Monthly Operating Report
June, 2009
Concord Wastewater Treatment Plant
Operated by Woodard &Curran

Date: July 20, 2009

To: Alan Cathcart, Concord Water & Sewer Superintendent
cc: Chris Whelan, Town Manager
Richard Reine, Director Concord Public Works
Elena Proakis Ellis, Water & Sewer Operations Engineer

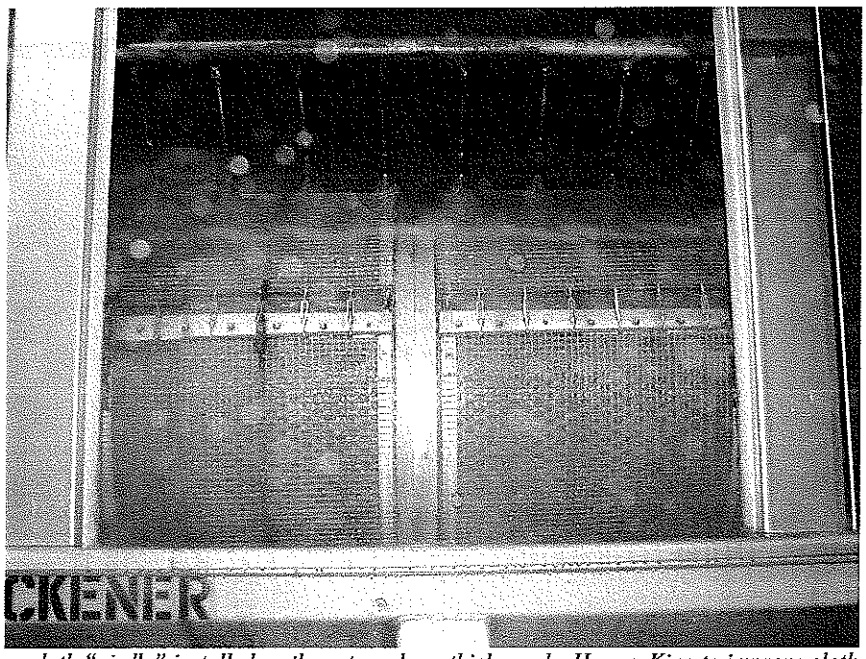
From: Michael Thompson and Staff

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 0.82 million gallons per day (MGD) and the permit critical 12-month average flow continues to hover at 1.0 MGD as it did in May. The 12-month average daily flow permit limit is 1.2 MGD. Barring any prolonged period of above normal precipitation, the facility's 12-month average flow is likely to continue to hover around the current 1.10 MGD level.

More notable events or tasks accomplished in June included:

1) The regular plant staff was without Maintenance Manager Rich Dolata throughout the month of June due to his suffering from chronic back pain. W&C backfilled Rich with two of our O&M specialists; Rich Hunt, Master Electrician, and Harvey King, Jack of all Trades. Harvey focused on the operation of the rotary drum thickener and made improvements in both the polymer feed system and the drum cloth wash system. Rich focused on how best to improve the facility's computerized maintenance management program. Additionally, Kevin Barry, a temp agency person with mechincal aptitude and experience in other W&C operated facilities, worked for 16 days at the Concord WWTF in June. Kevin's chief focus was in rehabilitating the corroded hardware and peeling paint on the grit room ductile iron pipe lines.



Hardware cloth "girdle" installed on the rotary drum thickener by Harvey King to improve cloth washer.

Maintenance Management

Following is a brief list of a portion of maintenance items completed in June:

a) collect equipment data and maintenance procedures as part of a program to convert from an out date computer maintenance management system (CMMS) to a modern CMMS.
b) replace corroded hardware with new stainless steel hardware on grit room plumbing and prepped same plumbing for fresh paint.
c) install insulation on the now heat traced secondary sludge line running over the aerated sludge tank wall
d) install a hardware cloth wrap on the rotary drum thickener to prevent the cloth filter from developing sags where solids become trapped.

Environmental Compliance

Parameter	Monthly Avg.	Permit Limit	Notes
Flow, MGD	1.10 MGD (12-month. Avg.)	1.2 MGD	June avg. = 0.82 MGD
BOD5 (mg/l)	4 mg/l	30 mg/l	99% average BOD removal in June
TSS (mg/l)	2 mg/l	30 mg/l	99 % average TSS removal in June
Coliform, Geo.Mean #/100ml	1 cfu*/100ml	200 cfu/100ml	Daily max. – there were no colonies detected on any tests in June.
Phosphorus	0.19 mg/l	0.20 mg/l Apr.'09 – Oct. '09	0.30 mg/l daily max. on Tue. 5/26
Total Ammonia Nitrogen	0.55 mg/l	Report Only	0.91 mg/l daily max. on Thu. 6/25

**cfu =coliform forming unit or colony.*

There were no NPDES permit exceedences during the month of June at the Concord WWTP.

During June, 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 June was 0.19 mg/l, thereby meeting the CWWTP permit limit not to exceed 0.20 mg/l TP.

Over the week of June 7, the Concord WWTF conducted the 2009, 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. Enclosed for your review is a copy of the complete WET test report prepared by our contracted lab.

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

Septage Receiving

During June, the facility received 151,450 gallons of septage from Concord residences and businesses.

WWTP Septage Receipts in gallons

	2009	2008	2007
January	10,500	22,750	61,850
February	41,250	60,300	55,000
March	83,250	55,550	48,550
April	168,250	152,300	127,000
May	150,900	135,150	153,800
June	151,450	126,450	128,750
July		117,000	159,050
August		142,400	140,250
September		219,950	112,250
October		262,900	199,700
November		165,300	179,950
December		104,050	42,000
Annual Totals:		1,636,000	1,408,150

Sludge Production

During June, 153,000 gallons of liquid sludge, equivalent to 20.83 dry tons, was transported to Upper Blackstone Water Pollution Abatement District (UBWPAD) in Millbury, Massachusetts.

WWTP Sludge Production in gallons / dry tons

	2009	2008	2007
January	107,500/16.71	112,227/20.15	97,500/12.83
February	86,000/14.13	107,124/18.35	89,500/11.94
March	99,000/17.56	98,500/17.97	99,000/12.91
April	153,000/23.94	90,000/17.98	143,500/21.55
May	170,670/24.27	107,000/19.74	170,200/26.40
June	153,000/20.83	98,500/17.76	152,000/21.29
July		117,000/20.98	161,500/23.60
August		99,000/16.51	143,500/21.31
September		98,000/16.82	126,000/15.27
October		108,000/18.54	230,614/30.28
November		80,500/12.62	128,669/21.13
December		126,000/18.46	140,555/22.69
Annual Totals:		1,241,851/215.88	1,682,535/241.2

Alarm Activity

This section provides the Town information on events that activate the facility's alarm response system. These events occur while the plant is unmanned and while both the plant's SCADA system and *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 WWTP Alarm Log

Date	Time	Alarm Source	Observations/Corrective Action/Comments
01/03/09	11:21 am	Intrusion	Headworks building door not properly latching following installation of new weather security strip by facility upgrade contractor. High wind rocked door – setting off alarm. Plant staff worked on weather strip to improve door latching.
01/07/09	7:45 pm	Hi Effluent Turbidity	Recent M2 backwash cycles producing very brief jump in turbidity as forward flow resumes. Solution is to shorten time between backwash cycles until overall treatment performance improves with slight operational adjustments over coming days.
02/08/09	10:26 am	Intrusion	High wind blew open addition door. Plant staff already on the way for normal weekend rounds, checked door and securely locked. Contractor made aware of need to rework this as well as other facility upgrade doors and locksets.
Various times in March		HVAC Common alarm	Faulty operation of plant boilers-particularly boiler #2-causing a brief dip in plant hot water loop temperature. Lag or backup boiler reliably responded and automatically brought hot water loop temp back above alarm setpoint. Boiler install vendor and others continue to monitor/troubleshoot plant heating system.
04/09	NA	NA	No after hours alarms in April
5/27/09	7-9pm	CoMag eff pH	pH meter inaccurately reading –required cleaning and calibration. Caustic pumps checked for normal operation.
6/20/09	2 pm	CoMag low eff pH	Both caustic feed pumps to CoMag effluent had become air bound. On call operator came on site and bled air from pump and restored normal auto feed of caustic based on pH input from SCADA.