

CITY OF HIGH POINT

AGENDA ITEM



Title: Local Water Supply Plan

From: Terry Houk – Public Services Director
Derrick Boone – Asst. Director Public Services
Wendell Pickett – Ward Plant Superintendent

Meeting Date: November 5, 2018

Public Hearing: N/A

Advertising Date: N/A

Advertised By: N/A

Attachments: Attachment A – Letter- LWSP Meets Minimum Criteria
Attachment B – Resolution
Attachment C- City of High Point 2017 Local Water Supply Plan

PURPOSE:

A Local Water Supply Plan (LWSP) is an assessment of a water system's current and future water needs and its ability to meet those needs. By understanding the current and future needs, local governments will be better able to manage water supplies and better prepared to plan for water supply system improvements.

BACKGROUND:

North Carolina General Statute G.S. 143-355(l) requires all units of local government that provide public water service to prepare an LWSP. The Public Services Department has submitted High Point's 2017 LWSP and it has been reviewed by the North Carolina Department of Environmental Quality, Division of Water Resources. The 2017 LWSP must be adopted by the High Point City Council to be compliant with the requirements of North Carolina General Statute G.S. 143-355(l).

BUDGET IMPACT:

N/A

RECOMMENDATION / ACTION REQUESTED:

The Public Services Department is recommending that Council adopt a Resolution approving 2017 Local Water Supply Plan.

RESOLUTION FOR APPROVING LOCAL WATER SUPPLY PLAN

WHEREAS, North Carolina General Statute 143-355 (l) requires that each unit of local government that provides public water services or plans to provide such services shall, either individually or together with other such units of local government, prepare and submit a Local Water Supply Plan; and

WHEREAS, as required by the statute and in the interests of sound local planning, a Local Water Supply Plan for the City of High Point, has been developed and submitted to the City Council for approval; and

WHEREAS, the City Council finds that the Local Water Supply Plan is in accordance with the provisions of North Carolina General Statute 143-355 (l) and that it will provide appropriate guidance for the future management of water supplies for the City of High Point, as well as useful information to the Department of Environment and Natural Resources for the development of a state water supply plan as required by statute;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of High Point, that the Local Water Supply Plan entitled, LWSP-PWSID: 02-41-020 dated Calendar Year 2017 is hereby approved and shall be submitted to the Department of Environment and Natural Resources, Division of Water Resources; and

BE IT FURTHER RESOLVED that the City Council intends that this plan shall be revised to reflect changes in relevant data and projections at least once every five years or as otherwise requested by the Department, in accordance with the statute and sound planning practice.

This the 5th day of November, 2018.

Name: _____

Title: _____

Signature: _____

Attest:

Lisa B. Vierling, City Clerk

High Point

2017 ✓

The Division of Water Resources (DWR) provides the data contained within this Local Water Supply Plan (LWSP) as a courtesy and service to our customers. DWR staff does not field verify data. Neither DWR, nor any other party involved in the preparation of this LWSP attests that the data is completely free of errors and omissions. Furthermore, data users are cautioned that LWSPs labeled **PROVISIONAL** have yet to be reviewed by DWR staff. Subsequent review may result in significant revision. Questions regarding the accuracy or limitations of usage of this data should be directed to the water system and/or DWR.

1. System Information

Contact Information

Water System Name: High Point PWSID: 02-41-020
 Mailing Address: P.O. Box 230 High Point, NC 27261 Ownership: Municipality
 Contact Person: Wendell Pickett Title: WTP Superintendent
 Phone: 336-883-3417 Fax: 336-883-3109

Complete

Distribution System

Line Type	Size Range (Inches)	Estimated % of lines
Cast Iron	6-36	45.00 %
Ductile Iron	6-36	54.00 %
Galvanized Iron	1/2-2	0.27 %
Other	30-48	0.73 %

What are the estimated total miles of distribution system lines? 618 Miles

How many feet of distribution lines were replaced during 2017? 4,600 Feet

How many feet of new water mains were added during 2017? 3,872 Feet

How many meters were replaced in 2017? 2,503

How old are the oldest meters in this system? 20 Year(s)

How many meters for outdoor water use, such as irrigation, are not billed for sewer services? 1,835

What is this system's finished water storage capacity? 19.0000 Million Gallons

Has water pressure been inadequate in any part of the system since last update? No

Programs

Does this system have a program to work or flush hydrants? Yes, Weekly

Does this system have a valve exercise program? No

Does this system have a cross-connection program? Yes

Does this system have a program to replace meters? Yes

Does this system have a plumbing retrofit program? No

Does this system have an active water conservation public education program? Yes

Does this system have a leak detection program? No

Water Conservation

What type of rate structure is used? Decreasing Block, Uniform, Other

How much reclaimed water does this system use? 0.0000 MGD For how many connections? 0

Does this system have an interconnection with another system capable of providing water in an emergency? Yes

2. Water Use Information

Service Area

Sub-Basin(s)	% of Service Population	County(s)	% of Service Population
Deep River (02-2)	80 %	Guilford	100 %
Yadkin River (18-1)	20 %	Davidson	0 %
		Randolph	0 %

What was the year-round population served in 2017? 112,201

What was the seasonal population and months served in 2017? (if applicable) 162,201 (Apr Oct)

Has this system acquired another system since last report? No

Water Use by Type

Type of Use	Metered Connections	Metered Average Use (MGD)	Non-Metered Connections	Non-Metered Estimated Use (MGD)
Residential	38,337	5.4600	171	0.1920
Commercial	3,732	2.6400	0	0.0000
Industrial	325	1.0500	0	0.0000
Institutional	0	0.0000	0	0.0000

How much water was used for system processes (backwash, line cleaning, flushing, etc.)? 2.2000 MGD

We have 5 institutional metered accounts, but our software will not break it out. But, it is accounted for.
The 171 non-metered residential connections are fire department connections.

Water Sales

Purchaser	PWSID	Average Daily Sold (MGD)	Days Used	MGD	Contract Expiration	Recurring	Required to comply with water use restrictions?	Pipe Size(s) (Inches)	Use Type
City of Archdale	02-76-030	0.0060	25	0.5000		Yes	Yes	12	Emergency
City of Greensboro	02-41-010	1.2850	1	0.0000		Yes	Yes	12-16	Emergency
City of Jamestown	02-41-030	0.4074	365	1.0000		Yes	Yes	6-10	Regular
City of Thomasville	02-29-020	0.0000	0	3.0000		Yes	No	12	Emergency
Davidson Water, Inc.	02-29-025	0.0000	0	0.0000			Yes	6	Emergency

The High Point contract amount with Jamestown is 1.0 mgd. Jamestown also has a 0.5 mgd contract with PTRWA, most of which passes through the High Point distribution system.

Because the master meters have not been reading properly, the Jamestown supplied usage figure will be used for 2017.

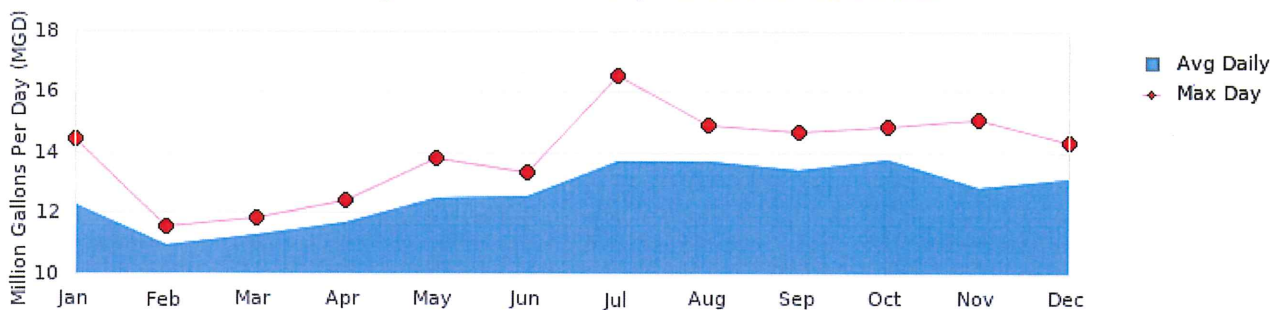
The Greensboro interconnection was tested in 2017, and the amount of water that can be supplied to Greensboro is 1.3 mgd.

3. Water Supply Sources

Monthly Withdrawals & Purchases

	Average Daily Use (MGD)	Max Day Use (MGD)		Average Daily Use (MGD)	Max Day Use (MGD)		Average Daily Use (MGD)	Max Day Use (MGD)
Jan	12.2500	14.4400	May	12.4800	13.7900	Sep	13.4200	14.6800
Feb	10.8800	11.5300	Jun	12.5500	13.3500	Oct	13.7500	14.8600
Mar	11.2600	11.8200	Jul	13.6700	16.5500	Nov	12.8400	15.1200
Apr	11.6600	12.4100	Aug	13.7100	14.9200	Dec	13.1400	14.3300

High Point's 2017 Monthly Withdrawals & Purchases



Surface Water Sources

Stream	Reservoir	Average Daily Withdrawal		Maximum Day Withdrawal (MGD)	Available Raw Water Supply		Usable On-Stream Raw Water Supply Storage (MG)
		MGD	Days Used		MGD	* Qualifier	
Deep River (City Lake)	City Lake	10.1000	365	14.1200	8.6000	SY50	1,120.0000
Deep River (Oak Hollow)	Oak Hollow	0.0000	0	0.0000	12.8400	SY50	3,270.0000

* Qualifier: C=Contract Amount, SY20=20-year Safe Yield, SY50=50-year Safe Yield, F=20% of 7Q10 or other instream flow requirement, CUA=Capacity Use Area Permit

Surface Water Sources (continued)

Stream	Reservoir	Drainage Area (sq mi)	Metered?	Sub-Basin	County	Year Offline	Use Type
Deep River (City Lake)	City Lake	61	Yes	Deep River (02-2)	Guilford		Regular
Deep River (Oak Hollow)	Oak Hollow	32	Yes	Deep River (02-2)	Guilford		Regular

What is this system's off-stream raw water supply storage capacity? 0 Million gallons

Are surface water sources monitored? Yes, Daily

Are you required to maintain minimum flows downstream of its intake or dam? No

Does this system anticipate transferring surface water between river basins? Yes

Water Purchases From Other Systems

Seller	PWSID	Average Daily Purchased (MGD)	Days Used	Contract			Required to comply with water use restrictions?	Pipe Size (s) (Inches)	Use Type
				MGD	Expiration	Recurring			
City of Greensboro	02-41-010	0.0000	0			Yes	Yes	12-16	Emergency
City of Thomasville	02-29-020	0.0000	0			Yes	No	12	Emergency
Davidson Water Inc.	02-29-025	0.0460	365			Yes	Yes	16	Regular
PTRWA	30-76-010	2.7340	365	2.7800	2057	Yes	Yes	16-24	Regular

The only way Greensboro can supply water to High Point is if water pressure is down.

Water Treatment Plants

Plant Name	Permitted Capacity (MGD)	Is Raw Water Metered?	Is Finished Water Output Metered?	Source
Frank L. Ward Water Filtration	24.0000	Yes	Yes	City Lake & Oak Hollow Lake

Did average daily water production exceed 80% of approved plant capacity for five consecutive days during 2017? No

If yes, was any water conservation implemented?

Did average daily water production exceed 90% of approved plant capacity for five consecutive days during 2017? No

If yes, was any water conservation implemented?

Are peak day demands expected to exceed the water treatment plant capacity in the next 10 years? No

4. Wastewater Information

Monthly Discharges

	Average Daily Discharge (MGD)		Average Daily Discharge (MGD)		Average Daily Discharge (MGD)
Jan	17.3890	May	18.4790	Sep	14.8660
Feb	15.2790	Jun	17.7950	Oct	14.6170
Mar	15.0340	Jul	15.2000	Nov	13.9030
Apr	17.3050	Aug	14.9590	Dec	14.9850



How many sewer connections does this system have? 51,614

How many water service connections with septic systems does this system have? 341

Are there plans to build or expand wastewater treatment facilities in the next 10 years? Yes

Westside WWTP is under construction at present to expand from 6.2 MGD to 8.5 MGD and ultimately to 10 MGD .
High Point provides sewer service to many customers not on its water system.

Wastewater Permits

Permit Number	Permitted Capacity (MGD)	Design Capacity (MGD)	Average Annual Daily Discharge (MGD)	Maximum Day Discharge (MGD)	Receiving Stream	Receiving Basin
NC0024210	26.0000	26.0000	12.0800		Deep River	Deep River (02-2)
NC0024228	6.2000	6.2000	3.1600	4.1100	Rich Fork Creek	Yadkin River (18-1)
NC0081256	0.0000	0.0000	0.5700	1.5000	Richland Creek	Deep River (02-2)

Wastewater Interconnections

Water System	PWSID	Type	Average Daily Amount		Contract Maximum (MGD)
			MGD	Days Used	
City of Archdale	02-76-030	Receiving	0.9260	365	2.5000
City of Greensboro	02-41-010	Receiving	0.1120	365	0.0000
City of Jamestown	02-41-030	Receiving	1.4020	365	2.0000
Davidson Water Inc.	02-29-025	Receiving	0.0600	365	0.0000
Sedgefield	00-00-000	Receiving	0.1220	365	0.2250
Winston-Salem	00-00-000	Receiving	0.0090	365	0.0000

5. Planning

Projections

	2017	2020	2030	2040	2050	2060
Year-Round Population	112,201	116,445	122,267	128,380	134,799	141,538
Seasonal Population	162,201	166,445	172,267	178,380	184,799	234,799
Residential	5.6520	6.2880	6.6020	6.9330	7.2790	7.6430
Commercial	2.6400	2.4900	2.5670	2.6420	2.7210	2.8030
Industrial	1.0500	1.0600	1.1100	1.1700	1.2300	1.2900
Institutional	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
System Process	2.2000	2.0000	2.1000	2.2050	2.2710	2.3400
Unaccounted-for	0.9267	2.1690	2.2570	2.3490	2.4360	2.5250

Demand v/s Percent of Supply

2017 2020 2030 2040 2050 2060

Surface Water Supply	21.4400	21.4400	21.4400	21.4400	21.4400	21.4400
Ground Water Supply	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Purchases	2.8260	2.8260	2.8260	2.8260	2.8260	2.8260
Future Supplies		0.0000	0.0000	0.0000	0.0000	0.0000
Total Available Supply (MGD)	24.2660	24.2660	24.2660	24.2660	24.2660	24.2660
Service Area Demand	12.4687	14.0070	14.6360	15.2990	15.9370	16.6010
Sales	0.4113	1.0000	1.0000	1.0000	1.0000	1.0000
Future Sales		0.0000	0.0000	0.0000	0.0000	0.0000
Total Demand (MGD)	12.8800	15.0070	15.6360	16.2990	16.9370	17.6010
Demand as Percent of Supply	53%	62%	64%	67%	70%	73%

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The purpose of the above chart is to show a general indication of how the long-term per capita water demand changes over time. The per capita water demand may actually be different than indicated due to seasonal populations and the accuracy of data submitted. Water systems that have calculated long-term per capita water demand based on a methodology that produces different results may submit their information in the notes field.

Your long-term water demand is 50 gallons per capita per day. What demand management practices do you plan to implement to reduce the per capita water demand (i.e. conduct regular water audits, implement a plumbing retrofit program, employ practices such as rainwater harvesting or reclaimed water)? If these practices are covered elsewhere in your plan, indicate where the practices are discussed here.

Are there other demand management practices you will implement to reduce your future supply needs?

What supplies other than the ones listed in future supplies are being considered to meet your future supply needs?

How does the water system intend to implement the demand management and supply planning components above?

Additional Information

Has this system participated in regional water supply or water use planning? Yes, High Point is a 19% member of the Piedmont Triad Regional Water Authority.

What major water supply reports or studies were used for planning? LWSP from 1997, 2007, 2010 to the present. Army Corp of Engineers.

Please describe any other needs or issues regarding your water supply sources, any water system deficiencies or needed improvements (storage, treatment, etc.) or your ability to meet present and future water needs. Include both quantity and quality considerations, as well as financial, technical, managerial, permitting, and compliance issues: We have had a water loss study done with Hazen & Sawyer and found that one of our finish water meters is off and is reading flow where there is none. We have a project to currently being designed to take care of the problem.

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