

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

**Date:** July 17, 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 June all treatment processes were either operational or in ready standby. Flow through the facility in June averaged 0.93 million gallons per day (MGD) and the permit critical 12-month average flow dropped slightly to 1.11 MGD. This is the fourth 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 June include:

Friday June 8<sup>th</sup>, 2012: Plant tour with 200 8<sup>th</sup> graders for annual public works day. (See Photos below)



***Photos: Students observing the plant processes and getting an explanation on how it all works.***

***Health and Safety Activities or Training:***

Wednesday June 27<sup>th</sup>, 2012: Plant staff completed an online training on the proper procedures of cleaning a small chemical spill. .

***Maintenance Management***

June 1<sup>st</sup>, 2012: Primary Tank #1 emptied and cleaned for inspection and service.

June 4<sup>th</sup>, 2012: Polymer pump chamber, static mixer, and rotometer cleaned.

June 13<sup>th</sup>, 2012: Polymer pump seal bearing replaced and discharge hose cleaned.

June 14<sup>th</sup>, 2012: Lawn mower fuel pump replaced.

June 18<sup>th</sup>, 2012: Removed old chlorine feed lines from Primary clarifier-thickener #1.

June 18<sup>th</sup>, 2012: Staff installed a new weather station on the top of the administration building.

June 26<sup>th</sup>, 2012: Staff unclogged the drain in Primary tank #1.

## June '12 WWTF MOR

### Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	1.1 MGD (12-month avg.)	1.2 MGD	June avg. = 0.93 MGD Max. Daily Flow = 1.73 MG on Mon. 6/04
BOD5 (mg/l)	11 mg/l	30 mg/l	96% average BOD removal in June
TSS (mg/l)	3 mg/l	30 mg/l	98% average TSS removal in June
Coliform, Geo.Mean #/100ml	0 cfu*/100ml	200 cfu/100ml	0 f-coliform counts daily max
Phosphorus	0.2 mg/l	0.2 mg/l Apr '12– Oct '12	0.26 mg/l daily max. occurred on Tue. 6/05
Total Ammonia Nitrogen	1.37 mg/l	Report Only	2.50 mg/l daily max. on Tue. 6/19

\*cfu = coliform forming unit or colony.

Throughout June, the Concord WWTF performed continuous two-stage total phosphorus (TP) removal using aluminum sulfate. First stage chemical TP treatment occurred in the two secondary clarifiers, while second stage TP treatment took place within the CoMag® advanced treatment process. The monthly average effluent TP concentration in June is 0.2 mg/l, thereby meeting the CWWTF's summer permit limit not to exceed 0.2 mg/l TP as a monthly average.

Over the week of June 4<sup>th</sup>, the Concord WWTF conducted the 2012, second-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 100%. 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 contracted lab is enclosed for your review.

Also during June, all effluent disinfection 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)

## June '12 WWTF MOR

### Septage Receiving

The Concord WWTF receives septage only from in-Town sources. A total of 112,750 gallons of septage received at the Concord WWTF in June.

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		73,750	90,800
August		69,500	173,250
September		98,750	182,250
October		82,250	210,250
November		90,250	194,100
December		117,250	132,750
Annual Totals:	507,500	1,093,500	1,735,800

### Sludge Production

During June, 116,530 gallons of liquid sludge, equivalent to 18.53 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		106,060/17.69	99,000/16.81
August		135,224/18.83	108,000/18.61
September		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:	596,357/88.87	1,251,615/205.18	1,298,945/219.20