and providing public access. By using a conference line and inviting the media to join, we could tap into the Public, Educational, and Government Access Channel (PEG) as a way of expanding the conference line. A concern is that not everyone may have access to the PEG channel. Jim Northrup is looking into how many lines the County can provide, he estimates 30 to 50. The most likely conference call option would require the use of a vendor that could support 100+ callers. Fees would depend on the number of callers and length of call. We need feedback from the BOCC on how many lines they feel would be prudent to provide public access.

The next tier would be a Web Conferencing capability that could be implemented using an option like GoToMeeting, Adobe Connect, Google Hangouts, etc. This option could support voice only or have the option to share video and graphics with the public. We thought that tapping into the PEG channel would be a way of expanding the Web Conference. A concern of ours is that not everyone may have Web access in the rural areas, or access to the PEG channel. Jim Northrup has volunteered to research these options further.

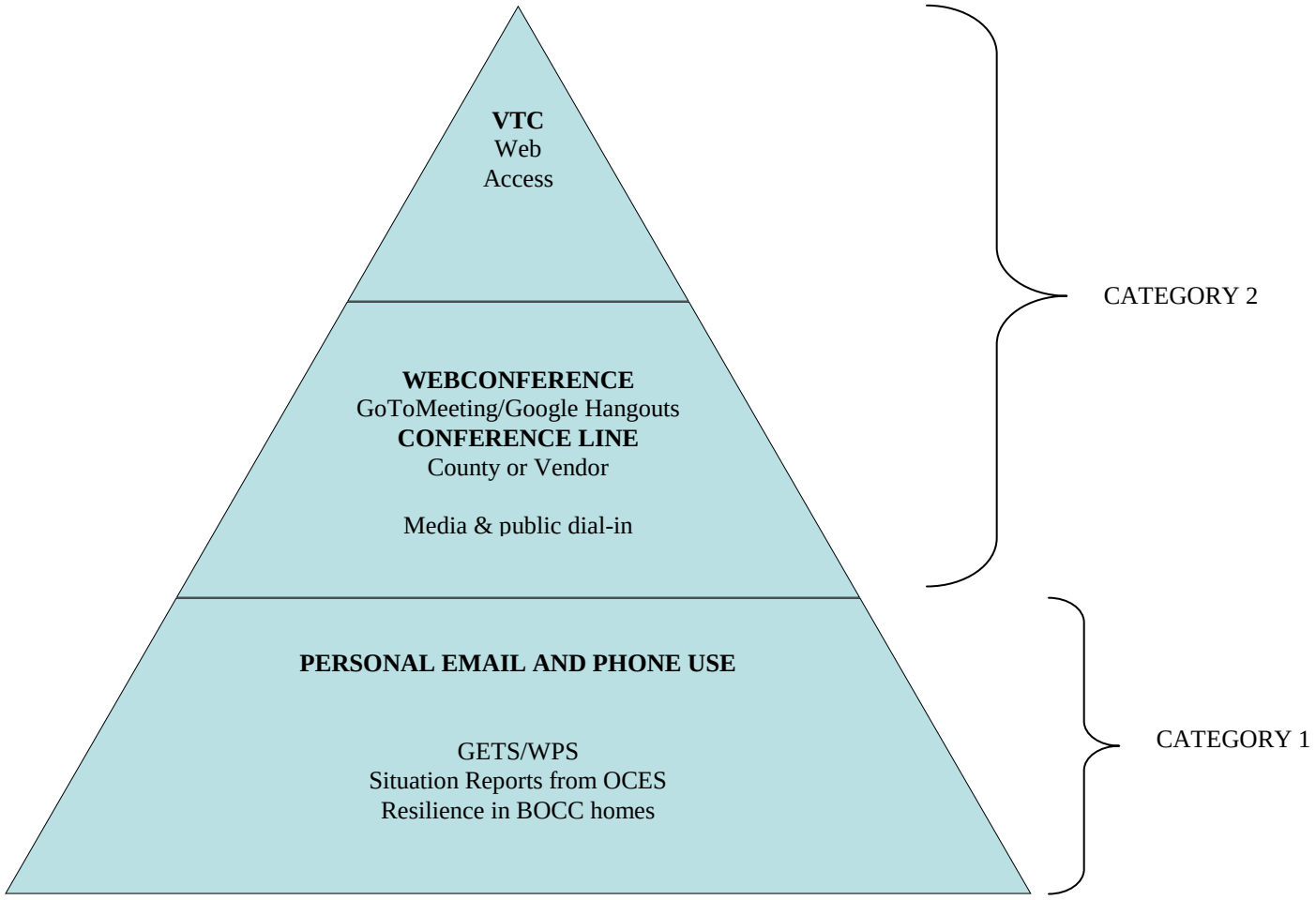
The top tier could involve VideoTeleConferencing (VTC). Using a VTC, the County would have to provide access to each Commissioner and key Management staff, and be facilitated by a VTC Controller (someone who would control who was visible on the screen or what was visible on the screen). The visual presentation could range from all Commissioners being visible and heard, to a single Commissioner being seen and heard, to a graphic display or video. This would provide the option of broadcasting the meeting out to the public and letting them see the BOCC individually as they talked. All of this could be done remotely. This would most likely be a Capital Investment item for subsequent years.

Questions that need to be addressed for this proposal are:

1. How many conference lines would the BOCC want to establish to ensure public access?

2. How often would the BOCC like to receive Situational Reports (SitRep)

Here is what the tiered approach would look like:



Your feedback and questions are welcomed and appreciated.

Homeland Security

Office of Emergency Communications

May 2013

Goverment Emergency Telecommunications Service

The Government Emergency Telecommunications Service (GETS) is a capability offered by the Department of Homeland Security's Office of Emergency Communications (OEC). Developed in response to a growing need for priority communications for select users, GETS enhances call completion for select wireline (landline) users when abnormal call volumes exist. Assigned on a case-by-case basis, GETS access is extended to only those Federal, State, local, tribal and select private sector users who support national security and emergency preparedness (NS/EP) activities. During times of network congestion, GETS users are granted priority communications by dialing the universal access number (710-627-GETS) using common telephone equipment and entering a personal identification number. Once authenticated, GETS calls will receive priority over regular calls; however, GETS calls do not preempt calls in progress or deny the general public's use of the telephone network. GETS is in a constant state of readiness.

WHO USES GETS?

Access to the GETS program is restricted to those users with NS/EP roles, traditionally those with command and control functions critical to management of, and response to, national security and emergency situations, particularly during the first 24 to 72 hours following an event. GETS supports critical Continuity of Government and Continuity of Operations efforts; Federal, State, local, territorial, and tribal emergency preparedness and response communications; non-military executive branch communications systems; critical infrastructure protection networks; and non- military communications networks.

During Hurricanes Irene, Isaac, and Sandy, over 99 percent of calls made via GETS were successfully completed.

WHY SHOULD YOU ENROLL?

GETS users rely on landline communications services to perform critical functions, including those areas related to leadership, safety, maintenance of law and order, finance, and public health. Acts of terrorism, including cyber attacks, natural disasters, power outages, cable cuts, and software problems can cripple the telephone services of an entire region. Congestion alone can prevent access to circuits. The NS/EP community needs the ability to increase the likeliness their calls will go through in times of crisis. GETS users have historically experienced call completion rates at or above 90 percent during actual emergencies.

WHAT ELSE SHOULD YOU KNOW?

- GETS is available nationwide and can also be accessed from international locations.
- GETS can be accessed through the Defense Switched Network, FTS2001/Networx, the Diplomatic Telecommunications Service, and the Federal Emergency Management Agency Switched Network.
- GETS calls may be placed from cellular and satellite phones.
- GETS calls over cellular networks are most effective when used in conjunction with the Wireless Priority Service, a similar service managed by OEC that offers authorized users priority treatment on the wireless networks.
- GETS access is restricted to individuals with NS/EP responsibilities. Traditionally, users must meet those responsibilities outlined in Executive Order 13618, Assignment of National Security and Emergency Preparedness Communications Functions.
- There is no charge to enroll in GETS or to make calls to the familiarization line.

FOR ADDITIONAL INFORMATION

Please contact the DHS Priority Telecommunications Service Center at 866-627-2255 or 703-676- 2255, via email at GETS@HQ.DHS.GOV, or visit www.dhs.gov/gets

Homeland Security

Office of Emergency Communications

HOW IT WORKS: THE GOVERNMENT EMERGENCY TELECOMMUNICATIONS SERVICE

Introduction

The Government Emergency Telecommunications Service (GETS) is an easy-to-use calling card program that provides authorized national security and emergency preparedness (NS/EP) users improved call completion on the public landline networks. It is a nationwide program providing authorized personnel priority calling during an emergency or crisis situation when the landline networks are congested and the probability of completing a call is reduced. GETS interoperates with selected government and private networks and services (FTS Networx; the Defense Switched Network; and the Diplomatic Telecommunications Service), and allows calls to or from international locations. The GETS card can be used with common telephone equipment, including standard desk sets, secure telephone equipment, facsimile, modems, and cellular and satellite phones.

Calls placed through GETS will receive priority over normal calls, allowing users to communicate even during the highest levels of network congestion and do not preempt or terminate other calls already in process. GETS also provides priority calling to cell phones on most major carrier networks. There is no charge to enroll in GETS or to make calls to the familiarization/test line. When making GETS calls, subscribers can be charged the equivalent of long distance phone rates.

GETS Call Processing

GETS leverages existing features of commercial local and long distance telecommunications service networks along with selected enhancements that are developed and implemented in accordance with Federal Communications Commission rules and follow industry standards. Carriers complete GETS calls using whatever network facilities are available following an emergency event. GETS calls receive priority treatment only within the domestic phone network in the United States, including its territories.

GETS features include:

- Access to only authorized users via a Personal Identification Number (PIN)
- Priority over normal calls
- Capability of using all surviving routes in a damaged network
- Access from any location in the United States and abroad

Approximately 85 percent of the local telephone lines across the nation are GETS capable. GETS service is available from the three largest nationwide long distance carriers: AT&T, Sprint, and Verizon.

GETS enhancements to the local and long distance networks include priority treatment features and enhanced routing, which are described in more detail in the next sections. GETS makes maximum use of available communications resources within the networks when outages or congestion occur. GETS also takes advantage of the evolving technological capabilities of the public phone network. Many local and long distance carriers are converting parts of their networks to Voice over Internet Protocol technology, which involves new hardware and software. The Department of Homeland Security Office of Emergency Communications has been working closely with the telecommunications carriers and industry standards bodies to ensure that GETS enhancements function in this new environment.

GETS Calls to and from Landline Phones

When a caller dials a GETS access number from a landline phone, the local carrier recognizes it as a priority call and processes it using special GETS handling instructions. These instructions include information on multiple ways to route the call to a GETS long distance carrier. When the call reaches a GETS long distance carrier, that carrier authenticates the call by prompting the caller to enter a 12-digit PIN and the intended destination number. The long distance carrier routes valid calls to the terminating local exchange carrier or wireless carrier using priority features deployed within the long distance network. Finally, the local exchange or wireless carrier receiving the call completes the call to the destination number. GETS calls terminating in GETS-enhanced landline networks also receive priority treatment in the terminating network.

GETS Calls from and to Wireless Phones

Wireless phones can be used to place and receive GETS calls. Callers using the Wireless Priority Service (WPS) to place GETS calls receive priority in both the wireless and landline networks. From a WPS-enabled phone, users should dial *272 + 710-627-4387 + SEND to place these calls. Callers making GETS calls from non-WPS enabled

wireless phones will receive some enhanced capabilities, but will not receive priority treatment in the wireless network's critical call set up process. **GETS and WPS calls terminating in wireless networks that provide WPS will receive priority treatment through the terminating network, regardless of whether the destination device is WPS-enabled.**

GETS Priority Features

A GETS call receives special handling within the local and long distance networks through priority treatment and enhanced routing, as discussed in the following sections.

Unique GETS Area Code

The North American Numbering Plan Administration assigned the unique 710 Numbering Plan Area (NPA) code for use with GETS. This non-geographic area code is valid in most local, long distance, wireless carriers, foreign carriers, as well as non-traditional carriers such as cable companies and internet telecom service providers, including Skype and Vonage. Entering the 710 area code alerts carriers to apply GETS priority features within their networks.

To ensure proper access to GETS, the telecom managers for hotels, office buildings, and other private branch exchanges must ensure that their networks allow 710 area code calls to be routed to the GETS long distance carriers. Similarly, pay phones, which are increasingly routed to a presubscribed carrier, must be programmed to route 710 calls to one of the GETS long distance carriers. For help with 710 area code access, contact User Assistance at 800-818-4387 or 703-818-4387.

Access Control through PINs

GETS was designed to ensure that only authorized users access the service through the distribution, use, and control of PINs. Each GETS user is provided a GETS card with a unique 12-digit PIN that must be used to access the service. After a GETS access number has been dialed, the user will be prompted to enter the PIN.

If the PIN is valid, the call will be processed. If the PIN is not valid (for example, it was entered incorrectly), the caller will be prompted to reenter it. After three unsuccessful attempts, the call will be discontinued.

High Probability of Completion

The high probability of completion feature designates a GETS call as such by putting a GETS marker on it in the telephone network signaling system. This marker accompanies the call through each portion of the phone network as the call is being routed. The marker tells the network to use GETS handling instructions at each point that the network must decide how to route the call, thus giving it priority over normal calls.

Enhanced Routing

The local carriers and GETS long distance carriers have implemented enhanced routing services to aid GETS call completion in congested networks. This provides GETS users with improved call completion capabilities over normal users. These capabilities, described in more detail below, include:

Alternate Carrier Routing

Alternate carrier routing provides a GETS call automatic alternate routing to the GETS long distance carriers. For example, if one GETS carrier cannot be reached, the call will automatically be directed to another GETS carrier. In the local networks, normal calls are typically routed to only one long distance carrier, whereas alternate carrier routing allows GETS calls to attempt to access all three GETS long distance carriers (AT&T, Sprint, and Verizon) without the user having to hang up and dial each one individually.

Call Queuing and Retry

GETS calls routed through networks experiencing high congestion may encounter situations where resources required to complete calls are unavailable. This can happen at several points on the route between a call's origination and destination. Normal calls would not be completed under these conditions; however, GETS call queuing and retry features allow a GETS call to wait for or retry a number of times for the resources needed to complete the call. For example, if a local carrier receives an *All Circuits Busy* message from the long distance carrier while attempting to route a GETS call (see Figure 1), the GETS call will queue in the local carrier network for the next available connection (known in the industry as a 'trunk') to the long distance carrier.

As network resources become available, the GETS calls are processed on a first come, first served basis. Callers can wait in queue for a minute or longer, and there is no

recorded announcement to indicate when calls are placed in queue. In cases of severe congestion and national need, network resources, such as trunks between local carriers and GETS long distance carriers, may be reserved for GETS and NS/EP traffic use only.

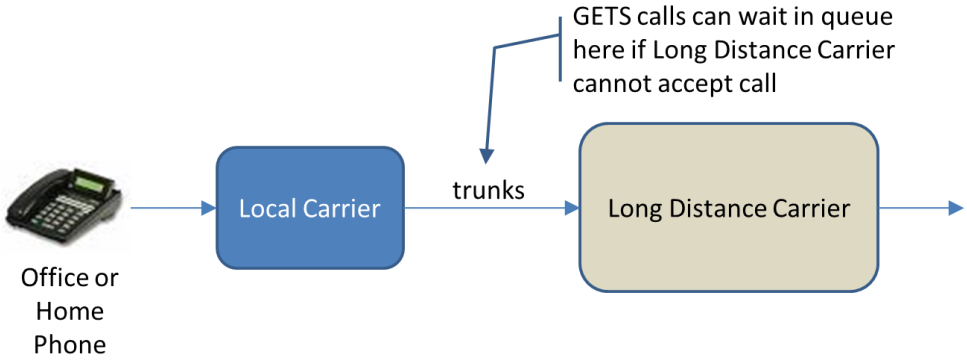


Figure 1. GETS Trunking

Exemption from Network Management Controls

The exemption from network management controls feature allows GETS calls to be processed and avoid the restrictive measures that carriers use to protect their networks during times of extreme congestion. When call volume exceeds the designed capacity of the network, phone companies use network management controls to prevent a certain percentage of calls from originating from, or terminating in congested areas. Though normal calls may be blocked during the times these measures are implemented, GETS calls are still processed.

Default Routing

If a technical problem in the local carrier prevents the call from receiving its full set of special handling instructions during the initial setup stage of a GETS call, it will automatically go to a GETS long distance carrier for processing. This provides a fail-open operation where the call will at least be processed, as opposed to being blocked, even if it does not receive all the priority features it normally would have.

Number Translation

GETS provides called telephone number translations, or masking, for users who require this type of service. Number translation provides anonymity for calling and called numbers to protect the location and identity of the user.

Alternate Access Numbers

GETS is normally accessed by dialing the GETS universal access number, 1-710-627-4387. However, sometimes it is not possible to use this number, usually because the caller is calling from a building where the telephone system is not properly configured to allow calls to the 710 area code. Whenever possible, report problems reaching the 710-627-4387 number to User Assistance at 800-818-4387 or 703-818-4387.

If calls using the GETS universal access number are not successful, callers can access the GETS long-distance carriers through the use of alternate access numbers. These alternate access means include dialing the respective carrier access code (if supported by your telecommunications service provider) or dialing the carrier's GETS toll-free number (s). These alternate access numbers appear on the back of the GETS card:

- AT&T: 1010 + 288 + 1-710-627-4387 or 1-888-288-4387
  1-877-646-4387
- Sprint: 1010 + 333 + 1-710-627-4387 or 1-800-257-4387
  1-855-333-4387
- Verizon: 1010 + 222 + 1-710-627-4387 or 1-800-900-4387

Contact Information

For more information about GETS, please visit www.dhs.gov/gets or contact the DHS Priority Telecommunications Service Center at 866-627-2255 or support@priority-info.com.

Homeland Security

Office of Emergency Communications

May 2013

Wireless Priority Service

Congestion on wireless (cellular) networks caused by natural and/or man-made disasters can affect emergency response capabilities by limiting call completion for public safety and national security and emergency preparedness (NS/EP) personnel. The Wireless Priority Service (WPS), offered by the Department of Homeland Security Office of Emergency Communications (OEC), was developed to address the growing need for priority communications on the cellular networks. WPS enhances call completion when abnormal call volumes exist. OEC assigns WPS access on a case-by-case basis to Federal, State, local, tribal, and select private sector users supporting NS/EP activities.

During times of network congestion, WPS users are granted priority communications by dialing *272 prior to the desired destination number from an authorized user's cell phone. WPS calls receive priority over public calls; however, WPS calls do not stop calls in progress or deny the general public's use of the cellular network. WPS complies with the Federal Communications Commission (FCC) Second Report and Order requirements and operates at a constant state of readiness.

WHO IS ELIGIBLE FOR WPS?

Enrollment in the WPS program is restricted to select users who support NS/EP activities, traditionally those with command and control functions that are critical to management of and response to national security and emergency situations, particularly during the first 24 to 72 hours following an event. WPS supports critical continuity of government and continuity of operations; Federal, State, local, territorial, and tribal emergency preparedness and response communications; non-military executive branch communications; critical infrastructure protection networks; and non-military communications networks.

WHY SHOULD YOU ENROLL?

WPS users rely on cellular communications to perform critical functions, including those areas related to leadership, safety, maintenance of law and order, finance, and public health. Acts of terrorism, including cyber attacks, natural disasters, power outages, and software problems can cripple the telephone services of an entire region. Congestion alone can prevent access to circuits. WPS can be extremely beneficial during an emergency in which the public telecommunications networks are degraded by congestion or damage to the infrastructure. NS/EP personnel enrolled in WPS have a greater chance of call completion than those without the service. The cellular network must be operational in order for WPS to provide priority access.

> WPS was used to maintain cellular connectivity for response and recovery efforts during the 8.0 magnitude earthquake and resulting tsunami that struck American Samoa in September 2009.

WHAT ELSE SHOULD YOU KNOW?

- WPS is complementary to, and can be most effective when used in conjunction with, the Government Emergency Telecommunications Service (GETS). GETS is the landline priority service offered and managed by the OEC, and has the same eligibility requirements as WPS.
- WPS is available in all nationwide networks and some regional networks, including: AT&T, Sprint, T-Mobile, Verizon Wireless, Cellcom, C Spire, and SouthernLINC.
- WPS is an add-on feature to existing commercial wireless services; no special phones are required.
- Users can apply for WPS through OEC.
- WPS users are responsible for any service provider charges for activation, service, and per-minute usage associated with WPS. Wireless carriers can charge a one-time activation fee of up to $10.00, a monthly access charge of no more than $4.50, and a maximum of $0.75 per minute for WPS calls.
- OEC is responsible for WPS infrastructure enhancements and the day-to-day management of WPS, with oversight responsibilities residing with the FCC.

FOR ADDITIONAL INFORMATION

Please contact the DHS Priority Telecommunications Service Center at 866-627-2255 or 703-676-2255, via email at WPS@HQ.DHS.GOV, or visit www.dhs.gov/wps

Homeland Security

Office of Emergency Communications

May 2013

Making a Combined WPS and GETS Call

WHEN SHOULD I MAKE A COMBINED WPS AND GETS CALL?

National security and emergency preparedness (NS/EP) personnel use Wireless Priority Service (WPS) in an emergency when cellular networks are congested and the probability of completing a call over normal means has significantly decreased. During emergencies, network congestion can change over short time intervals and distances. WPS users should continue to retry WPS calls after a short wait or change in location if they have difficulty completing WPS calls.

However, after several unsuccessful attempts to complete WPS calls, users should retry their call using WPS and the Government Emergency Telecommunications Service (GETS). Call failure announcements such as "all circuits are busy," or 60 plus seconds of silence are indicators that the WPS call has failed and that users should try a combined WPS and GETS call. This sends the call directly to one of three GETS carriers, improving the probability of call completion by providing multiple alternate routes.

When WPS calls are not completing because the called number is busy and there is no forwarding feature to voice mail or an alternate number, the user will usually hear a standard busy signal and the display screen will show that the called number is busy or in-use. In this instance the user should continue to retry the call alternating between WPS and normal dialing.

HOW DO I MAKE A COMBINED WPS AND GETS CALL?

1. Confirm that you have a cellular signal and your GETS card
2. Dial *272 (710) 627-4387
3. The call will be routed to one of the three GETS carriers. It may take over 60 seconds to connect to a GETS carrier during heavy network congestion
4. Listen for the tone, then enter the twelve digit PIN on front of the GETS card (do not enter # after the last digit)
5. Listen for the voice prompt: "Please enter your destination number now"
6. Enter the destination number (omit the 1 before the area code)
7. You will hear an announcement, "You are using GETS, AT&T/Sprint/Verizon." The network will route your call to the destination number. This process may take over 60 seconds after the announcement to connect to the destination number during heavy network congestion

WHAT IF MY COMBINED WPS AND GETS CALL FAILS?

If a combined WPS and GETS call does not complete, users should follow the steps above but dial an alternate GETS

access number during step two instead of the number listed above. The alternate access numbers are listed on the back of the GETS card and they provide additional routes for call completion.

- AT&T: 272-888-288-4387
- Verizon: 272-800-900-4387
- Sprint: 272-800-257-8373

Note that callers using WPS cannot use the 1010 numbers listed on the back of the GETS card.

FOR ADDITIONAL INFORMATION

Please contact the DHS Priority Telecommunications Service Center at 1-866-627-2255, 1-703-676-2255, or wps@hq.dhs.gov.

ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: October 14, 2014

Action Agenda Item No. 6

SUBJECT: Website Design Presentation

DEPARTMENT: Board of Commissioners

PUBLIC HEARING: (Y/N) No

ATTACHMENT(S):
Design Concept Image & Survey Results

INFORMATION CONTACT:
Carla Banks, Public Affairs, 919-245-2302
Jim Northrup, Information Technologies, 919-245-2276

PURPOSE: To provide a status report on the redesign of the County Web site.

BACKGROUND:

- In July 2014, a Web site Design Committee was assembled made up of representatives from several County departments to guide the design process.
- The Design Committee has received the second of three initial design concepts.
- On September 9, 2014 the Web Masters were consulted for input on the current design concept (version 2 of 3) and their feedback was solicited in a survey.
- The Web Masters shared the design concept with their respective department heads for additional feedback to aid in completing the survey.
- Public Focus Groups were held on September 15 and September 17 to solicit input from residents regarding the design.
- Changes will be presented to the vendor based on feedback received from all stakeholders.
- The same Focus Groups will be solicited at various stages of the design process regarding the functionality.
- Use of Public Focus Groups will occur during the usability stage of the design process.
- The Design Committee, Web Masters and Department staff are developing the preliminary placement of the navigation for County services on the new site
- The BOCC will receive additional updates throughout the process leading up to the launch of the Web site, which is anticipated in early 2015.

FINANCIAL IMPACT: The current website redesign project was fully funded FY 2014 and is due for completion in January FY 2015. The project will be completed at or under budget.

RECOMMENDATION(S): The Manager recommends that the Board provide feedback to staff regarding the design concept and direction staff is taking with the redesign effort.

ORANGE COUNTY
NORTH CAROLINA

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- VOLUNTEER OPPORTUNITIES
- COMMUNITY GIVING

Latest News | Meetings | Events

JULY 26, 2014
News item Heading here Vestibulum ante primis in faucibus orci luctus et ultrices

MAY 26, 2014
News item Heading here Vestibulum ante primis in faucibus orci luctus et ultrices

AUG 26, 2014
News item Heading here Vestibulum ante primis in faucibus orci luctus et ultrices

JUNE 26, 2014
News item Heading here Vestibulum ante primis in faucibus orci luctus et ultrices

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ORANGE COUNTY
NORTH CAROLINA

Website Redesign Feedback Analysis

TO: Carla Banks, Jim Northrup, David Hunt
FR: Keith Chnupa, Kathy Zopfi
DT: October 1, 2014
RE: Website Redesign Feedback Analysis, Public Focus Groups, Webmasters, Department Directors

The purpose of this document is to communicate the finding of the solicited feedback secured from target groups regarding the redesign of Orange County's Web site.

The County's new web site design concept was presented to two public facing focus groups. It was also offered to all Orange County departments (department directors & Webmasters) in the form of a survey.

The focus groups and County departments were asked 5 questions specific to the design concept. They were also given the opportunity to provide other feedback and suggestions to the design team.

Overall, for both OC Departments and Focus Groups:

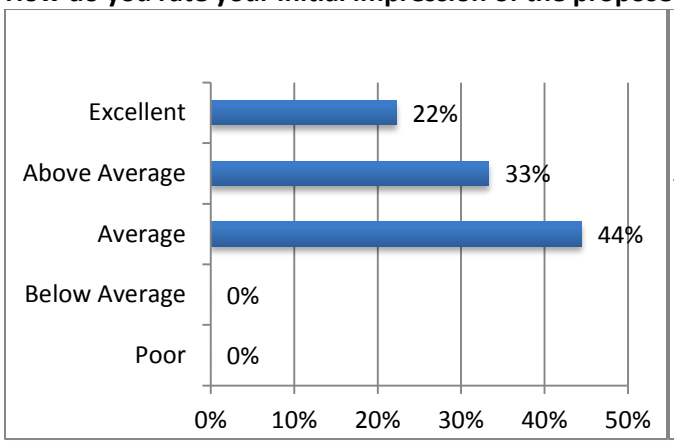
- 92% rated the design concept favorable (average or above)
- 66% rated the new color scheme favorable (average or above)
- 88% rated the top navigation bar categories favorable (average or above)
- 88% rated the side navigation bar categories favorable (average or above)
- 100% rated the "Latest news, Meetings, Events" categories favorable (average or above)

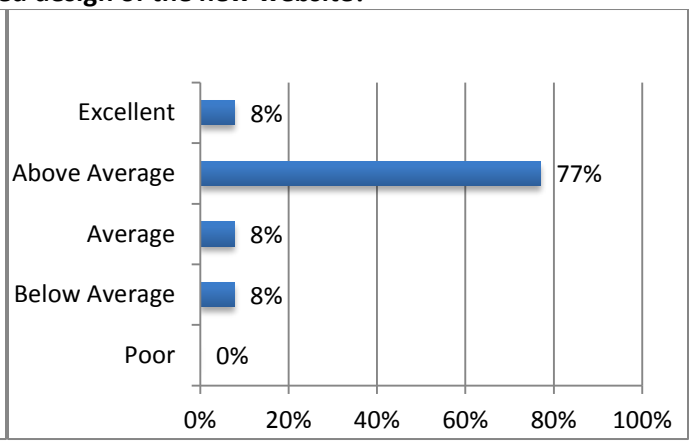
ORANGE COUNTY
NORTH CAROLINA

Website Redesign Feedback Analysis

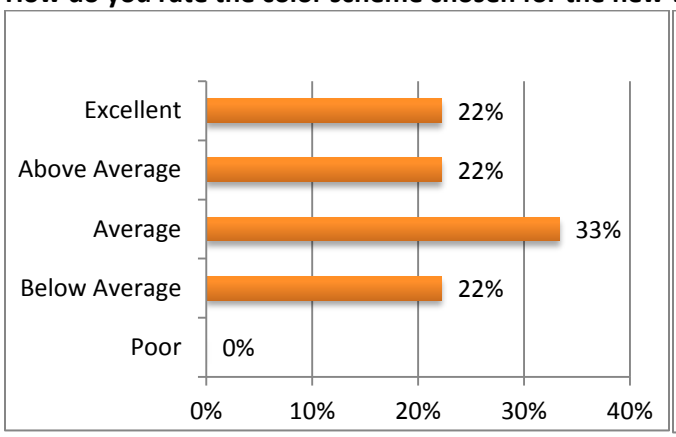
Public Facing Focus Group	Orange County Departments

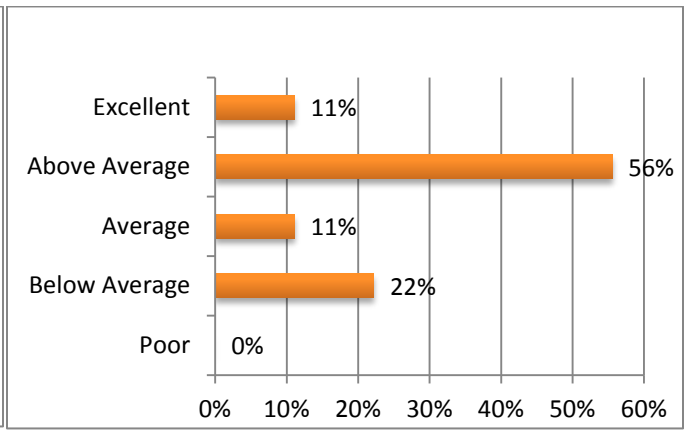
How do you rate your initial impression of the proposed design of the new website?



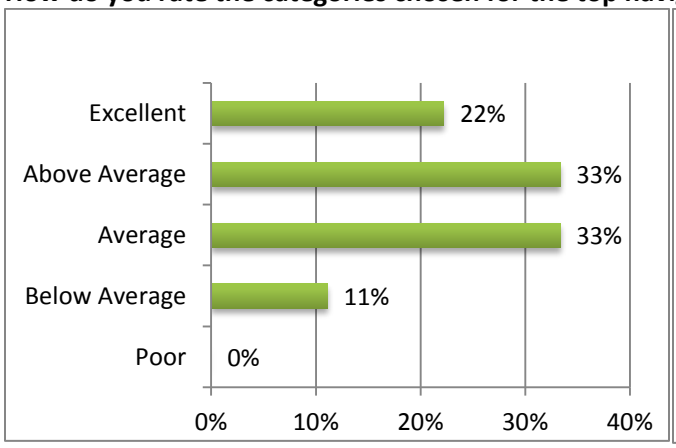


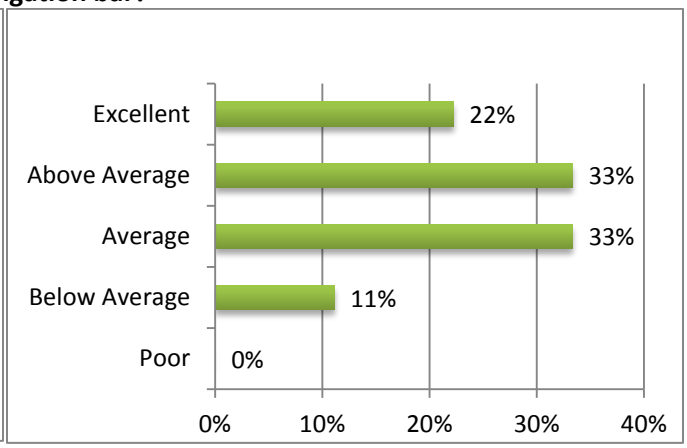
How do you rate the color scheme chosen for the new website?





How do you rate the categories chosen for the top navigation bar?



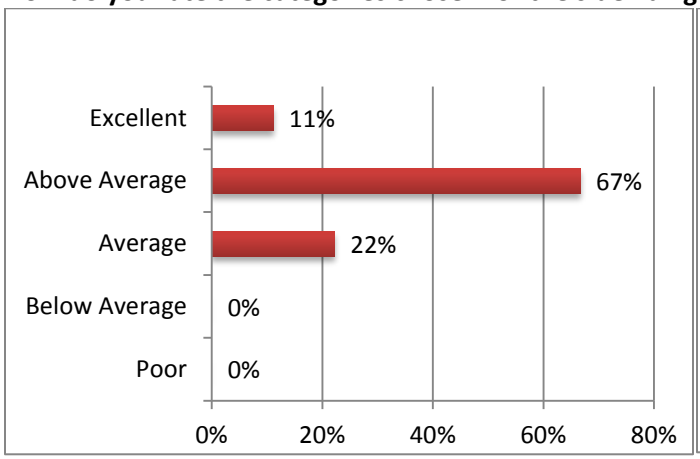


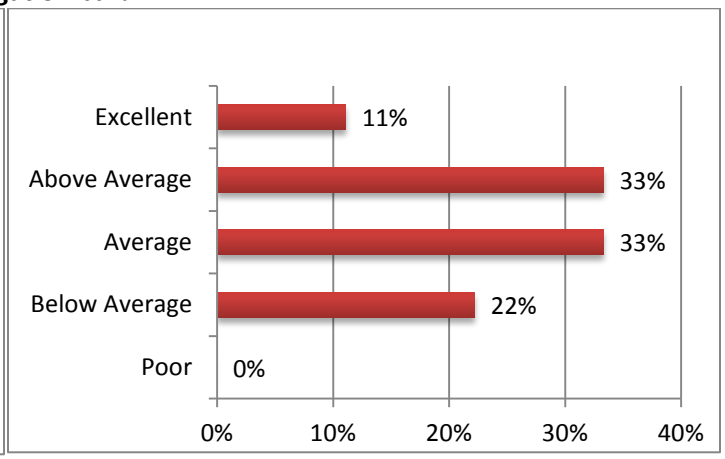
ORANGE COUNTY
NORTH CAROLINA

Website Redesign Feedback Analysis

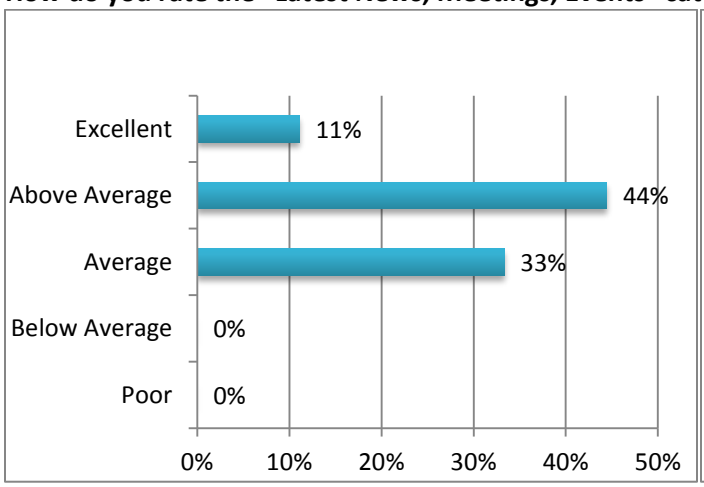
Public Facing Focus Group	Orange County Departments

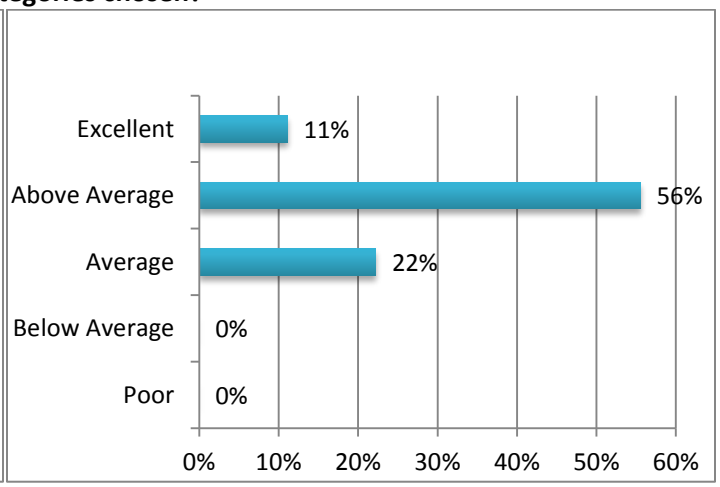
How do you rate the categories chosen for the side navigation bar?





How do you rate the "Latest News, Meetings, Events" categories chosen?





ORANGE COUNTY
BOARD OF COMMISSIONERS

ACTION AGENDA ITEM ABSTRACT
Meeting Date: October 14, 2014

Action Agenda
Item No. 7

SUBJECT: Board of Commissioners Meeting Calendar for Year 2015

DEPARTMENT: County Commissioners **PUBLIC HEARING: (Y/N)** No

ATTACHMENT(S):
Under Separate Cover
Memorandum
List of Meetings
Draft 2015 Calendar

INFORMATION CONTACT:
Board of County Commissioners
Donna Baker, 245-2130

PURPOSE: To discuss the proposed regular meeting schedule for the Board of County Commissioners for calendar year 2015.

BACKGROUND: In accordance with 143.318.12 of the General Statutes, a schedule of regular meetings shall be filed with the Clerk to the Board of County Commissioners. The schedule must show the date, time and place of each meeting.

At the September 16, 2014 BOCC regular meeting, Commissioner Mark Dorosin petitioned the Board to be able to discuss the proposed meeting calendar in more detail at a work session, such as the volume of meetings as well as reasons for the open meeting weeks on the proposed 2015 calendar.

FINANCIAL IMPACT: Not applicable

RECOMMENDATION(S): The Manager recommends that the Board discuss the proposed meeting calendar and provide direction for staff.

TO: BOCC
FROM: Donna S. Baker, Clerk to the Board
Date: October 14, 2014
RE: 2015 DRAFT BOCC Calendar

Regular Meetings:	19
Work Sessions:	8
Dinner Meetings:	2
Budget Work Sessions	6
Budget Public Hearings:	2
Quarterly Public Hearings	4
AOG	1
School boards	2
Towns	4
Legislative Breakfast	1
Retreat	1
TOTAL	51

There are 14 joint meetings:

Town of Chapel Hill
Town of Carrboro
Town of Hillsborough
Town of Mebane (tentative)
2 Advisory Board Dinner Meetings
4 QPH with Planning Board
Assembly of Governments Meeting
Legislative Delegation Breakfast Meeting
2 Joint meetings with School Boards

PLEASE NOTE:

- Individual and Joint meetings with Towns/Schools – we have confirmations for Chapel Hill, Carrboro and Hillsborough dates and with CHCCS and OCS; the Mebane date is tentative as of now (their board will not review until next year)
- Open Weeks:
  - March 9-13- ACC Tournament Week (Chair Jacobs -out of town for work)
  - March 30-April 3-Spring Break for CHCCS and OCS
  - September 21-25- Usual time frame for Inter-City visits
  - October 26-30—traditionally fall break week for BOCC
  - November 30-Dec 4- extra week after Thanksgiving that does not always occur; organizational meeting on Dec. 7th (first Monday in December by state statute)

DRAFT
ORANGE COUNTY BOARD OF COMMISSIONERS
MEETING CALENDAR FOR YEAR 2015

NOTE: *All meetings will begin at 7:00 pm unless otherwise indicated*

January 22	BOCC Regular Meeting	Whitted Building–Hillsborough
January 27	BOCC Work Session	Southern Human Services Center – Chapel Hill
January 30	BOCC Retreat ***(note: meeting to be from 9:00am-4:00pm)***	Whitted Building- Hillsborough
February 3	BOCC Regular Meeting	Whitted Building–Hillsborough
February 10	BOCC Budget/Work Session (with budget)	Southern Human Services Center – Chapel Hill
February 12	BOCC Work Session	Whitted Building–Hillsborough
February 17	BOCC Regular Meeting	Southern Human Services Center –Chapel Hill
February 19	Quarterly Public Hearing	Whitted Building- Hillsborough
February 21-25	NACo Legislative Conference	Washington, D.C.
February 26	BOCC Joint meeting with Town of Hillsborough	Whitted Building–Hillsborough
March 3	BOCC Regular Meeting	Whitted Building–Hillsborough
March 5	BOCC Dinner Meeting with Advisory Board ***(note: meeting to start at 5:30pm)***	Whitted Building–Hillsborough
March 5	BOCC Work Session (***note***: ***meeting to start at 7:00pm)***	Whitted Building–Hillsborough
March 17	BOCC Regular Meeting	Southern Human Services Center –Chapel Hill
March 23	Legislative Breakfast Meeting (***note: meeting to start at 8:30am)***	Solid Waste Operations Center
March 26	Joint Meeting with Town of Chapel Hill	Southern Human Services Center –Chapel Hill
April 7	BOCC Regular Meeting	Whitted Building –Hillsborough
April 9	Budget Work Session	Southern Human Services Center – Chapel Hill
April 14	BOCC Dinner Meeting with Advisory Board (***note***: m***eeting to start at 5:30pm***)	Southern Human Services Center – Chapel Hill
April 14	BOCC Work Session **(*note*: *meeting to start at 7:00pm*)**	Southern Human Services Center – Chapel Hill

April 21	BOCC Regular Meeting	Southern Human Services Center – Chapel Hill
April 28	BOCC Joint Meeting with School Boards	Southern Human Services Center, Chapel Hill
April 30	Clerk and Attorney Annual Evaluations ***(note: meeting starts at 6:00pm)***	Link GSC - Hillsborough
May 5	BOCC Regular Meeting	Whitted Building-Hillsborough
May 12	BOCC Work Session	Southern Human Services Center – Chapel Hill
May 14	BOCC Budget Work Session	Whitted Building–Hillsborough
May 19	BOCC Regular Meeting	Southern Human Services Center – Chapel Hill
May 21	BOCC Budget Public Hearing	Whitted Building - Hillsborough
May 26	Quarterly Public Hearing	Whitted Building –Hillsborough
May 28	BOCC Budget Public Hearing	Southern Human Services Center – Chapel Hill
June 2	BOCC Regular meeting	Whitted Building – Hillsborough
June 4	BOCC Budget Work Session	Southern Human Services Center –Chapel Hill
June 9	BOCC Budget Work Session	Whitted Building –Hillsborough
June 11	BOCC Budget Work Session	Southern Human Services Center – Chapel Hill
June 16	BOCC Regular Meeting	Southern Human Services Center –Chapel Hill
June 18-20	NC City/County Manager's Summer Conference	*TBD*
July 10-13	NACo Conference	**Charlotte, N.C.**
August 20-23 (*Tentative*)	NCACC Conference	**Pitt County (Greenville, N.C.)**
September 1	Regular BOCC Meeting	Whitted Building – Hillsborough
September 8	Quarterly Public Hearing	Whitted Building - Hillsborough
September 10	BOCC Work Session	Southern Human Services Center –Chapel Hill
September 15	BOCC Regular Meeting	Southern Human Services Center –Chapel Hill
September 17	BOCC Joint Meeting with Town of Mebane ***(note: meeting starts tentatively at 5:30pm)***	Whitted Building-Hillsborough

September 29	Joint Meeting with School Boards	Whitted- Hillsborough
October 6	Regular BOCC Meeting	Whitted– Hillsborough
October 13	BOCC Work Session	Whitted–Hillsborough
October 15	BOCC Joint Meeting with Town of Carrboro	Southern Human Services Center –Chapel Hill
October 20	Regular BOCC Meeting	Southern Human Services Center –Chapel Hill
November 5	Regular BOCC Meeting	Whitted- Hillsborough
November 10	BOCC Work Session	Southern Human Services Center – Chapel Hill
November 17	BOCC Regular Meeting	Southern Human Services Center – Chapel Hill
November 19	Assembly of Governments Meeting	Southern Human Services Center-Chapel Hill
November 23	Quarterly Public Hearing	Whitted- Hillsborough
December 7	Regular BOCC Meeting (Organizational Meeting)	Whitted Building– Hillsborough
December 15	Regular BOCC Meeting	Southern Human Services Center-Chapel Hill

Link Government Services Center, 200 S. Cameron St., Hillsborough
Southern Human Services Center, 2501 Homestead Rd., Chapel Hill
Solid Waste Operations Center, 1207 Eubanks Road, Chapel Hill, N.C.
Whitted Building,300 West Tryon Street, Hillsborough, N.C.

Revised 10/9/2014

BOCC 2015 Meeting Calendar

Draft[6]

January

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	W22	23	24
25	26	S27	28	29	30	31

27th 7:00 Work Session
30th 9:00 am - 4:00 pm Retreat @ SW

February

S	M	T	W	T	F	S
1	2	W3	4	5	6	7
8	9	S10	11	W12	13	14
15	16	S17	18	19	20	21
22	W23	24	25	W26	27	28

4-6th Managers Winter Conference
10th 7:00 pm Budget Work Session
12th Work Session
23rd 7:00 pm QPH
21-25th NACo Legislative Conference
26th 7:00 pm Town of Hillsborough

March

S	M	T	W	T	F	S
1	2	W3	4	W5	6	7
8	9	10	11	12	13	14
15	16	S17	18	19	20	21
22	23	24	25	S26	27	28
29	30	31				

5th 5:30 pm Dinner 7:00 pm Wk Ses
23rd 8:30 am Legislative Breakfast @ SW
26th 7:00 pm Town of Chapel Hill

April

S	M	T	W	T	F	S
			1	2	3	4
5	6	W7	8	S9	10	11
12	13	S14	15	16	17	18
19	20	S21	22	23	24	25
26	27	S28	29	L30		

9th 7:00 pm Budget Work Session
14th 5:30 pm Dinner 7:00 Work Session
28th 7:00 pm Schools
30th 6:00 pm Closed Ses Atty & Clerk Eval

May

S	M	T	W	T	F	S
					1	2
3	4	W5	6	7	8	9
10	11	S12	13	W14	15	16
17	18	S19	20	W21	22	23
24	25	W26	26	S28	29	30
31						

12th 7:00 pm Wk Ses
14th 7:00 pm Budget Work Session
21st 7:00 pm Budget Public Hearing
28th 7:00 pm Budget Public Hearing
26th 7:00 pm QPH

June

S	M	T	W	T	F	S
	1	W2	3	S4	5	6
7	8	W9	10	S11	12	13
14	15	S16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

4th 7:00 pm Budget Work Session
9th 7:00 pm Budget Work Session
11th 7:00 pm Budget Work Session
18th-20th Manager's Summer Seminar

July

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

10th - 13th NACo Annual Conf. Charlotte

August

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

20th - 23rd NCACC Conf. Pitt Co.

September

S	M	T	W	T	F	S
		W1	2	3	4	5
6	7	W8	9	S10	11	12
13	14	S15	16	W17	18	19
20	21	22	23	24	25	26
27	28	W29	30			

8th 7:00 pm QPH
10th 7:00 pm Work Session
17th 5:30 pm City of Mebane
29th 7:00 pm Schools

October

S	M	T	W	T	F	S
				1	2	3
4	5	W6	7	8	9	10
11	12	W13	14	S15	16	17
18	19	S20	21	22	23	24
25	26	27	28	29	30	31

13th 7:00 pm Wk Ses
15th 7:00pm Town of Carrboro

November

S	M	T	W	T	F	S
1	2	Elec3	4	W5	6	7
8	9	S10	11	12	13	14
15	16	S17	18	S19	20	21
22	W23	24	25	26	27	28
29	30					

10th 7:00 pm Work Session
19th 7:00 pm AOG
23rd 7:00 pm QPH

December

S	M	T	W	T	F	S
		1	2	3	4	5
6	W7	8	9	10	11	12
13	14	S15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Holidays	11
Regular BOCC Meetings	19
Work Sessions	8
Dinner Meetings	2
Budget Work Sessions	6
Budget Public Hearings	2
Quarterly Public Hearings	4
Assembly of Governments	1
School Boards	2
Closed Sessions	1
Towns	4
8:30 am Legislative Breakfast	1
Retreat	1

Total Meetings 51

24	W	Whitted Building
24	S	Southern Human Services Cent
1	L	Link Governement Ser Cent
2	SW	Solid Waste Adm Office

51 Location Total

49 Meeting days
2 Two meetings same day
51 Total Meetings

April 4 - April 11	Passover
May 24	Shavuot
Sept. 14-15	Rosh Hashanah
Sept. 23	Yom Kippur
Dec. 7	Hanukkah

Revised 10/9/2014-10:35 AM