

# *Town of Lake Lure*

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## *Lake Lure Green Line Project*

### *Presented – March & April 2016*

*\*Following a lengthy process of research and evaluating all possible options and alternatives, the Lake Lure Town Council Voted to Increase sewer rates during its monthly Town Council Meeting, April 12, 2016*



# Existing WWTP Timeline

- 1927 - Original 12.5 miles gravity sewer installed
- 1969 – 0.35 mgd activated sludge WWTP installed
- 1991 – WWTP converted to 0.995 mgd physical chemical
- 2007 – Special Order by Consent issued to reduce I/I
- 2009 – Town received \$3,000,000 ARRA grant to seal 25% of collection system joints
- 2011 – Repairs completed reducing I/I

# Existing WWTP Issues

- Ongoing NPDES Permit violations for ammonia nitrogen, total suspended solids and fecal coliform
- Low influent BOD<sub>5</sub> - Difficult to sustain biological treatment
- Influent temperature at ~ 8 degree C (reduced biological treatment)
- Excessive solids inventory due to inadequate provisions for dewatering solids
- High iron concentration in influent wastewater / interferes with treatment
- Limited space at existing site for WWTP upgrade
- Constant speed influent pumps cycle on/off at high flow rate producing flow surges to WWTP

# Existing WWTP Issues (cont.)

- New NPDES permit w/ better permit limits
- WWTP is still struggling to meet the ammonia-nitrogen permit limit & continues to violate this parameter
- The Town is still receiving NOV's - fines since 2006 to 7/2014 are approx. \$30,982.00 [4 more since July 2014] {approx. 5 pending before that w/ \$19,781.50 outstanding}
- Previously, the Town has requested deferment of the fines & requested a compliance schedule / agreement
- Initially, this has been handled at the local level (Swannanoa) but has been "kicked up" to Raleigh and remains in limbo

# Alternatives Evaluation for Future Wastewater Treatment

- No action
- Optimize or Upgrade the existing WWTP
- Regionalized treatment @ Town of Spindale
- Regionalized treatment @ Town of Rutherfordton

*(\*As outlined in the 2010 Comprehensive Sewer Study by Brown Consultants & developed further by WK Dickson in 2015)*

# Opinion of Probable Costs

| <u>Alternative</u> | <u>Probable<br/>Capital Cost</u> | <u>Projected<br/>O&amp;M Cost<sup>1</sup></u> | <u>Present Value<br/>(Worth) Cost<sup>2</sup></u> |
|--------------------|----------------------------------|-----------------------------------------------|---------------------------------------------------|
| Upgrade WWTP       | \$11,188,345                     | \$5,007,431                                   | \$18,502,847                                      |
| Spindale           | <b>\$12,002,882</b>              | \$5,017,254                                   | <b>\$18,280,260</b>                               |
| Rutherfordton      | \$11,622,163                     | \$17,332,349 <sup>3</sup>                     | \$29,819,726 <sup>3</sup>                         |

<sup>1</sup> Over 20 years

<sup>2</sup> Present Value (Worth) is the discounted present value of future cash flows over a period of 20 years.

<sup>3</sup> Rutherfordton O&M cost is based on an assumed user fee of \$8.91/1000 gallons

# Potential Long Term Savings at Various Interest Rates

| <u>Years</u> | <u>Rate</u> | <u>Capital Costs</u> | <u>Annual Debt</u> | <u>Total Cost</u> | <u>Savings</u>  |
|--------------|-------------|----------------------|--------------------|-------------------|-----------------|
| 20           | 0%          | \$12,002,882.00      | (\$600,144.10)     | \$12,002,882.00   | \$0             |
| 20           | 2%          | \$12,002,882.00      | (\$734,056.87)     | \$14,681,137.42   | \$2,678,255.42  |
| 30           | 0%          | \$12,002,882.00      | (\$400,096.07)     | \$12,002,882.00   | \$0             |
| 30           | 2%          | \$12,002,882.00      | (\$535,927.75)     | \$16,077,832.46   | \$4,074,950.46  |
| 40           | 2.75%       | \$12,002,882.00      | (\$498,497.87)     | \$19,939,914.65   | \$7,937,032.65  |
| 40           | 3.5%        | \$12,002,882.00      | (\$562,062.34)     | \$22,452,493.73   | \$10,479,611.73 |

# Monthly Sewer Rates in Comparable Communities

| <u>Entity</u>                                    | <u>Rate</u> |
|--------------------------------------------------|-------------|
| Town of Lake Lure (present)                      | \$38.50     |
| Rutherfordton                                    | \$33.06     |
| Columbus                                         | \$34.47     |
| Buncombe County                                  | \$35.52     |
| Statewide Median                                 | \$38.42     |
| Spindale                                         | \$38.60     |
| Statewide Median (for 1,000 to 2,499 population) | \$39.07     |
| Brevard                                          | \$39.97     |
| Beech Mountain                                   | \$45.00     |
| Tryon                                            | \$46.51     |
| Saluda                                           | \$51.85     |
| Rumbling Bald Resort                             | \$52.49     |
| Bald Head Island                                 | \$59.16     |
| Southport                                        | \$57.50     |
| Beaufort                                         | \$78.25     |
| Kill Devil Hills                                 | \$88.90     |

# Current & New Rates

| Bimonthly             | Current Sewer Rates |                     | New Sewer Rates |            | % Increase |
|-----------------------|---------------------|---------------------|-----------------|------------|------------|
|                       | Inside Town Limits  | Outside Town Limits | Inside          | Outside    |            |
| Residential User      | \$77.00             | \$154.00            | \$139.00        | \$277.00   | 80%        |
| Comm. - Small User    | \$105.00            | \$210.00            | \$157.00        | \$315.00   | 50%        |
| Comm. - Medium User   | \$210.00            | \$420.00            | \$279.00        | \$559.00   | 33%        |
| Comm. - Large User    | \$330.00            | \$660.00            | \$439.00        | \$878.00   | 33%        |
| Comm. - X Large User  | \$725.00            | \$1,450.00          | \$964.00        | \$1,929.00 | 33%        |
| Comm. - XX Large User | \$1,450.00          | \$2,900.00          | \$1,929.00      | \$3,857.00 | 33%        |

# Sewer Customer Structure

| Customer Type            | Customer Count |
|--------------------------|----------------|
| Residential              | 448            |
| Commercial Small         | 48             |
| Commercial Medium        | 23             |
| Commercial Large         | 17             |
| Commercial X-Large       | 1              |
| Commercial XX-Large      | 1              |
| RBR - Residential        | 430            |
| RBR - Commercial Small   | 6              |
| RBR - Commercial Medium  | 11             |
| RBR - Commercial Large   | 5              |
| RBR - Large Outside User | 1              |
| <b>Total</b>             | <b>991</b>     |

Ingles

Lake Lure Inn

Apple Valley RV Park

*August 2014 Counts*

# Key Points

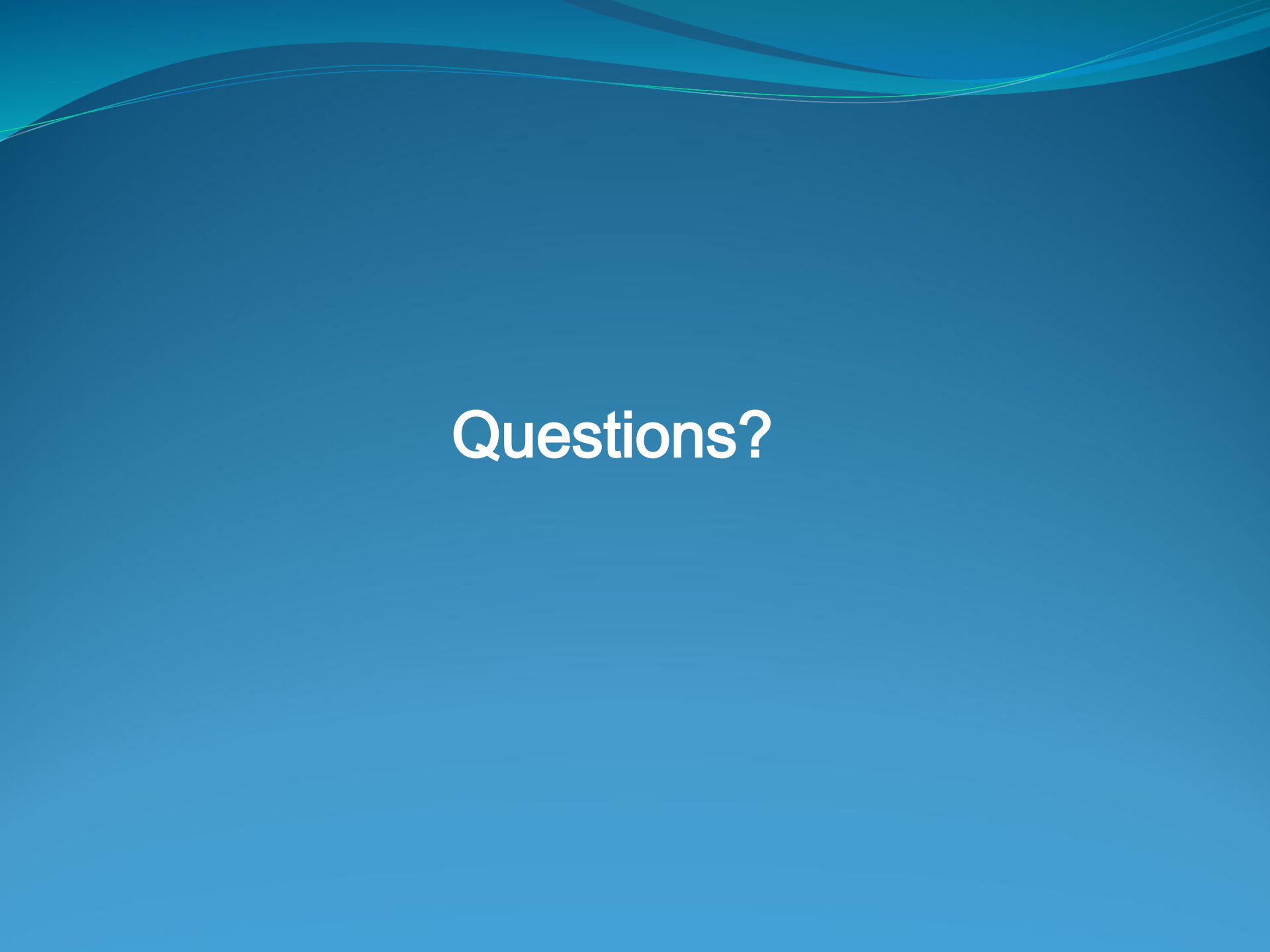
- Out of necessity, the Town is going to build the Green Line to Spindale & decommission its WWTP. The Town can **save approx. \$2.5 million** on the project if we can qualify for assistance from the state. To qualify, our current sewer rates are too low. The proposed residential rate (\$69.50/month) is the minimum rate needed based on our community's median household income. It's 7.1% of a typical household's income in Lake Lure. Per Division of Water Infrastructure funding formula
- The Town needs to replenish its capital reserves, which were depleted in the late 2000's.  
**Rate = operating cost + debt service + capital investment**
- If the Town does not raise the rates & addresses its WWTP challenges, it runs the risk of the state taking over & raising the rates for us.
- The rate change needs to be put in place before the application deadline of April 29, 2016.

# What are the next steps for the Town of Lake Lure?

- Consider raising residential sewer rates to \$69.50/month to adjust the Town's potential application scoring in order to enable the Town to qualify for principal forgiveness or a 0% loan
- Submit an NCDEQ CWSRF application for April 2016
- Draft an inter local agreement between Lake Lure and Spindale or Rutherfordton
- Investigate “partners” for the project
- Determine who will own, operate, and maintain the line (current scenario is with Lake Lure initially)

# What are the next steps for the Town of Lake Lure? (cont.)

- Complete / Approve the Engineering Report (including the Environmental Component)
- Complete the Environmental Component of the ER, prepare a CWSRF application, prepare design plans and specifications for permitting and approval by NCDEQ for the selected option
- Continue to apply for additional grants as the proposed project approaches construction
- Continue to allow Brown Consultants & WK Dickson to investigate other funding opportunities as they arise



Questions?

# Anticipated / Estimated Schedule

| <u>Milestone</u>                                              | <u>Deadline</u> |
|---------------------------------------------------------------|-----------------|
| NCDEQ Application Deadline (Approx.)                          | April 29, 2016  |
| NCDEQ SWIA Board Meeting / Approvals                          | July 2016       |
| NCDEQ Notice of Intent to Fund letters sent                   | August 2016     |
| NCDEQ Engineering Report Submittal                            | October 2016    |
| NCDEQ Engineering Report Approval                             | March 2017      |
| NCDEQ Plans and Specs Submittal                               | September 2017  |
| NCDEQ Plans and Specs/Permit Approval                         | January 2018    |
| Advertise Project, Receive Bids, & Receive Authority to Award | May 2018        |
| Execute Construction Contract(s)                              | June 2018       |
| <i>Complete Construction</i>                                  | November 2019   |