

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

**Date:** September 18, 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 August all treatment processes were either operational or in ready standby. Flow through the facility in August averaged 0.82 million gallons per day (MGD) and the permit critical 12-month average flow dropped slightly to 1.08 MGD. This is the sixth 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 August include:

Monday August 20<sup>th</sup>, 2012: Irrigation Pipe Lighting & Equipment Inc. delivered the plant's new lawn mower.



***Photo: New plant lawn mower***

## August '12 WWTF MOR

### Health and Safety Activities or Training:

Friday August 31<sup>st</sup>, 2012: Plant staff completed an online training on the “Human Element” a review on common sense mistakes.

### Maintenance Management

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

August 2<sup>nd</sup>, 2012: Four Rotary drum thickener spray nozzles were plugged. Staff cleaned nozzles and RDT.

August 5<sup>th</sup>, 2012: Staff reset security alarm due to false alarm tripped in corridor motion detectors.

August 10<sup>th</sup>, 2012: Hydro-gritter cyclone #1 overload alarm. Staff reset alarm and system was restored.

August 20<sup>th</sup>, 2012: Plant staff greased odor control fan.

August 22<sup>nd</sup>, 2012: Plant staff washed down the outside of the odor control unit.

August 23<sup>rd</sup>, 2012: Weddeco technician onsite for annual review of the U.V. system.

August 23<sup>rd</sup>, 2012: O&M Specialist onsite to install new high pressure air PLC panel. (See photo below.)



August 30<sup>th</sup>, 2012: Plant staff completed trickling filter maintenance. (Cleaned nozzles and changed gear oil)

### Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	1.1 MGD (12-month avg.)	1.2 MGD	August avg. = 0.82 MGD Max. Daily Flow = 3.02 MG on Mon. 8/29
BOD5 (mg/l)	4 mg/l	30 mg/l	99% average BOD removal in August
TSS (mg/l)	5 mg/l	30 mg/l	98% average TSS removal in August
Coliform, Geo.Mean #/100ml	0 cfu*/100ml	200 cfu/100ml	0 f-coliform counts daily max
Phosphorus	0.1 mg/l	0.2 mg/l Apr '12– Oct '12	0.20 mg/l daily max. occurred on Mon. 8/20
Total Ammonia Nitrogen	0.10 mg/l	Report Only	0.10 mg/l daily max. on Mon. 8/20

\*cfu = coliform forming unit or colony.

## August '12 WWTF MOR

Throughout August, 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 August is 0.1 mg/l, thereby meeting the CWWTF's summer permit limit not to exceed 0.2 mg/l TP as a monthly average.

Additionally during August, 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)
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.

### Septage Receiving

The Concord WWTF receives septage only from in-Town sources. A total of 71,000 gallons of septage received at the Concord WWTF in August.

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		98,750	182,250
October		82,250	210,250
November		90,250	194,100
December		117,250	132,750
Annual Totals:	716,250	1,093,500	1,735,800

*August '12 WWTF MOR*

*Sludge Production*

During August, 113,340 gallons of liquid sludge, equivalent to 18.71 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		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:	824,838/129.98	1,251,615/205.18	1,298,945/219.20