

**Monthly Operating Report  
September, 2012  
Concord Wastewater Treatment Facility  
Operated by Woodard & Curran**

**Date:** October 16, 2012

**To:** Alan Cathcart, Concord Water & Sewer Superintendent  
**cc:** Chris Whelan, Town Manager  
Richard Reine, Director Concord Public Works

**From:** John Parkhurst and Staff

***Key Activities This Month/Capital Program:***

During September all treatment processes were either operational or in ready standby. Flow through the facility in September averaged 0.78 million gallons per day (MGD) and the permit critical 12-month average flow dropped slightly to 1.05 MGD. This is the seventh consecutive month that the 12-month average flow dropped and moved further from the 1.20 MGD limit for 12-month average flow.

Events that are more notable or tasks accomplished in September include:

September 11, 2012: Installed VNC viewer and started to create electronic version of most of the daily checklists using the online DoForms software on tablets. These features allow the operator on-call to take the tablet home and have VNC Viewer accessibility to respond to alarm call-outs. In addition, the DoForms software allows the plant staff to track the information they collect day-to-day electronically to increase efficiency and troubleshoot problems with trending. By the end of the year, we plan to have all of our checklists and lab sheets on the DoForms hosted site for increased quality of data tracking instead of paper and folders.



***Photo: The new Samsung Tab II with VNC Viewer application viewing the Concord WWTF SCADA remotely.***

## September '12 WWTF MOR

### Health and Safety Activities or Training:

During September, all plant staff participated in a thirty-minute onsite safety training session on "Hazardous Communication".

### Maintenance Management

The following is a brief list of a portion of maintenance items completed in September:

September 4<sup>th</sup>, 2012: Monthly service on trickling filters; flush distributor arms, clear nozzles and lube center bearings. (On both trickling filters)

September 6<sup>th</sup>, 2012: Cleaned sample lines to all turbidimeters.

September 9<sup>th</sup>, 2012: Started 3<sup>rd</sup> quarter WET sampling.

September 10<sup>th</sup>, 2012: Working on fault on #1 aerated sludge pump – appears to be rag build-up. Identified need to replace pump lifting handle.

September 11, 2012: Installed VNC viewer on tablets. W&C SCADA technician onsite to setup new router and replace PLC in #2 thickened sludge muffin monster.

September 12<sup>th</sup>, 2012: W&C SCADA Technician onsite to work on router and XL Reporter. Plant internet switched from DSL to 4G wireless Verizon air card.

September 13<sup>th</sup>, 2012: Replace failed shear pin on #3 primary sludge pump.

September 17<sup>th</sup>, 2012: Install new lift handle on aerated sludge pump #1 and returned to normal duty.

September 20<sup>th</sup>, 2012: Monthly client meeting with Town of Concord.

September 21<sup>st</sup>, 2012: Changed and cleaned COMAG polymer hoses.

September 21<sup>st</sup>, 2012: Monthly lab equipment cleaning.

September 24<sup>th</sup>, 2012: Began opening # 1 primary clari-thickener and shutting down #2 for service and inspection.

September 25<sup>th</sup>, 2012: Replaced actuator on boiler #2.

September 28<sup>th</sup>, 2012: Plant staff cleaned and calibrated plant pH meters.

### Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	1.1 MGD (12-month avg.)	1.2 MGD	August avg. = 0.78 MGD Max. Daily Flow = .94 MG on Tue. 9/25
BOD5 (mg/l)	4 mg/l	30 mg/l	99% average BOD removal in September
TSS (mg/l)	5 mg/l	30 mg/l	98% average TSS removal in September
Coliform, Geo.Mean #/100ml	1 cfu*/100ml	200 cfu/100ml	8 f-coliform counts daily max on Mon. 9/17
Phosphorus	0.2 mg/l	0.2 mg/l Apr '12– Oct '12	0.35 mg/l daily max. occurred on Mon. 9/10 and Tue. 9/18
Total Ammonia Nitrogen	0.53 mg/l	Report Only	1.40 mg/l daily max. on Tue. 9/25

\*cfu = coliform forming unit or colony.

### September '12 WWTF MOR

Over the week of September 10<sup>th</sup>, the Concord WWTF conducted the 2012, third-quarter Whole Effluent Toxicity (WET) sampling event. The 48-hour LC50, a.k.a. acute toxicity test, for *Ceriodaphnia* was >100% and permit complying. The 7-day NOEC, a.k.a. chronic toxicity test, was 6.25%. Monitoring of chronic toxicity is a permit requirement; however, there are currently no chronic toxicity limitations. A copy of the complete WET test report prepared by our lab is enclosed for your review.

Additionally, during September all effluent disinfection was performed using ultra violet light.

### Alarm Activity

This section provides the Town information on events that activate the facility's alarm response system. The events occur while the plant is unmanned and while both the plant's SCADA system and The *Lexington Alarm* are monitoring the facility's alarm system. This report identifies alarm activity from the start of the calendar year to the present.

Concord WWTF Off-Hours Alarm Log

Date	Time	Alarm Source	Observations/Corrective Action/Comments
Jan. '12	Various	Intrusion	South Clarifier Rm. single door triggered several nuisance intrusion alarms in January. Plant personnel replaced wiring to the magnetic pickup on the door and slightly adjusted the position of the pickup- so far so good.
Feb. 11, 2012	3:28 AM	Numerous	A very brief loss of utility power lead to a number of motor faults that required reset by an onsite operator as the SCADA system was inaccessible too.
Mar. '12	NA	NA	No off hours alarms in March.
Apr. 29, '12	10:30 am	Numerous	A very brief loss of utility power lead to a number of motor faults that required reset by an onsite operator who was performing weekend (Sat.) rounds.
May '12	NA	NA	No off hours alarms in May.
Jun. 17, '12	8:30 PM	Numerous	Plant water alarm came in. Plant staff cleaned intake screens and reset system. (All OK)
Jul. 28, '12	8:00 AM	Numerous	A very brief loss of utility power lead to a number of motor faults that required reset by an onsite operator who was performing weekend (Sat.) rounds.
Aug. 5, '12	8:00 AM	Numerous	Corridor motion detectors triggered nuisance alarms. Staff reset alarm - so far so good.
Sept. 9, '12	8:00 AM	Numerous	Intrusion alarm clarifier room south motion sensor- no apparent reason other than windy outside.

### Septage Receiving

The Concord WWTF receives septage only from in-Town sources. A total of 84,250 gallons of septage received at the Concord WWTF in September.

WWTF Septage Receipts in gallons:

	2012	2011	2010
January	56,000	44,050	32,500
February	34,000	31,750	25,750
March	83,000	102,950	171,750
April	111,500	139,750	211,500
May	110,250	113,500	125,950
June	112,750	130,000	184,950
July	137,750	73,750	90,800
August	71,000	69,500	173,250
September	84,250	98,750	182,250
October		82,250	210,250
November		90,250	194,100
December		117,250	132,750
Annual Totals:	800,500	1,093,500	1,735,800

*September '12 WWTF MOR*

*Sludge Production*

During September, 104,302 gallons of liquid sludge, equivalent to 18.64 dry tons, transported to Upper Blackstone Water Pollution Abatement District (UBWPAD) in Millbury, Massachusetts.

	WWTF Sludge Production in gallons /dry tons		
	2012	2011	2010
January	112,896/17.12	98,309/16.78	89,000/15.61
February	62,183/11.1	72,916/13.5	90,000/16.81
March	99,452/13.71	72,617/13.89	90,000/15.65
April	97,796/11.75	81,000/14.90	135,000/23.57
May	107,500/16.66	108,000/27.85	97,980/15.76
June	116,530/18.53	108,000/19.67	99,000/18.28
July	116,141/22.36	106,060/17.69	99,000/16.81
August	113,340/18.71	135,224/18.83	108,000/18.61
September	104,302/18.64	108,008/15.10	106,160/17.88
October		141,003/23.05	107,558/17.31
November		114,905/20.28	142,500/21.18
December		105,573/18.56	134,750/21.73
Annual Totals:	929,140/148.62	1,251,615/205.18	1,298,945/219.20