



# City of Franklin

RESPONSE TO HRWA AND SELC NOTICE

# City of Franklin – Strong Stewardship of the river and its resources

- ▶ Franklin has completed and is implementing an Integrated Water Resource Plan (IWRP). The first of its kind in the State of Tennessee including a wide range of stakeholders including TDEC and HRWA.
- ▶ IWRP includes holistic, long-term view of water, wastewater, reclaimed water distribution, and storm water impact, including extensive modeling of Harpeth River.
- ▶ Removal of low-head dam on Harpeth River.
- ▶ Restoration of stream through Eastern Flank Battlefield to its original, historic alignment.
- ▶ Repair of 116 million gallon raw water reservoir.
- ▶ Extended sanitary sewer to over 600 homes with aging and failing septic systems.
- ▶ City staff discovered and reported illicit discharge by Egyptian Lacquer into the Harpeth River.

# SELC and HRWA Allegations

- ▶ Sanitary Sewer Overflow.
- ▶ Discharge.
- ▶ Reporting violations.

# Sanitary Sewer Overflow

Alleged SSO's	54
Less:	
Private property	(7)
2010 Flood	(14)
Did not reach waters of the state	<u>(14)</u>
<b>Sanitary Sewer Overflows</b>	<b>19</b>

**Occurred over a 5 year period**

**The Franklin system includes 375 miles**

# SSO Summary – Five Year Period

Type/Description	No. of SSO's	SSO/100 mi./year	Avg. Response time (min.)
Blockage	4	0.2	24.8
FOG	4	0.2	35.0
Illicit Discharge	1	0.1	30.0
Infrastructure Failure	1	0.1	22.0
Roots	1	0.1	30.0
<b>Dry Weather Subtotal</b>	<b>11</b>	<b>0.6</b>	<b>29.2</b>
Contractor Equip. Malfunction	4	0.2	15.0
Excessive Rainfall	4	0.2	24.0
<b>Wet Weather Subtotal</b>	<b>8</b>	<b>0.4</b>	<b>19.5</b>
<b>All SSO's Total</b>	<b>19</b>	<b>1.0</b>	<b>25.1</b>

# Comparative SSO Data

City of Franklin – 5 Year average	1.0 SSO/100 miles/per year
Region 4 – “Well Performing”	5.0 SSO/100 miles/per year
Region 4 – 2005 Average	11.0 SSO/100 miles/per year
2005 Median	8.5 SSO/100 miles/per year
California EPA 2011 (80,228 miles of infrastructure)	3.99 SSO/100 miles/per year

**COF performance 75%-90% better than these SSO statistics**

# Ammonia

## Overall 5-year Performance

	Effluent Avg. (lbs/day)	Permit Avg. (lbs/day)	% of Permit Limit
Effluent – Summer Avg.	4.7	40	11.9%
Effluent – Winter Avg.	3.8	150	2.5%
<b>Effluent – Annual Avg.</b>	<b>4.5</b>	<b>95</b>	<b>4.7%</b>

## Three Operational Disruptions

- ▶ June 22-27, 2010 – Excessive FOG discharged into the system.
- ▶ January 8-9, 2012 – Excessive single discharge into the system.
- ▶ June 12-17, 2013. Investigation performed however a specific cause was not identified for this single operational upset.
- ▶ October 14-20, 2012 – Reported .63 mg/L vs. permitted .6 mg/L. Conventional rounding is the accepted practice for reporting, so this should have been reported as .6 mg/L, which is not a violation.

# *E. Coli* – Two Operational Events

- ▶ December 12, 2010 – A power surge occurred that took the City's UV treatment offline for short period of time, causing one day of non-compliance. Equipment has since been upgraded.
- ▶ A fire on the evening of October 18, 2012 knocked out one of four UV disinfection banks.
  - October of 2012 – Exceedances of the *E. Coli* limit of 941cfu/100mL.
  - October 24, 2012 – Disinfection attempted using liquid chlorine (bleach) as an alternative treatment resulted in a chlorine violation (0.5mg/L).
  - October 25, 2012 – UV bank repaired, use of liquid chlorine ended.
  - Sampling was performed upstream and downstream of the outfall to observe the impact to the river from this 6-day period. The 7 days of sampling revealed *E. coli* limits below our NPDES permit at all sampling points.

# CBOD5

## Overall 5-year Performance

	Effluent Avg. (lbs/day)	Permit Avg. (lbs/day)	% of Permit Limit
Effluent – Summer Avg.	51.9	400	13.0%
Effluent – Winter Avg.	75.2	1001	7.5%
<b>Effluent – Annual Avg.</b>	<b>63.6</b>	<b>700.5</b>	<b>9.1%</b>

\*\* - Lowest monthly average removal of CBOD5 from 2009 through 2013 is 98.6%, well above the required 85% removal.

- ▶ Sept. 9, 2009 - Permit level of 12 mg/L. Reported at 12.16 mg/L. Instructed by TDEC to use conventional rounding technique. Corrected DMR submitted. Based on this guidance, no violation occurred.

Allegation regarding monitoring:

- ▶ Dec. 10, 2011 – BOD incubator malfunctioned invalidating prior week samples.
- ▶ Weekly averages for week of Nov. 27, 2011 and week of Dec. 11, 2011 both show results well below permit limits.

# Alleged Selenium and Cyanide Violations

- ▶ For both instances, the City received guidance to submit a value less than the reporting limit (RDL) based on the laboratory results.
- ▶ The RDL, as stated by the laboratory, is above the permit limit, thereby resulting in an erroneous permit violation.
- ▶ City confirmed and documented that the method detection limit (MDL) was used by the laboratory, which is below the permit level, confirming there was no violation. TDEC revised guidance to City to use MDL for future reporting and submit corrected DMRs.

# Alleged Reporting Violations

- ▶ City maintains all documentation did occur using the MOR in place of the DMR, which did not allow for reporting such as influent N and P.
- ▶ All reporting was provided to both the field office and central office to ensure information was shared broadly.
- ▶ City has worked with TDEC to modify the DMR form for specific reporting and calculations.
- ▶ A small number of clerical errors have been corrected and submitted.
- ▶ City has submitted amended DMR's and MOR's.
- ▶ City has implementing additional quality control measures for reporting.

# Other Issues

- ▶ Influent and effluent N and P claim that monitoring should take place on the same day. This is flawed and shows a misunderstanding of the treatment process. The one day difference in monitoring is consistent with the estimated hydraulic retention times. It should be noted that this is not a permit requirement.
- ▶ The City sought to use elements of the Integrated Water Resource Plan for the Nutrient Management Plan, a component of the permit not reflected in USEPA/TDEC regs. This was discussed with TDEC staff, but formal direction has not yet been received. The City will continue to work with TDEC to meet the intent of NMP and believes that the IWRP goes far and above the requirements of the NMP.
- ▶ Alleged plant bypass involves a situation for which the City received an EPA and TDEC award for “outstanding leadership” in the Tennessee Water and Wastewater Energy Efficiency Partnership.
- ▶ The City proposed 24 hour/365 day monitoring inclusive of water quality measures. A response from TDEC has not been received.
- ▶ During the 2013 CEI, TDEC commented on the influent flow monitoring. City is aware of the situation and has provided for addressing the issues during the WRF upgrades.
- ▶ Bioassessments around the WRF show an environment supporting various aquatic life.

# Summary

- ▶ Detailed review of the HRWA/SELC allegations, reveals that Franklin's Wastewater Treatment Plant and collection system are high performing.
- ▶ Number of overflows are overstated. Franklin performance is far better than other national benchmarks by 75%-90%.
- ▶ Franklin's average response time to overflows is 25 minutes.
- ▶ Discharge allegations amount to a handful of isolated operational disruptions.
- ▶ Reporting violations are greatly exaggerated. Outside of a few clerical errors over a five year period, the City has reported in detail to both central and field offices. Updated forms have been submitted to regulators to eliminate any confusion.



**“The city of Franklin’s plant is treating its effluent to a very high standard and currently discharges effluent discharge significantly below its permit requirements. . . .”**

*Statement made by the Harpeth River Watershed Association in a February 10, 2013 letter to TDEC.*