

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

**Date:** December 12, 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 November all treatment processes were either operational or in ready standby. Flow through the facility in November averaged 0.95 million gallons per day (MGD) and the permit critical 12-month average flow dropped slightly to 0.98 MGD. This is the 9<sup>th</sup> 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 November include:

November 6<sup>th</sup>, 2012: Plant staff power washed the outside walls of the primary clari-thickeners, sidewalks, and oil tank.



Clarifier wall After / Before



Fuel Tank concrete pad before



Fuel Tank concrete pad after.

## *November '12 WWTF MOR*

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

During November, all plant staff participated in a 30 minute on site safety training session on "Hurry up can hurt".

### *Maintenance Management*

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

November 1<sup>st</sup>, 2012: Plant staff cleaned up yard debris around facility from storm Sandy.

November 1<sup>st</sup>, 2012: Combustion Services technician was onsite for annual cleaning and service.

November 6<sup>th</sup>, 2012: Plant staff power washed the outside walls of the primary clari-thickeners.

November 7<sup>th</sup>, 2012: Plant staff power washed the outside walls of the trickling filters.

November 7<sup>th</sup>, 2012: Plant staff identified boiler #2 mixing valve not working properly.

November 8<sup>th</sup>, 2012: Plant staff rebuilt CoMag polymer mixer and cleaned roto-meters.

November 10<sup>th</sup>, 2012: Plant staff noticed bulbs #7 and #8 were out on UV bank B.

November 14<sup>th</sup>, 2012: Waste Management onsite to empty grit and screenings dumpster.

November 14<sup>th</sup>, 2012: Plant staff replaced bulbs on UV bank B.

November 15<sup>th</sup>, 2012: Client monthly meeting.

November 20<sup>th</sup>, 2012: Plant staff winterized plant odor control system.

November 21<sup>st</sup>, 2012: Generator exercise.

November 29<sup>th</sup>, 2012: Plant staff calibrated online pH meters.

November 30<sup>th</sup>, 2012: Plant staff cleaned discharge hose on polyblend unit for CoMag.

*November '12 WWTF MOR*

*Environmental Compliance*

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	0.98 MGD (12-month avg.)	1.2 MGD	November avg. = 0.95 MGD Max. Daily Flow = 1.12 MG on Fri. 11/02
BOD5 (mg/l)	6 mg/l	30 mg/l	98% average BOD removal in November
TSS (mg/l)	5 mg/l	30 mg/l	98% average TSS removal in November
Coliform, Geo.Mean #/100ml	1 cfu*/100ml	200 cfu/100ml	2 f-coliform counts daily max on Thur. 11/01
Phosphorus	0.2 mg/l	1.0 mg/l Nov '12– Mar '13	0.48 mg/l daily max. occurred on Mon. 11/19
Total Ammonia Nitrogen	0.80 mg/l	Report Only	1.10 mg/l daily max. on Mon. 11/12

\*cfu = coliform forming unit or colony.

During November, the Concord WWTP performed continuous two-stage total phosphorus (TP) removal using aluminum sulfate. First stage chemical TP treatment occurred in the secondary clarifiers and second stage TP treatment took place within the CoMag® advanced treatment process. The monthly average effluent TP concentration in November is 0.2mg/l, thereby meeting the CWWT's winter permit limit not to exceed 1.0 mg/l TP as a monthly average.

Additionally, during November 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.
Oct. 29, '12	5:45 PM	Numerous	A loss of utility power lead to a number of motor faults that required reset by an onsite operator who was performing Hurricane Sandy coverage.
Nov '12	NA	NA	No off hours alarms in November.

## November '12 WWTF MOR

### Septage Receiving

The Concord WWTF receives septage only from in-Town sources. A total of 111,700 gallons of septage received at the Concord WWTF in November.

#### 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	124,150	82,250	210,250
November	111,700	90,250	194,100
December		117,250	132,750
Annual Totals:	1,036,350	1,093,500	1,735,800

### Sludge Production

During November, 80,786 gallons of liquid sludge, equivalent to 14.44 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	123,425/20.70	141,003/23.05	107,558/17.31
November	80,786/14.44	114,905/20.28	142,500/21.18
December		105,573/18.56	134,750/21.73
Annual Totals:	1,133,351/183.76	1,251,615/205.18	1,298,945/219.20