NOVATO SANITARY DISTRICT

Meeting Date: October 8, 2012

The Board of Directors of Novato Sanitary District will hold a regular meeting at 6:30 p.m., Monday, October 8, 2012, at the District Offices, 500 Davidson Street, Novato.

Materials related to items on this agenda are available for public inspection in the District Office, 500 Davidson Street, Novato, during normal business hours. They are also available on the District's website: www.novatosan.com.

AGENDA

1. PLEDGE OF ALLEGIANCE:

2. AGENDA APPROVAL:

3. PUBLIC COMMENT (PLEASE OBSERVE A THREE-MINUTE TIME LIMIT):

This item is to allow anyone present to comment on any subject not on the agenda, or to request consideration to place an item on a future agenda. Individuals will be limited to a three-minute presentation. No action will be taken by the Board at this time as a result of any public comments made.

4. REVIEW OF MINUTES:

a. Consider approval of minutes of the September 10, 2012 meeting.

5. CONSENT CALENDAR:

The Manager-Engineer has reviewed the following items. To her knowledge, there is no opposition to the action. The items can be acted on in one consolidated motion as recommended or may be removed from the Consent Calendar and separately considered at the request of any person.

a. Approve regular, payroll, and payroll-related disbursements.
b. Accept the Zandra Place Sewer Main Extension.

6. PERSONNEL:

a. Promotion of Ken Besnia from Environmental Compliance Analyst I to Environmental Compliance Analyst II.

7. WASTEWATER OPERATIONS

a. Wastewater Operations Committee report.
b. Staff report on odor control and landscaping.
c. Staff report on Safety program.
d. Novato Final Biofilter Testing Report.

8. PRETREATMENT:

a. Consider and approve the Novato Sanitary District Dental Amalgam Mercury Reduction Ordinance.

9. CAPITAL PROJECTS:

a. Consider granting Final Acceptance of the Bahia Pump Station Drainage Improvements, and authorize staff to file the Notice of Completion, Project No. 72805-12-01.
b. Consider granting Final Acceptance of the Simmons Lane Sewer Repairs 2012, and authorize staff to file the Notice of Completion, Project No. 72803-11-05
c. Consider and approve a proposal from Veolia Water in the amount of $311,950 to perform the cleaning of the digester at the Ignacio treatment plant site and digester No. 2 at the Novato treatment plant site, as "Additional Services" under Section 8 of the Contract Service Agreement; Project No. 72805.

10. BOARD OF DIRECTORS:

a. Consider reviewing its meeting time and adopt a resolution to revise Policy 5010 for the regular meeting time of the Board of Directors, to reflect a change in its meeting time from 6:30 PM to 5:30 PM, and authorize the Manager-Engineer to publish such notice.

11. BOARD MEMBER REPORTS:

12. MANAGER'S ANNOUNCEMENTS:

13. ADJOURNMENT:

Next resolution no. 3052

Next Special meeting date: Joint meeting with the Board of Directors of the North Marin Water District, Thursday, October 11, 2012, 1:30 PM at the Novato Sanitary District office, 500 Davidson Street, Novato, CA

Next regular meeting date: Monday, October 22, 2012, 6:30 PM at the Novato Sanitary District office, 500 Davidson Street, Novato, CA

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the District at (415) 892-1694 at least 24 hours prior to the meeting. Notification prior to the meeting will enable the District to make reasonable accommodation to help ensure accessibility to this meeting.

September 10, 2012

A regular meeting of the Board of Directors of the Novato Sanitary District was held at 6:30 p.m., Monday, September 10, 2012, preceded by a closed session beginning at 6:00 p.m. at the District offices, 500 Davidson Street, Novato.

At 6:00 p.m. President Di Giorgio announced the Board would meet in closed session to discuss the following matters on the Closed Session Agenda:

CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION:

Existing litigation pursuant to subdivision (a) of Government Code Section 54956.9: Administrative Civil Liability No. R2-2010-0102.

BOARD MEMBERS PRESENT FOR CLOSED SESSION: President Michael Di Giorgio, Members William C. Long, Jean Mariani, Jerry Peters and Dennis Welsh.

STAFF PRESENT: Manager-Engineer-Secretary Beverly B. James and District Counsel Kent Alm.

The closed Session ended at 6:32 p.m.

Open session began at 6:35 p.m.

BOARD MEMBERS PRESENT FOR OPEN SESSION: President Michael Di Giorgio, Members William C. Long, Jean Mariani, Jerry Peters and Dennis Welsh.

STAFF PRESENT: Manager-Engineer-Secretary Beverly James, Deputy Manager-Engineer Sandeep Karkal, District Counsel Kent Alm and Administrative Secretary Julie Swoboda.

ALSO PRESENT: Laura Creamer, Finance Officer, Novato Sanitary District
June Brown, Administrative Services Manager, Novato Sanitary District
Steve Wrightson, The Covello Group
John Bailey, Plant Manager, Veolia Water
Brant Miller, Novato resident
Nicole Dellanoce, San Rafael resident
Herbert Pike, GFOA, Concord Representative

PLEDGE OF ALLEGIANCE:

AGENDA APPROVAL: The Manager requested item 8b. *Review invitation for the North Novato Recycled Water Project dedication* be removed from the agenda.

On motion of Member Peters, seconded by Member Long and carried unanimously, the Agenda was approved as modified.

PRESENTATION OF CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING:

The Manager introduced Mr. Herbert Pike, Representative from the Government Finance Officers Association (GFOA). Mr. Pike presented the **Certificate of Achievement for Excellence in Financial Reporting** to June Brown, Administrative Services Manager and Laura Creamer, Finance Officer, in recognition for preparing the award-winning comprehensive annual financial report (CAFR). Mr. Pike stated that the Certificate of Achievement is the highest form of recognition in the area of governmental accounting and financial reporting and that the District's attainment of this award represents a significant accomplishment by its employees and management.

The Board congratulated Ms. Brown and Mrs. Creamer and commended their expertise. Member Long stated they did an excellent job.

REPORT FROM CLOSED SESSION:

District Counsel Kent Alm stated that regarding the existing litigation, direction was given to Counsel to continue preparation of a more detailed report for the California Regional Water Quality Control Board.

PUBLIC COMMENT: None.

REVIEW OF MINUTES:

Consider approval of minutes of the August 27, 2012 Board meeting.

On motion of Member Mariani, seconded by Member Peters and carried unanimously, the minutes of the August 27, 2012 Board meeting were approved.

CONSENT CALENDAR:

On motion of Member Long, seconded by Member Peters and carried unanimously, the following Consent Calendar item was approved:

a. Approval of regular disbursements in the amount of $277,668.40, capital project disbursements in the amount of $29,501.29 and Board member disbursements in the amount of $3,379.86.

Member Welsh questioned if the disbursement detail from the check registers could contain more clarification of the purchases. The Board and the Manager discussed the matter and no further action was assigned.

CAPITAL PROJECTS:

- Progress report on Recycled Water Treatment Plant construction. The Manager introduced Steve Wrightson, The Covello Group, who gave a progress report of the recycled water treatment plant construction. He stated that construction was essentially complete and that he hoped to deliver the first run of recycled water later this week to the North Marin Water District storage tank at Stafford Lake. Mr. Wrightson stated that change orders were at 5.2% of total costs or approximately $275,000.

- Consider granting Final Acceptance of the Galli Drive Sewer Project, and authorize staff to file the Notice of Completion. The Deputy Manager-Engineer stated that the Galli Drive Sewer Improvement Project was awarded to W.R. Forde on February 13, 2012 for a bid amount of $418,078. He stated the contractor completed the work at a final cost of $408,678.39 or $9,399.61 below the bid amount.

The Deputy Manager-Engineer requested the Board grant final acceptance of the project and authorize staff to file the Notice of Completion.

On motion of Member Long, seconded by Member Welsh, and carried unanimously, the Board granted Final Acceptance of the Galli Drive Sewer Project, Phase G and authorized staff to file the Notice of Completion.

BOARD OF DIRECTORS:

- Consider cancelling the meeting of September 24, 2012. The Manager requested that the regular Board meeting of September 24th be cancelled. She noted that the first meeting in October is very early in the month, on October 8th and that District business will not be adversely affected by cancelling the second meeting in September.

On motion of Member Long, seconded by Member Peters and carried unanimously, the Board cancelled the September 24, 2012 regular Board meeting.

- Consider adopting a resolution revising Policy 5010 for the Board of Directors regular meeting time. The Manager suggested the Board consider scheduling the start of regular Board meetings to 5:30 p.m. instead of the current 6:30 p.m. start time.

Member Welsh suggested the meeting time remain at 6:30 p.m. but that the agenda items be streamlined to accommodate the materials presented and thus enable the meetings to end earlier. He felt it was in the public's best interest to have the meetings remain at 6:30 p.m.

Member Peters suggested that the District make a strong notification appeal to allow the public to comment on the proposed time change. He felt it may be difficult for the public to participate in the Board meetings if they are moved to an earlier time.

The Board discussed the possibility of utilizing a "Time Certain" agenda format where agenda items would be scheduled for discussion at specific times.

Member Long made a motion to revise the regular meeting time to 5:30 p.m. with the utilization of a time certain agenda format. Member Mariani seconded the motion.

Member Peters requested the item be tabled. Members Long and Mariani agreed to withdraw their motion. All Board members agreed to table the following item until the next Board meeting: *Consider adopting a resolution revising Policy 5010 for the Board of Directors regular meeting time.*

- Board President to consider setting a special meeting for 1:30 p.m., Thursday, October 11, 2012 joint with North Marin Water District to include the dedication of the North Novato Recycled Water Project. The Manager stated that the dedication ceremony for the North Marin Recycled Water Facility would take place at 3:00 p.m. on October 11th and she requested President Di Giorgio set a special meeting prior to the ceremony.

President Di Giorgio declared that a special meeting would take place on Thursday, October 11, 2012 at 1:30 p.m. jointly with North Marin Water District.

ADMINISTRATION:

- Consider authorizing the Deputy Manager-Engineer to attend the 2013 Water and Wastewater Leadership Center Training program. The Manager stated that the Water and Wastewater Leadership Center is holding their annual training conference in North Carolina from February 24 to March 8, 2013. She requested the Board authorize Deputy Manager-Engineer Sandeep Karkal's attendance. She noted that the topics covered align with the District's Strategic Plan goal of achieving operational and organizational excellence.

The Board discussed the training and noted that the tuition was costly.

On the motion of Member Mariani, seconded by Member Peters and carried with the following vote, the Board authorized Deputy Manager-Engineer Sandeep Karkal to attend the 2012 Water and Wastewater Leadership Center Training program in Chapel Hill, North Carolina. Ayes: Di Giorgio, Long, Mariani, Peters. Noes: Welsh.

DISTRICT COUNSEL REPORT:

District Counsel Kent Alm discussed the 2012 Pension Reform Impacts and gave a summary of the major elements of the pension reform legislation. He stated that the changes would be established in statute if signed into law by Governor Brown.

The Manager outlined the pension reform changes in relation to their effect on District staff.

District Counsel Kent Alm discussed his current fee structure and stated he would be requesting a rate increase, possibly in January of 2013. He stated his current rate is $250 per hour and he will likely increase the rate to $275 per hour.

President Di Giorgio and Member Long stated they felt the rate increase was reasonable.

BOARD MEMBER REPORTS:

- North Bay Watershed Association. President Di Giorgio discussed his attendance at the North Bay Watershed Association meeting which took place at the District office on September 7th.

Member Long stated that he and President Di Giorgio attended a Sons In Retirement (SIR) meeting where Jessica Jones gave a presentation on composting. Member Long requested Ms. Jones be invited to speak at a Solid Waste Committee meeting. The Manager stated that she would arrange for this presentation at a future Committee meeting.

MANAGER'S ANNOUNCEMENTS:

- The Manager discussed the letter from the Fish and Wildlife Commission.

- The Las Gallinas Valley Sanitary District will hold a dedication ceremony for their New Recycled Water Treatment Facility on Tuesday, September 25th at 1:30 p.m.

- The next regular Board meeting will be held on Monday, October 8th at 6:30 p.m.

ADJOURNMENT: There being no further business to come before the Board, President Di Giorgio adjourned the Board meeting at 7:42 p.m.

Respectfully submitted,

Beverly B. James
Secretary

Julie Swoboda, Recording

Novato Sanitary District
Operating Check Register
October 8, 2012

Date	Num	Name	Credit
Oct 8, 12			
10/8/2012	54939	Veolia Water North America, ...	172,893.69
10/8/2012	54910	Custom Tractor Service	115,405.00
10/8/2012	54928	PSC	16,688.61
10/8/2012	54931	RMC Water & Environment, I...	5,977.26
10/8/2012	54916	Johnson, Dee	5,867.11
10/8/2012	54903	Caltest Analytical Lab Inc.	4,992.25
10/8/2012	54918	Meyers, Nave, Riback, Silver ...	3,389.51
10/8/2012	54937	Unicorn Group	3,295.47
10/8/2012	54913	Harmony Press	3,225.00
10/8/2012	54936	U.S. Bank Card (2)(June)	3,158.27
10/8/2012	54898	A1 Top Quality Painting	3,100.00
10/8/2012	54927	Preferred Benefit	2,857.96
10/8/2012	54911	Dearborn National	2,754.32
10/8/2012	54920	North Bay Truck Service	2,702.27
10/8/2012	54929	Rauch Communication Cons...	2,103.75
10/8/2012	54902	California Diesel & Power	1,467.49
10/8/2012	54907	Comet Building Maintenance,...	1,424.02
10/8/2012	54908	Control Systems West, Inc.	1,398.75
10/8/2012	54904	Cantarutti Electric, Inc	1,105.72
10/8/2012	54919	MME	1,062.77
10/8/2012	54905	Cintas Corporation	832.53
10/8/2012	54915	IEDA, INC	799.00
10/8/2012	54897	3T Equipment Company Inc.	711.15
10/8/2012	54909	CT Promotions	676.24
10/8/2012	54901	Cagwin & Dorward Inc.	579.00
10/8/2012	54938	Utility Aerial, Inc.	551.69
10/8/2012	54932	Staples Business Adv Inc.	534.74
10/8/2012	54925	Pini Hardware	527.40
10/8/2012	54940	Vision Service Plan	504.38
10/8/2012	54926	Pitney Bowes Reserve Account	400.00
10/8/2012	54922	North Marin Water District	375.59
10/8/2012	54906	Claremont EAP, Inc.	295.00
10/8/2012	54935	U.S. Bank Card (1)(Bev)	275.82
10/8/2012	54899	American Sentry Systems, Inc.	270.00
10/8/2012	54930	Ricoh USA, Inc.	247.88
10/8/2012	54900	BoundTree Medical, LLC	222.21
10/8/2012	54912	Grainger	201.55
10/8/2012	54933	Stevenson, Jeffrey MD	170.00
10/8/2012	54921	North Marin Auto Parts	156.11
10/8/2012	54917	Mariani, Jean	114.14
10/8/2012	54914	Ideal Stationers	82.04
10/8/2012	54923	Novato Car Wash	71.95
10/8/2012	54924	One Stop Auto Service Inc.	33.68
10/8/2012	54934	T-Mobile	22.91
Oct 8, 12			**363,524.23**

Novato Sanitary District
Operating Check Register Detail
October 8, 2012

	Account	Amount
3T Equipment Company Inc.		
	60150 · Repairs & Maintenance	711.15
Total 3T Equipment Company Inc.		711.15
A1 Top Quality Painting		
	65150 · Repairs & Maintenance	3,100.00
Total A1 Top Quality Painting		3,100.00
American Sentry Systems, Inc.		
	66150 · Repairs & Maintenance	270.00
Total American Sentry Systems, Inc.		270.00
BoundTree Medical, LLC		
	67500 · Household Hazardous Waste	222.21
Total BoundTree Medical, LLC		222.21
Cagwin & Dorward Inc.		
	66150 · Repairs & Maintenance	329.00
	65150 · Repairs & Maintenance	250.00
Total Cagwin & Dorward Inc.		579.00
California Diesel & Power		
	65150 · Repairs & Maintenance	1,467.49
Total California Diesel & Power		1,467.49
Caltest Analytical Lab Inc.		
	64160 · Research & Monitoring	4,992.25
Total Caltest Analytical Lab Inc.		4,992.25
Cantarutti Electric, Inc		
	65153 · TV Inspection	900.00
	66150 · Repairs & Maintenance	205.72
Total Cantarutti Electric, Inc		1,105.72
Cintas Corporation		
	64100 · Operating Supplies	98.51
	66100 · Engineering Supplies	297.71
	60100 · Operating Supplies	436.31
Total Cintas Corporation		832.53
Claremont EAP, Inc.		
	66123 · O/S Contractual	295.00
Total Claremont EAP, Inc.		295.00
Comet Building Maintenance, Inc.		
	66150 · Repairs & Maintenance	1,090.00
	60150 · Repairs & Maintenance	152.50
	65150 · Repairs & Maintenance	152.50
	66090 · Office Expense	29.02
Total Comet Building Maintenance, Inc.		1,424.02
Control Systems West, Inc.		
	65150 · Repairs & Maintenance	1,398.75
Total Control Systems West, Inc.		1,398.75
CT Promotions		
	67520 · Outreach/Publicity/Education	676.24
Total CT Promotions		676.24
Custom Tractor Service		
	63115 · Sludge Disposal	115,405.00
Total Custom Tractor Service		115,405.00

Novato Sanitary District
Operating Check Register Detail
October 8, 2012

	Account	Amount
Dearborn National		
	66020 · Employee Benefits	2,754.32
Total Dearborn National		2,754.32
Grainger		
	66150 · Repairs & Maintenance	201.55
Total Grainger		201.55
Harmony Press		
	66090 · Office Expense	3,225.00
Total Harmony Press		3,225.00
Ideal Stationers		
	66090 · Office Expense	82.04
Total Ideal Stationers		82.04
IEDA, INC		
	66123 · O/S Contractual	799.00
Total IEDA, INC		799.00
Johnson, Dee		
	67530 · Used Oil Program	310.84
	67400 · Consulting Services	5,556.27
Total Johnson, Dee		5,867.11
Mariani, Jean		
	66170 · Travel, Meetings & Training	114.14
Total Mariani, Jean		114.14
Meyers, Nave, Riback, Silver & Wilson		
	66122 · Attorney Fees	3,389.51
Total Meyers, Nave, Riback, Silver & Wilson		3,389.51
MME		
	60150 · Repairs & Maintenance	1,062.77
Total MME		1,062.77
North Bay Truck Service		
	63150 · Repairs & Maintenance	200.00
	64150 · Repairs & Maintenance	248.56
	60150 · Repairs & Maintenance	1,405.94
	65150 · Repairs & Maintenance	847.77
Total North Bay Truck Service		2,702.27
North Marin Auto Parts		
	65150 · Repairs & Maintenance	156.11
Total North Marin Auto Parts		156.11
North Marin Water District		
	61000-4 · Water/Permits/Telephone	46.00
	65192 · Water	329.59
Total North Marin Water District		375.59
Novato Car Wash		
	60150 · Repairs & Maintenance	14.99
	66150 · Repairs & Maintenance	56.96
Total Novato Car Wash		71.95
One Stop Auto Service Inc.		
	63150 · Repairs & Maintenance	11.22
	65150 · Repairs & Maintenance	11.23
	66150 · Repairs & Maintenance	11.23
Total One Stop Auto Service Inc.		33.68

Novato Sanitary District
Operating Check Register Detail
October 8, 2012

	Account	Amount
Pini Hardware		
	65100 · Operating Supplies	299.08
	60100 · Operating Supplies	107.59
	60152 · Small Tools	15.18
	64150 · Repairs & Maintenance	5.96
	63150 · Repairs & Maintenance	10.84
	65150 · Repairs & Maintenance	30.90
	65152 · Small Tools	55.36
	66090 · Office Expense	2.49
Total Pini Hardware		527.40
Pitney Bowes Reserve Account		
	66090 · Office Expense	400.00
Total Pitney Bowes Reserve Account		400.00
Preferred Benefit		
	66020 · Employee Benefits	2,756.60
	21074 · Health Insurance Payable	101.36
Total Preferred Benefit		2,857.96
PSC		
	67500 · Household Hazardous Waste	16,688.61
Total PSC		16,688.61
Rauch Communication Consultants. Inc.		
	66123 · O/S Contractual	550.00
	67520 · Outreach/Publicity/Education	1,553.75
Total Rauch Communication Consultants. Inc.		2,103.75
Ricoh USA, Inc.		
	66090 · Office Expense	247.88
Total Ricoh USA, Inc.		247.88
RMC Water & Environment, Inc.		
	64160 · Research & Monitoring	5,977.26
Total RMC Water & Environment, Inc.		5,977.26
Staples Business Adv Inc.		
	66090 · Office Expense	534.74
Total Staples Business Adv Inc.		534.74
Stevenson, Jeffrey MD		
	66090 · Office Expense	170.00
Total Stevenson, Jeffrey MD		170.00
T-Mobile		
	65193 · Telephone	22.91
Total T-Mobile		22.91
U.S. Bank Card (1)(Bev)		
	66060 · Gasoline & Oil	10.96
	66090 · Office Expense	264.86
Total U.S. Bank Card (1)(Bev)		275.82
U.S. Bank Card (2)(June)		
	66124 · IT/Misc Electrical	995.00
	66090 · Office Expense	478.46
	65150 · Repairs & Maintenance	135.05
	21016 · U.S. Bank Visa	1,549.76
Total U.S. Bank Card (2)(June)		3,158.27
Unicorn Group		
	66090 · Office Expense	3,295.47
Total Unicorn Group		3,295.47

Novato Sanitary District
Operating Check Register Detail
October 8, 2012

	Account	Amount
Utility Aerial, Inc.		
	65150 · Repairs & Maintenance	551.69
Total Utility Aerial, Inc.		551.69
Veolia Water North America, Inc.		
	61000-2 · Insurance & Bonds	4,247.50
	61000-1 · Fixed Fee	168,646.19
Total Veolia Water North America, Inc.		172,893.69
Vision Service Plan		
	66020 · Employee Benefits	504.38
Total Vision Service Plan		504.38
TOTAL		**363,524.23**

Novato Sanitary District
Capital Projects Check Register
October 8, 2012

	Date	Num	Name	Credit
Oct 8, 12				
	10/08/2012	2405	Gateway Pacific Contractors, Inc.	149,544.71
	10/08/2012	2416	W.R. Forde	76,774.67
	10/08/2012	2407	Maggiora & Ghilotti Inc.	34,236.59
	10/08/2012	2411	Team Ghilotti, Inc.	27,247.00
	10/08/2012	2415	W.R. Forde	21,003.92
	10/08/2012	2404	Gateway Pacific Contractors - Escrow	16,616.08
	10/08/2012	2414	Veolia Water North America, Inc.	13,970.00
	10/08/2012	2402	Able Fence Company	13,500.00
	10/08/2012	2408	North Marin Water District	12,113.31
	10/08/2012	2413	V&A Consulting Engineers	8,986.45
	10/08/2012	2403	Arntz Builders, Inc.	6,110.00
	10/08/2012	2406	Linscott Engineering Contractors Inc	2,798.81
	10/08/2012	2417	Novato, City	2,770.00
	10/08/2012	2410	Roto Rooter-(Inc.)	2,212.00
	10/08/2012	2412	USA BlueBook	1,312.06
	10/08/2012	2409	Void	0.00
Oct 8, 12				**389,195.60**

Novato Sanitary District
Capital Projects Detail
October 8, 2012

	Account	Amount
Able Fence Company		
	72609 · WWTP Upgrade - Contract B	13,500.00
Total Able Fence Company		13,500.00
Arntz Builders, Inc.		
	72805 · Annual Trtmt Plnt/Pump St Impr	6,110.00
Total Arntz Builders, Inc.		6,110.00
Gateway Pacific Contractors - Escrow		
	73002 · WWTP Up - Cont D - Rec- ARRA	16,616.08
Total Gateway Pacific Contractors - Escrow		16,616.08
Gateway Pacific Contractors, Inc.		
	73002 · WWTP Up - Cont D - Rec- ARRA	149,544.71
Total Gateway Pacific Contractors, Inc.		149,544.71
Linscott Engineering Contractors Inc		
	72803 · Annual Collection Sys Repairs	2,798.81
Total Linscott Engineering Contractors Inc		2,798.81
Maggiora & Ghilotti Inc.		
	72803 · Annual Collection Sys Repairs	4,216.59
	72805 · Annual Trtmt Plnt/Pump St Impr	30,020.00
Total Maggiora & Ghilotti Inc.		34,236.59
North Marin Water District		
	72403 · Pump Station Rehabilitation	12,113.31
Total North Marin Water District		12,113.31
Novato, City		
	72803 · Annual Collection Sys Repairs	2,770.00
Total Novato, City		2,770.00
Roto Rooter-(Inc.)		
	72803 · Annual Collection Sys Repairs	2,212.00
Total Roto Rooter-(Inc.)		2,212.00
Team Ghilotti, Inc.		
	72804 · Annual Reclamation Fac Imp	27,247.00
Total Team Ghilotti, Inc.		27,247.00
USA BlueBook		
	72804 · Annual Reclamation Fac Imp	1,312.06
Total USA BlueBook		1,312.06
V&A Consulting Engineers		
	72609 · WWTP Upgrade - Contract B	8,986.45
Total V&A Consulting Engineers		8,986.45
Veolia Water North America, Inc.		
	73002 · WWTP Up - Cont D - Rec- ARRA Fu	6,240.00
	73002 · WWTP Up - Cont D - Rec- ARRA Fu	1,560.00
	73002 · WWTP Up - Cont D - Rec- ARRA Fu	6,170.00
Total Veolia Water North America, Inc.		13,970.00
W.R. Forde		
	72706 · 2008 Collection System Improv	21,003.92
	72803 · Annual Collection Sys Repairs	76,774.67
Total W.R. Forde		97,778.59
		389,195.60

Novato Sanitary District
Board Check Register
October 5, 2012

Date	Num	Name	Credit
Oct 5, 12			
10/5/2012	2236	Long, William C	542.18
10/5/2012	3152	Di Giorgio, Michael	497.52
10/5/2012	2238	Peters, A. Gerald	397.58
10/5/2012	2237	Mariani, Jean M	250.02
10/5/2012	3153	Welsh, Dennis J	107.29
Oct 5, 12			**1,794.59**

September Check Registers

(Invoices were approved and checks disbursed on September 24th)

Novato Sanitary District
Operating Check Register for September 24, 2012

Date	Num	Name	Credit
Sep 24, 12			
9/24/2012	54865	Pacific, Gas & Electric	47,375.22
9/24/2012	54857	Maze & Associates	14,300.00
9/24/2012	54855	Marin/Sonoma Mosquito Dist	4,516.57
9/24/2012	54867	R3 Consulting Group, Inc.	4,515.00
9/24/2012	54849	Eaton Corporation	4,500.00
9/24/2012	54869	Shape Incorporated	4,424.63
9/24/2012	54840	American Express-22062	3,840.21
9/24/2012	54874	Unicorn Group	3,012.58
9/24/2012	54852	Irvine Consulting Services Inc.	2,880.00
9/24/2012	54845	Cantarutti Electric, Inc	2,348.00
9/24/2012	54854	Marin Mechanical II, Inc.	2,327.60
9/24/2012	54843	Brown & Caldwell, Inc.	1,953.25
9/24/2012	54873	U.S. Bank Card (2)(June)	1,883.61
9/24/2012	54841	Bay Area Air Quality	1,820.00
9/24/2012	54872	U.S. Bank Card (1)(Bev)	1,516.76
9/24/2012	54861	North Marin Water District - Lab	1,472.50
9/24/2012	54846	Control Systems West, Inc.	1,243.05
9/24/2012	54877	Water & Wastewater Leaders...	1,000.00
9/24/2012	54879	Willis Professional Land Surv...	1,000.00
9/24/2012	54878	WECO	887.52
9/24/2012	54862	North Marin Water District Pa...	816.64
9/24/2012	54850	Empire Mini Storage - Novato	779.00
9/24/2012	54851	Harris & Associates, Inc	687.50
9/24/2012	54853	Leonardi Automotive & Electri...	635.63
9/24/2012	54844	Cagwin & Dorward Inc.	600.00
9/24/2012	54876	Verizon EQ	592.20
9/24/2012	54868	Reliance Standard Life	475.00
9/24/2012	54864	Pacific Power & Systems, Inc.	330.00
9/24/2012	54870	Siemens Industry Inc. - Lab	319.65
9/24/2012	54848	Di Giorgio, Mike	193.03
9/24/2012	54842	BoundTree Medical, LLC	188.14
9/24/2012	54866	Petty Cash	187.08
9/24/2012	54875	Verizon - 5143	178.62
9/24/2012	54847	CWEAmembers	140.00
9/24/2012	54860	North Marin Water District	108.00
9/24/2012	54863	Orkin Pest Control, Inc.	100.00
9/24/2012	54858	North Bay Portables, Inc.	92.18
9/24/2012	54871	Staples Business Adv Inc.	63.97
9/24/2012	54856	MarinScope Inc.	59.00
9/24/2012	54859	North Marin Auto Parts	10.95
Sep 24, 12			**113,373.09**

Novato Sanitary District
Check Register Detail
September 24, 2012

	Date	Account	Debit
American Express-22062			
	09/06/2012	60100 · Operating Supplies	50.42
	09/06/2012	60150 · Repairs & Maintenance	31.00
	09/06/2012	65150 · Repairs & Maintenance	45.00
	09/06/2012	66090 · Office Expense	956.70
	09/06/2012	66170 · Travel, Meetings & Training	1,311.01
	09/06/2012	21015 · American Express	1,446.08
Total American Express-22062			3,840.21
Bay Area Air Quality			
	09/10/2012	65201 · Permits & Fees	674.00
	09/10/2012	65201 · Permits & Fees	674.00
	09/10/2012	65201 · Permits & Fees	472.00
Total Bay Area Air Quality			1,820.00
BoundTree Medical, LLC			
	09/10/2012	67500 · Household Hazardous Waste	188.14
Total BoundTree Medical, LLC			188.14
Brown & Caldwell, Inc.			
	09/10/2012	66123 · O/S Contractual	1,953.25
Total Brown & Caldwell, Inc.			1,953.25
Cagwin & Dorward Inc.			
	09/13/2012	63157 · Ditch/Dike Maintenance	600.00
Total Cagwin & Dorward Inc.			600.00
Cantarutti Electric, Inc			
	07/27/2012	63150 · Repairs & Maintenance	1,680.00
	08/14/2012	63150 · Repairs & Maintenance	220.00
	09/10/2012	66150 · Repairs & Maintenance	220.00
	09/19/2012	65150 · Repairs & Maintenance	228.00
Total Cantarutti Electric, Inc			2,348.00
Control Systems West, Inc.			
	09/12/2012	65153 · TV Inspection	1,243.05
Total Control Systems West, Inc.			1,243.05
CWEAmembers			
	09/10/2012	66080 · Memberships	140.00
Total CWEAmembers			140.00
Di Giorgio, Mike			
	09/10/2012	66170 · Travel, Meetings & Training	193.03
Total Di Giorgio, Mike			193.03
Eaton Corporation			
	08/20/2012	66124 · IT/Misc Electrical	4,500.00
Total Eaton Corporation			4,500.00
Empire Mini Storage - Novato			
	09/11/2012	66123 · O/S Contractual	779.00
Total Empire Mini Storage - Novato			779.00
Harris & Associates, Inc			
	09/11/2012	21045 · Novato Heights Deposits	687.50
Total Harris & Associates, Inc			687.50
Irvine Consulting Services Inc.			
	08/31/2012	21009 · OTHER PAYABLES	2,880.00
Total Irvine Consulting Services Inc.			2,880.00

Novato Sanitary District
Check Register Detail
September 24, 2012

	Date	Account	Debit
Leonardi Automotive & Electric, Inc.			
	09/05/2012	60150 · Repairs & Maintenance	635.63
Total Leonardi Automotive & Electric, Inc.			635.63
Marin Mechanical II, Inc.			
	09/14/2012	63150 · Repairs & Maintenance	2,327.60
Total Marin Mechanical II, Inc.			2,327.60
Marin/Sonoma Mosquito Dist			
	09/11/2012	63150 · Repairs & Maintenance	4,516.57
Total Marin/Sonoma Mosquito Dist			4,516.57
MarinScope Inc.			
	09/12/2012	66130 · Printing & Publications	59.00
Total MarinScope Inc.			59.00
Maze & Associates			
	09/17/2012	66121 · Accounting & Auditing	14,300.00
Total Maze & Associates			14,300.00
North Bay Portables, Inc.			
	09/01/2012	63100 · Operating Supplies	92.18
Total North Bay Portables, Inc.			92.18
North Marin Auto Parts			
	08/31/2012	65100 · Operating Supplies	10.95
Total North Marin Auto Parts			10.95
North Marin Water District			
	09/17/2012	65192 · Water	108.00
Total North Marin Water District			108.00
North Marin Water District - Lab			
	09/10/2012	64160 · Research & Monitoring	1,472.50
Total North Marin Water District - Lab			1,472.50
North Marin Water District Payroll			
	09/07/2012	64010 · Salaries & Wages	816.64
Total North Marin Water District Payroll			816.64
Orkin Pest Control, Inc.			
	08/16/2012	66150 · Repairs & Maintenance	100.00
Total Orkin Pest Control, Inc.			100.00
Pacific Power & Systems, Inc.			
	09/07/2012	66150 · Repairs & Maintenance	330.00
Total Pacific Power & Systems, Inc.			330.00
Pacific, Gas & Electric			
	09/12/2012	61000-5 · Gas & Electricity	22,819.80
	09/12/2012	63191 · Gas & Electricity	16,621.84
	09/12/2012	65191 · Gas & Electricity	7,933.58
Total Pacific, Gas & Electric			47,375.22
Petty Cash			
	09/19/2012	66090 · Office Expense	40.00
	09/19/2012	66170 · Travel, Meetings & Training	117.98
	09/19/2012	66060 · Gasoline & Oil	29.10
Total Petty Cash			187.08
R3 Consulting Group, Inc.			
	09/07/2012	67400 · Consulting Services	4,515.00

Novato Sanitary District
Check Register Detail
September 24, 2012

	Date	Account	Debit
Total R3 Consulting Group, Inc.			4,515.00
Reliance Standard Life			
	09/10/2012	66070 · Insurance	475.00
Total Reliance Standard Life			475.00
Shape Incorporated			
	08/31/2012	65150 · Repairs & Maintenance	4,424.63
Total Shape Incorporated			4,424.63
Siemens Industry Inc. - Lab			
	09/13/2012	64100 · Operating Supplies	319.65
Total Siemens Industry Inc. - Lab			319.65
Staples Business Adv Inc.			
	08/30/2012	65085 · Safety Expenses	31.19
	09/12/2012	66090 · Office Expense	32.78
Total Staples Business Adv Inc.			63.97
U.S. Bank Card (1)(Bev)			
	09/12/2012	66060 · Gasoline & Oil	53.19
	09/12/2012	66170 · Travel, Meetings & Training	1,429.03
	09/12/2012	66090 · Office Expense	34.54
Total U.S. Bank Card (1)(Bev)			1,516.76
U.S. Bank Card (2)(June)			
	09/06/2012	66090 · Office Expense	12.99
	09/06/2012	66170 · Travel, Meetings & Training	60.00
	09/06/2012	66124 · IT/Misc Electrical	48.73
	09/06/2012	66150 · Repairs & Maintenance	50.00
	09/06/2012	21015 · American Express	1,711.89
Total U.S. Bank Card (2)(June)			1,883.61
Unicorn Group			
	09/12/2012	66090 · Office Expense	3,012.58
Total Unicorn Group			3,012.58
Verizon - 5143			
	09/13/2012	66193 · Telephone	178.62
Total Verizon - 5143			178.62
Verizon EQ			
	08/28/2012	65193 · Telephone	592.20
Total Verizon EQ			592.20
Water & Wastewater Leadership Center			
	09/13/2012	66170 · Travel, Meetings & Training	1,000.00
Total Water & Wastewater Leadership Center			1,000.00
WECO			
	09/13/2012	60150 · Repairs & Maintenance	887.52
Total WECO			887.52
Willis Professional Land Surveying			
	09/14/2012	63115 · Sludge Disposal	1,000.00
Total Willis Professional Land Surveying			1,000.00
TOTAL			**113,373.09**

Novato Sanitary District
Capital Project Check Register
September 24, 2012

Date	Num	Name	Credit
Sep 24, 12			
9/24/2012	2400	Sonoma County Water Agency	84,935.00
9/24/2012	2392	Covello Group, The	53,601.07
9/24/2012	2398	RMC Water & Environment, I...	29,957.90
9/24/2012	2393	Foster Flow Control	15,756.48
9/24/2012	2394	Grainger	8,351.04
9/24/2012	2397	Miller Pacific Engineering, Inc.	4,973.30
9/24/2012	2399	SC Barns	2,852.47
9/24/2012	2401	Wetlands & Water Resources...	2,315.00
9/24/2012	2396	Marin Mechanical II, Inc.	1,920.00
9/24/2012	2395	Marin Independent Journal	124.30
Sep 24, 12			**204,786.56**

Novato Sanitary District
Capital Projects
September 24, 2012

	Date	Account	Amount'
Covello Group, The			
	09/01/2012	72706 · 2008 Collection System Improv	3,385.00
	09/01/2012	73002 · WWTP Up - Cont D - Rec- ARRA Fu	43,268.57
	09/01/2012	72403 · Pump Station Rehabilitation	6,062.50
	09/01/2012	72609 · WWTP Upgrade - Contract B	885.00
Total Covello Group, The			53,601.07
Foster Flow Control			
	09/14/2012	72804 · Annual Reclamation Fac Imp	15,756.48
Total Foster Flow Control			15,756.48
Grainger			
	09/06/2012	72804 · Annual Reclamation Fac Imp	835.11
	09/13/2012	72804 · Annual Reclamation Fac Imp	7,515.93
Total Grainger			8,351.04
Marin Independent Journal			
	09/10/2012	72706 · 2008 Collection System Improv	124.30
Total Marin Independent Journal			124.30
Marin Mechanical II, Inc.			
	09/06/2012	72804 · Annual Reclamation Fac Imp	1,920.00
Total Marin Mechanical II, Inc.			1,920.00
Miller Pacific Engineering, Inc.			
	09/11/2012	72803 · Annual Collection Sys Repairs	4,973.30
Total Miller Pacific Engineering, Inc.			4,973.30
RMC Water & Environment, Inc.			
	09/13/2012	73002 · WWTP Up - Cont D - Rec- ARRA Fu	21,742.00
	09/13/2012	73001 · WWTP Upgrade - Contract C	8,215.90
Total RMC Water & Environment, Inc.			29,957.90
SC Barns			
	09/06/2012	72804 · Annual Reclamation Fac Imp	2,852.47
Total SC Barns			2,852.47
Sonoma County Water Agency			
	09/06/2012	72508 · N. Bay Water Recycling Auth	84,935.00
Total Sonoma County Water Agency			84,935.00
Wetlands & Water Resources, Inc			
	09/10/2012	72804 · Annual Reclamation Fac Imp	2,315.00
Total Wetlands & Water Resources, Inc			2,315.00
			204,786.56

Novato Sanitary District
Payroll and Payroll Related Check Register
September 25 - 30, 2012

	Date	Name	Credit
Sep 25 - 30, 12			
	09/30/2012	September Payroll	107,170.46
	09/30/2012	September Retiree Health Benefits	14,278.21
	09/25/2012	CalPers Health	25,559.54
	09/25/2012	CALPERS Retirement	23,981.41
	09/28/2012	United States Treasury	21,799.40
	09/25/2012	CalPers Supplemental Income Plan	12,516.66
	09/28/2012	EDD	5,695.60
	09/25/2012	Lincoln Financial Group	4,483.53
	09/25/2012	Lincoln Financial Group-401a Plan	4,146.15
	09/25/2012	Lincoln Financial Group-401a Plan	3,887.23
	09/25/2012	CALPERS Retirement	2,381.55
	09/25/2012	Local Union 315	620.00
	09/25/2012	Marin Employ Federal Credit Union	517.00
	09/25/2012	Operating Engineers Local 3 RHSP	311.37
Sep 25 - 30, 12			**227,348.11**

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Consent Calendar: **Approval of the Zandra Place Sewer Main Extension.**	**MEETING DATE: October 8, 2012** **AGENDA ITEM NO.: 5.b.**

RECOMMENDED ACTION: Accept the Zandra Place Sewer Main Extension.

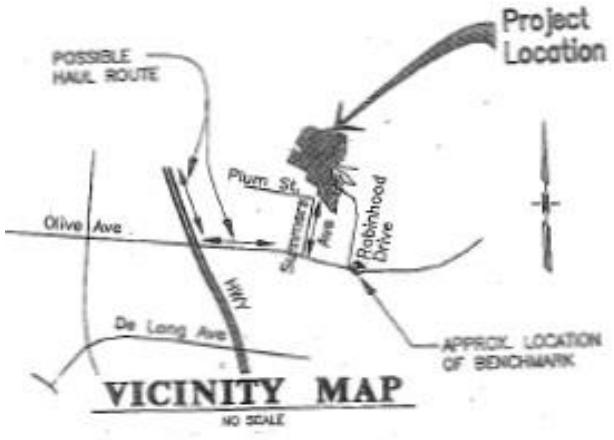
SUMMARY AND DISCUSSION:

The Zandra Place Sewer Main Extension is a portion of the Rudnick Estates Sewer Main Extension. District staff is recommending accepting the Zandra Place portion at this time because it is needed to convey drainage from the Plum Street Recycled Water Tank to the District sewer in order to start up the North Novato Recycled water project. The sewer main has been inspected and only minor items remain on the Zandra Place sewer, including raising manholes to grade after final paving. Zandra Place is located at the end of Plum Street.

The items included in this SME are:

2 Standard Manholes,
1 Standard Rodding Inlet,
230 lineal feet of 8" PVC sewer main,
295 lineal feet of 4" PVC lateral stub
86 lineal feet of 6" PVC lateral stub.

Staff recommends acceptance of the Zandra Place sewer main extension. Acceptance of this SME will increase District assets by $61,945.00.



ALTERNATIVES: N/A

BUDGET INFORMATION: Will increase the District's assets by $61,945.00

DEPT.MGR.:	**MANAGER-ENGINEER:**

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Promotion of Ken Besnia from Environmental Compliance Analyst I to Environmental Compliance Analyst II	**MEETING DATE: October 8, 2012** **AGENDA ITEM NO.: 6.a.**

RECOMMENDED ACTION: Approve the promotion of Ken Besnia from Environmental Compliance Analyst I to Environmental Compliance Analyst II.

SUMMARY AND DISCUSSION:

Ken Besnia was initially hired by the District in August 2007 as an Environmental Compliance Analyst I, to assist the District in meeting its sampling and laboratory analytical needs, as well as its industrial waste/pretreatment and pollution prevention needs. Since that time he has adequately demonstrated his capabilities in each of these areas. When the District's long term Laboratory Supervisor left last year, Ken also stepped up and demonstrated that he is capable of performing at the Environmental Compliance Analyst II level.

Currently he is at Salary Range 43, "E" Step, $6,159/month of the Environmental Compliance Analyst I position. The proposed new range will be Salary Range 45.5, "C" Step, $6,312/month of the Environmental Compliance II position, with the potential to move to step "D", $6,628 upon successful completion of a six-month probationary period. All provisions of the District's Personnel Rules and Regulations and the Memorandum of Understanding (MOU) with the represented employees group apply to this position.

It is recommended that the Board approve Mr. Besnia's promotion to Environmental Compliance Analyst II, along with his appointment at Step C of the Environmental Compliance Analyst II salary range, effective October 1, 2012.

ALTERNATIVES: Do not approve the promotion

BUDGET INFORMATION: The FY12-13 Budget includes an allowance for the increase which will total $1,377 for the remainder of FY12-13.

DEPT. MGR.:	**MANAGER-ENGINEER:**

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Wastewater Operations Report for August 2012	**MEETING DATE: October 8, 2012** **AGENDA ITEM NO.: 7.a.**

RECOMMENDED ACTION: Information. Receive report.

SUMMARY AND DISCUSSION:

The August 2012 operations reports for the wastewater treatment, collection, and reclamation facilities are attached.

Wastewater Treatment Facility

Water quality performance for August 2012 was excellent with all parameters well within effluent standards. There were no significant maintenance issues. Safety performance was excellent with an accident-free month for a total of 821 accident-free days. A status update was provided on warranty repairs to the influent pumps at the Novato treatment plant, and repairs to a conveyance pump at the Ignacio Transfer Pump Station. Aeration Basins #2 and #3 were drained as part of planned summer maintenance and put back into service. The start-up plan for the new recycled water facility was reviewed and approved by the Regional Water Board. The District received some more odor complaints which are presented in the attached operations report. The Deputy Manager-Engineer presented design sketches prepared by Cagwin and Dorward, Inc. for additional landscaping improvements at the northeast corner of the plant property to the Wastewater Operations Committee, and provided a verbal update on these improvements.

Collection System

The Collection System report summarizes the monthly and year-to-date performance, and a comparison of these performances against the prior year. For August 2012, the crews cleaned and televised a total of 79,740 feet of sewer line. The District had one (1) small Sewer System Overflow (SSO) in August 2012, of 5 gal at San Andreas Drive, with full (100%) recovery of the overflow amount for this event. Safety performance was excellent with no lost time accidents for a total of 504 accident-free days at the end of August 2012.

Reclamation Facility

The rancher worked on sprinkler repairs this month. There were no significant changes in the irrigated parcels and irrigation times were shortened to maintain a balanced pond level. The Irrigation Pump No. 2 motor failed last month and due to the high replacement cost staff requested quotes for repair of the motor. 95.40 MG of recycled water were used for pasture irrigation during the month of August. Pond depth at the end of the month averaged 4.1 feet. The Dedicated Land Disposal (DLD) site was prepared for sludge application and sludge was pumped out of Sludge Lagoon No. 1 into the disposal area.

DEPT.MGR.:	**MANAGER-ENGINEER:**

VEOLIA
WATER

September 13, 2012

Ms. Beverly James
Manager - Engineer
Novato Sanitary District
500 Davidson Street
Novato, CA 94545

Subject: Veolia Water Operations Report – August 2012

Dear Ms. James:

We are pleased to provide this updated activity report for August 2012.

As always, please give me a call at 707-208-4491 should you have any questions.

Regards,

John Bailey
Project Manager

MONTHLY OPERATIONS REPORT
August 2012

Prepared for

NOVATO SANITARY DISTRICT (NSD)
WASTEWATER TREATMENT PLANT
500 Davidson Street
Novato, CA 94545

Prepared by

Veolia Water West Operating Services, Inc. (VWWOS)

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TREATMENT PLANT PERFORMANCE SUMMARY 2
OPERATIONS AND MAINTENANCE STATUS / REVIEW 2
CONSTRUCTION UPDATE 3
ADMINISTRATION 3
SAFETY AND TRAINING 3
ODORS 3
MISCELLANEOUS 3

TREATMENT PLANT PERFORMANCE SUMMARY: August 2012:

Reclamation

Parameter	Monthly Performance			
	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	4.13	4.70	N/A	N/A
Influent BOD_5, lb/day (month ave/max)	8,595	12,905	N/A	N/A
Influent TSS, lb/day (monthly ave/max)	11,559	15,668	N/A	N/A
Effluent BOD_5, mg/L (monthly ave/weekly max)	7	13	40	N/A
Effluent TSS, mg/L (monthly ave/weekly max)	<5	5	N/A	N/A
Effluent BOD_5 - % Removal, Minimum	97	N/A	N/A	N/A
Effluent TSS - % Removal, Minimum	98	N/A	N/A	N/A
pH, su (min / max)	7.0	7.1	6.0	9.0
Total Coliform, mpn (5 Sample median / max)	30	900	240	10,000
Total Permit Exceedances (NPDES)	0			

NA – Not Applicable

Discussion of Violations / Excursions:NONE

OPERATIONS & MAINTENANCE STATUS / REVIEW:

Key events for the period:

Novato

- Routine rounds, readings and maintenance
- Influent pumps to Flygt for warranty repairs
- Meeting with Flygt/Shape regarding warranty repairs
- Drained Aeration Basin #2
- Aeration Basin #1 back in service
- Operations truck – new starter
- Aeration Basin #2 back in service
- Drained Aeration Basin #3
- Aeration Basin #2 back in service
- Installed Aeration Basin #3 Mixed Liquor Recycle Pump repaired by Flygt
- Repaired block heater on generator #2 (old)
- Replaced coupler on Digester #1 Sludge Heating Pump #1
- Re-Installed Mixer 4B after repair by Flygt
- Collicutt Energy performed annual inspection/load bank on UV Generator and Admin. Generator

Ignacio Transfer Pump Station

- Routine rounds, readings, and maintenance
- Conveyance Pump re-installed after repair by Flygt

Recycled Water Plant

- Assisted Contractor with 5 day Functional Acceptance Test (FAT)
- Assisted Contractor with Chlorine Contact Tank test
- Submitted Startup Operations Plan to Regional Board for approval (received approval)

CONSTRUCTION UPDATE:

- Attended weekly construction meetings.

ADMINISTRATION:

- Electronic Self Monitoring Report for July 2012, submitted on 8/17/12

SAFETY AND TRAINING:

- Monthly plant safety inspections for Novato WWTF completed on 8/22/12
- Five Minute Tailgate training is held daily with the O&M staff.
- No safety incidents for the month of August 2012.
- Accident Free: 6/1/10 – 8/31/12: 821 days / 36,954 hours.

Monthly Safety Training: Slips, Trips and Falls 8/31/12
Fall Protection 8/31/12

- Chesterton Mechanical Seal Training at Richmond Facility 8/10/12
- RAS/WAS Wet Well Flushing SOP Review 8/17/12
- Recycled Water Facility SCADA Training 8/14/12

ODORS:

- Jerome Meter (H2S) readings performed in neighborhood and within treatment plant.

MISCELLANEOUS

- Process Control Management Plan (PCMP) meetings held regularly
- Attended BAQWA toxicity work group meeting on 8/23/12

Veolia Support Staff On/Off Site (Various Times)

John O'Hare	Technical Support
Chris McAuliffe	District Manager
John Herron	Northern California Area Manager
Bryce Behnke	Technical Support via conference call & web exchange

WORK ORDER STATISTICS

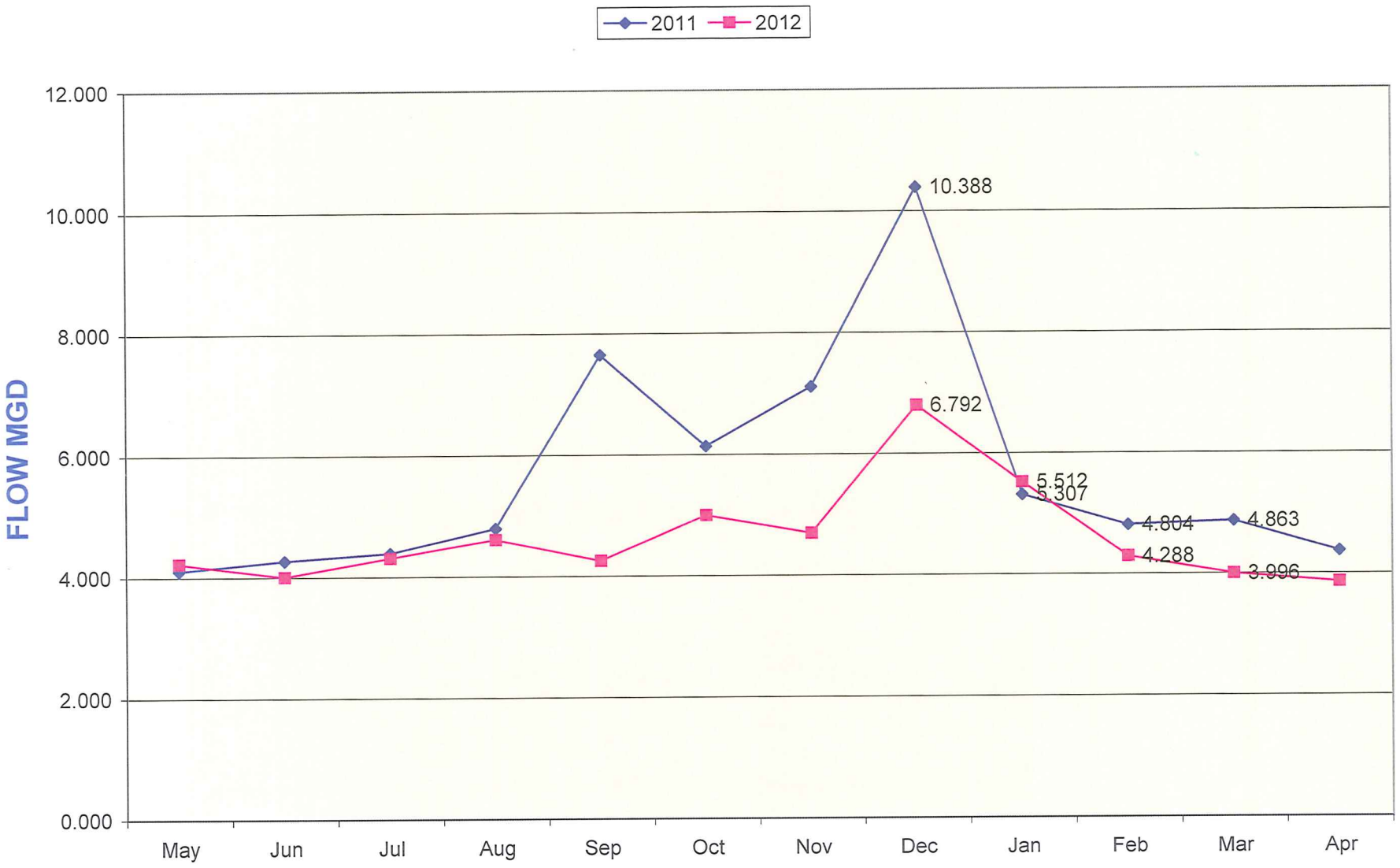
August 1, 2012 - August 31, 2012

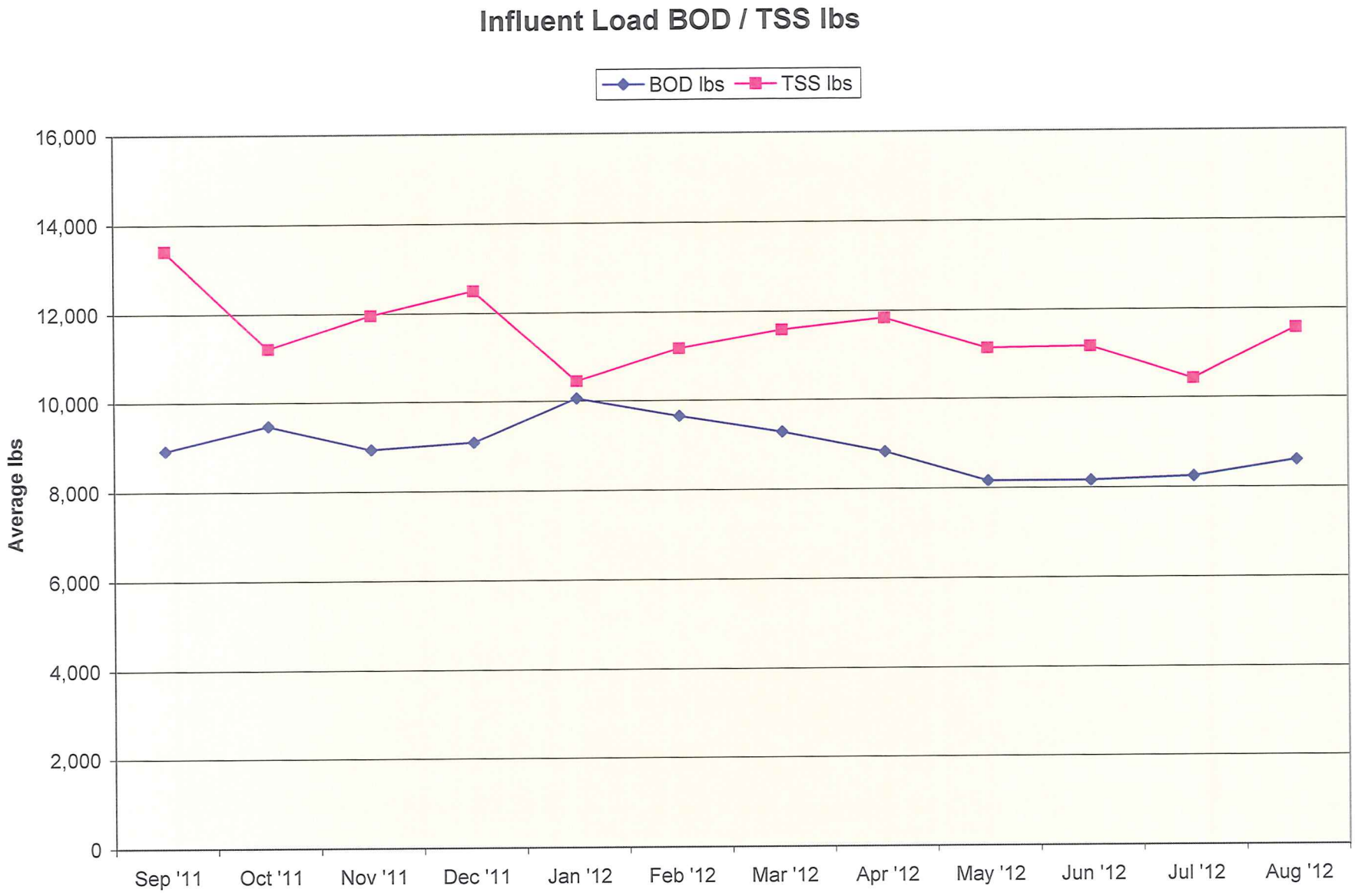
	Open Work Orders Due Prior to 8/1/12	Open Work Orders 8/1/12 - 8/31/12	Total Open Work Orders
Preventative	8	330	338
Corrective	5	15	20
Total	13	345	358

	Closed Work Orders 8/1/12 - 8/31/12
Preventative	330
Corrective	20
Total	350

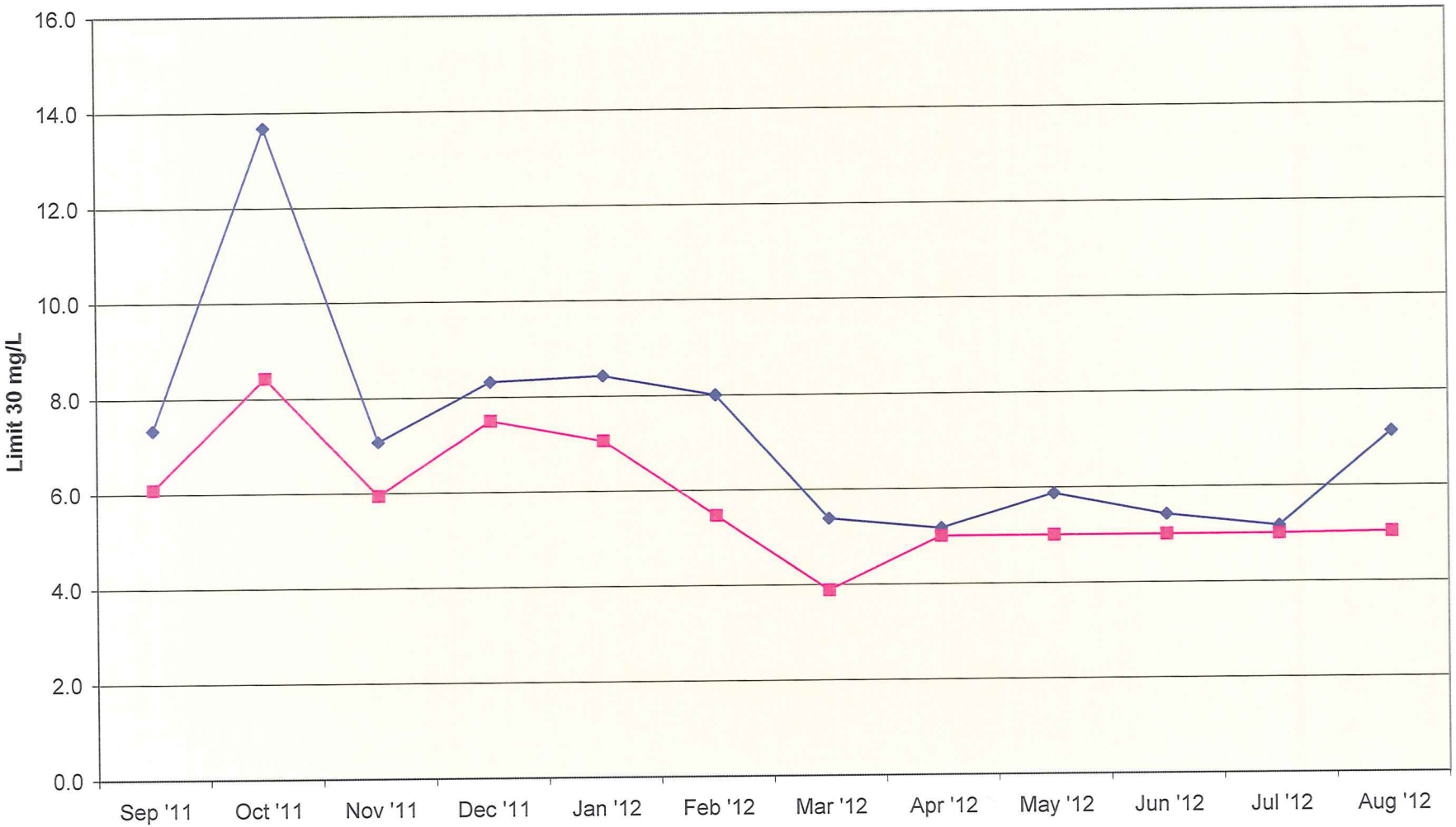
Total Outstanding Work Orders as of September 1, 2012	**8**

FLOW COMPARISON

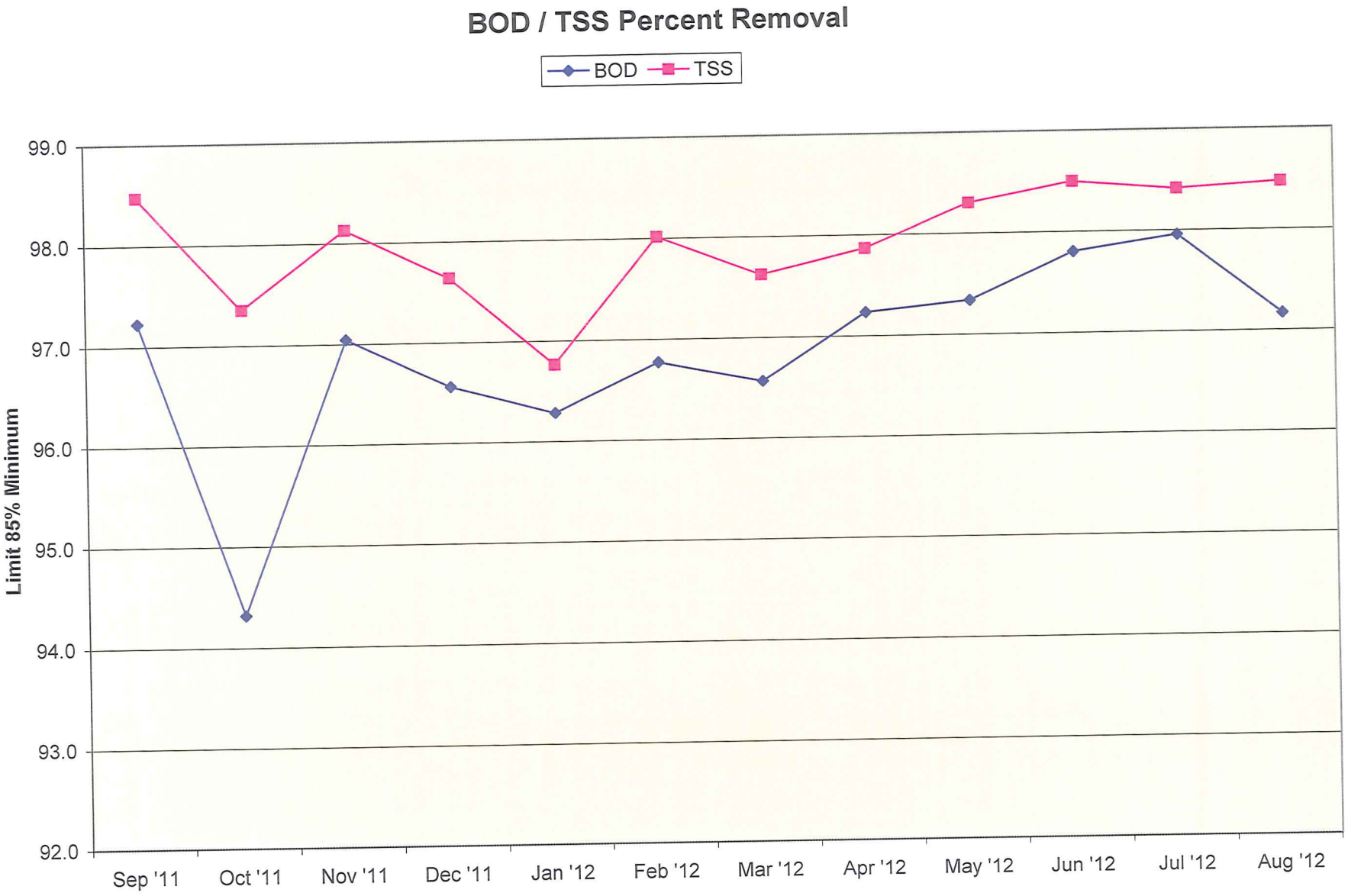



Influent Load BOD / TSS lbs
BOD lbs
TSS lbs
Average lbs
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Sep '11
Oct '11
Nov '11
Dec '11
Jan '12
Feb '12
Mar '12
Apr '12
May '12
Jun '12
Jul '12
Aug '12

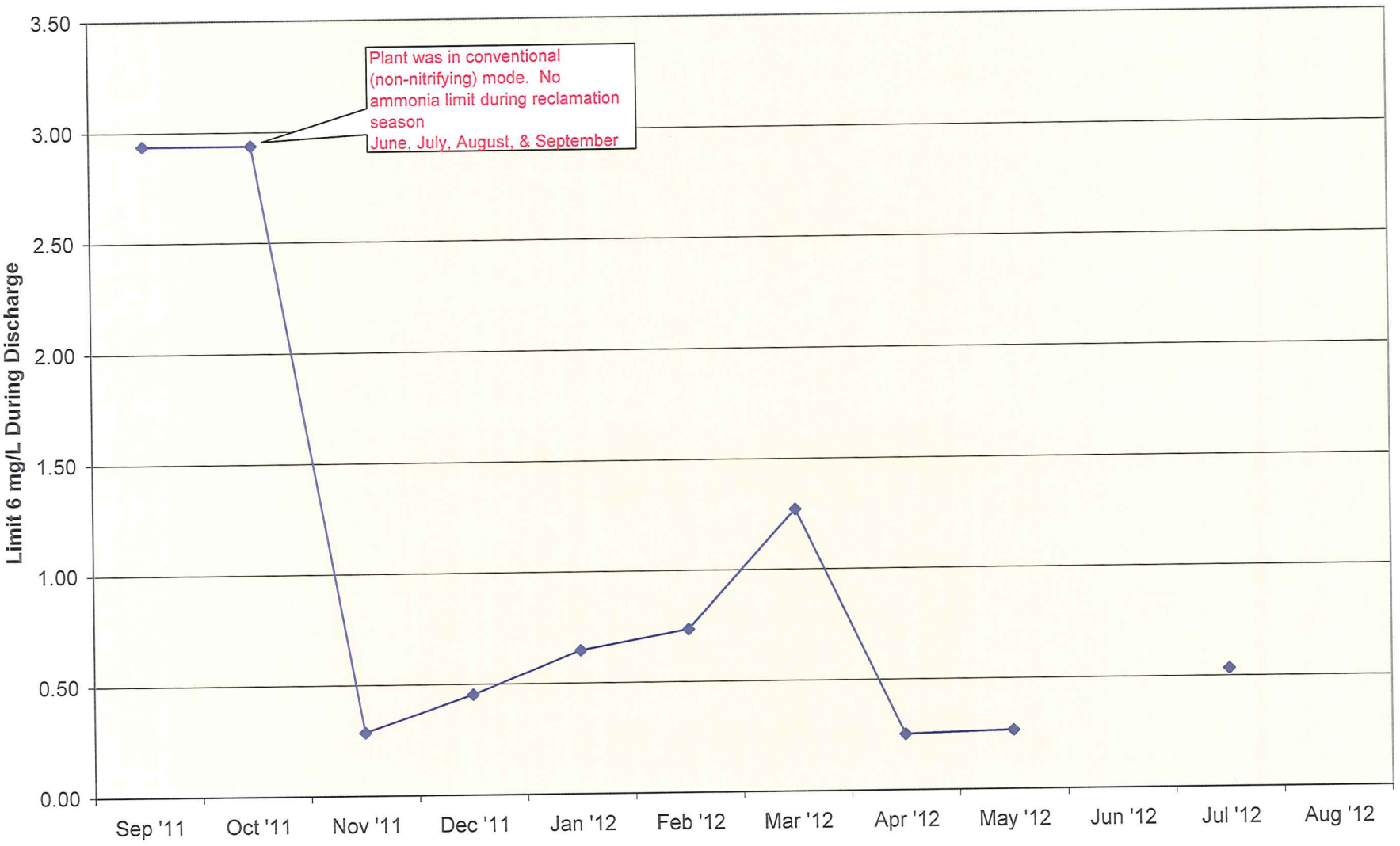
Effluent BOD / TSS Concentration



NPDES LIMITS WET SEASON
BOD & TSS - 30 mg/L Monthly Ave, 45 mg/L Weekly Ave
NPDES LIMITS DRY SEASON
BOD - 15 mg/L Monthly Ave, 30 mg/L Weekly Ave
TSS - 10 mg/L Monthly Ave, 20 mg/L Weekly Ave
WDR (Waste Discharge Requirements) RECLAMATION
BOD - 40 mg/L

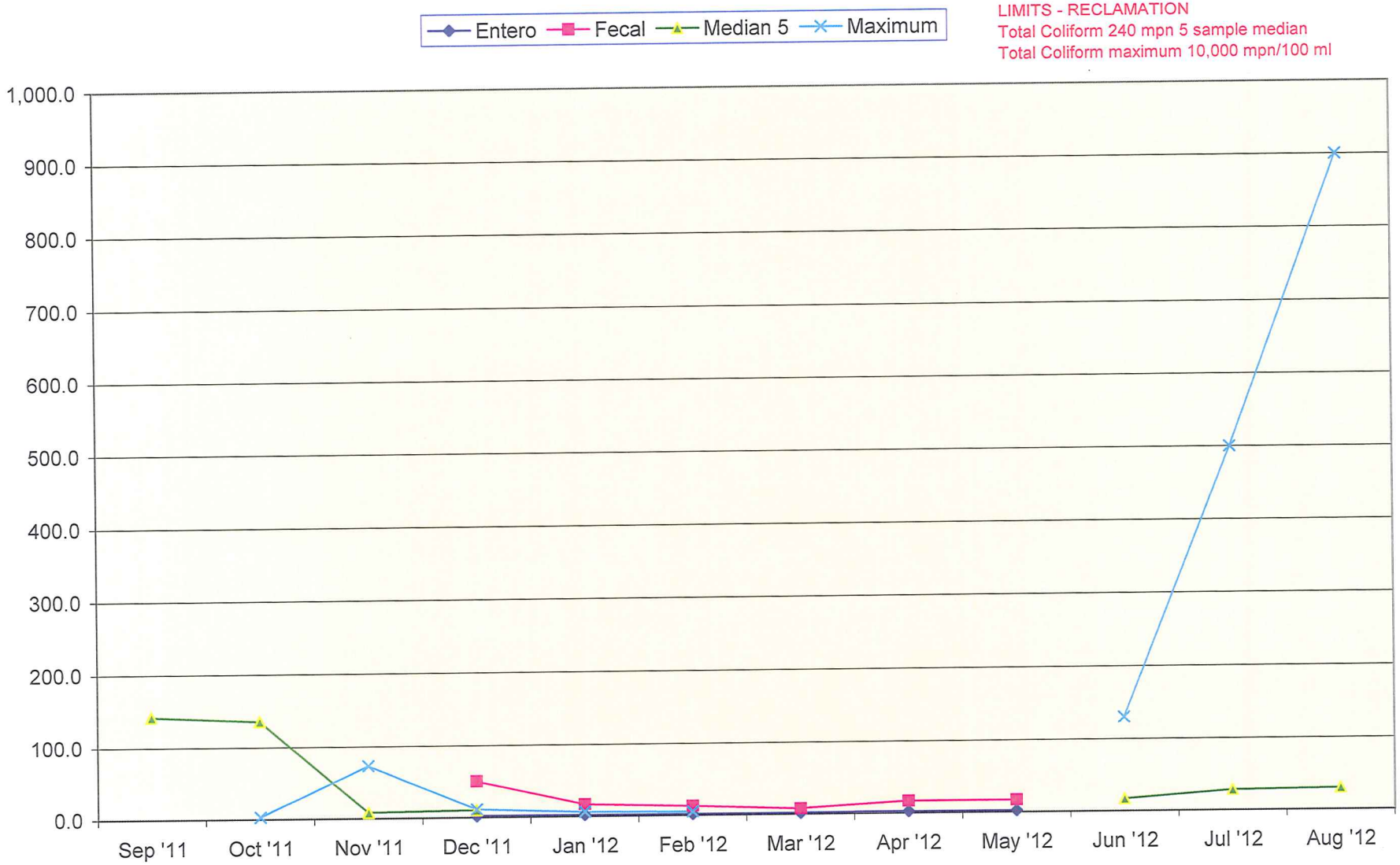

BOD / TSS Percent Removal
BOD
TSS
Limit 85% Minimum
99.0
98.0
97.0
96.0
95.0
94.0
93.0
92.0
Sep '11
Oct '11
Nov '11
Dec '11
Jan '12
Feb '12
Mar '12
Apr '12
May '12
Jun '12
Jul '12
Aug '12

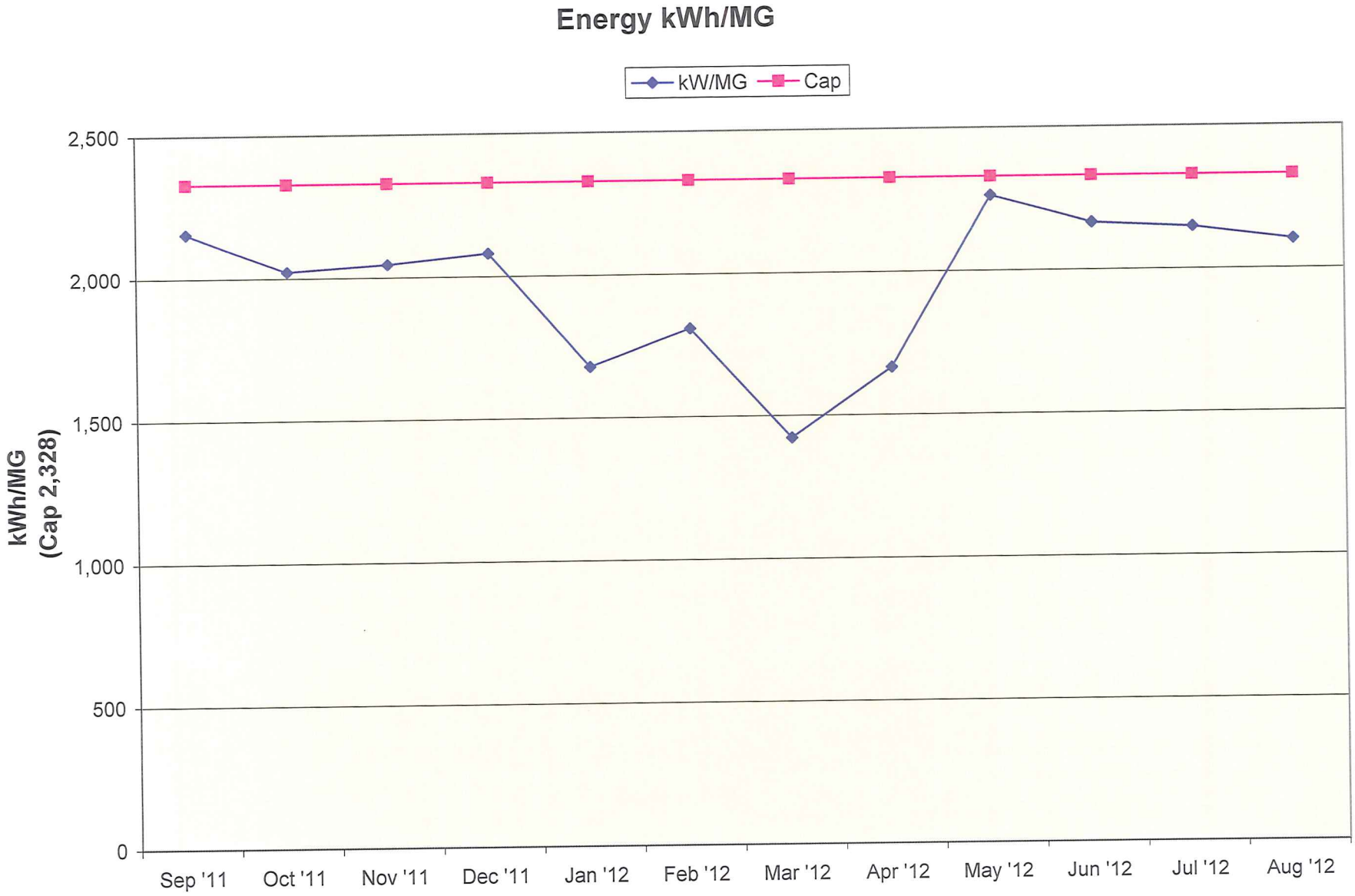
Effluent Ammonia

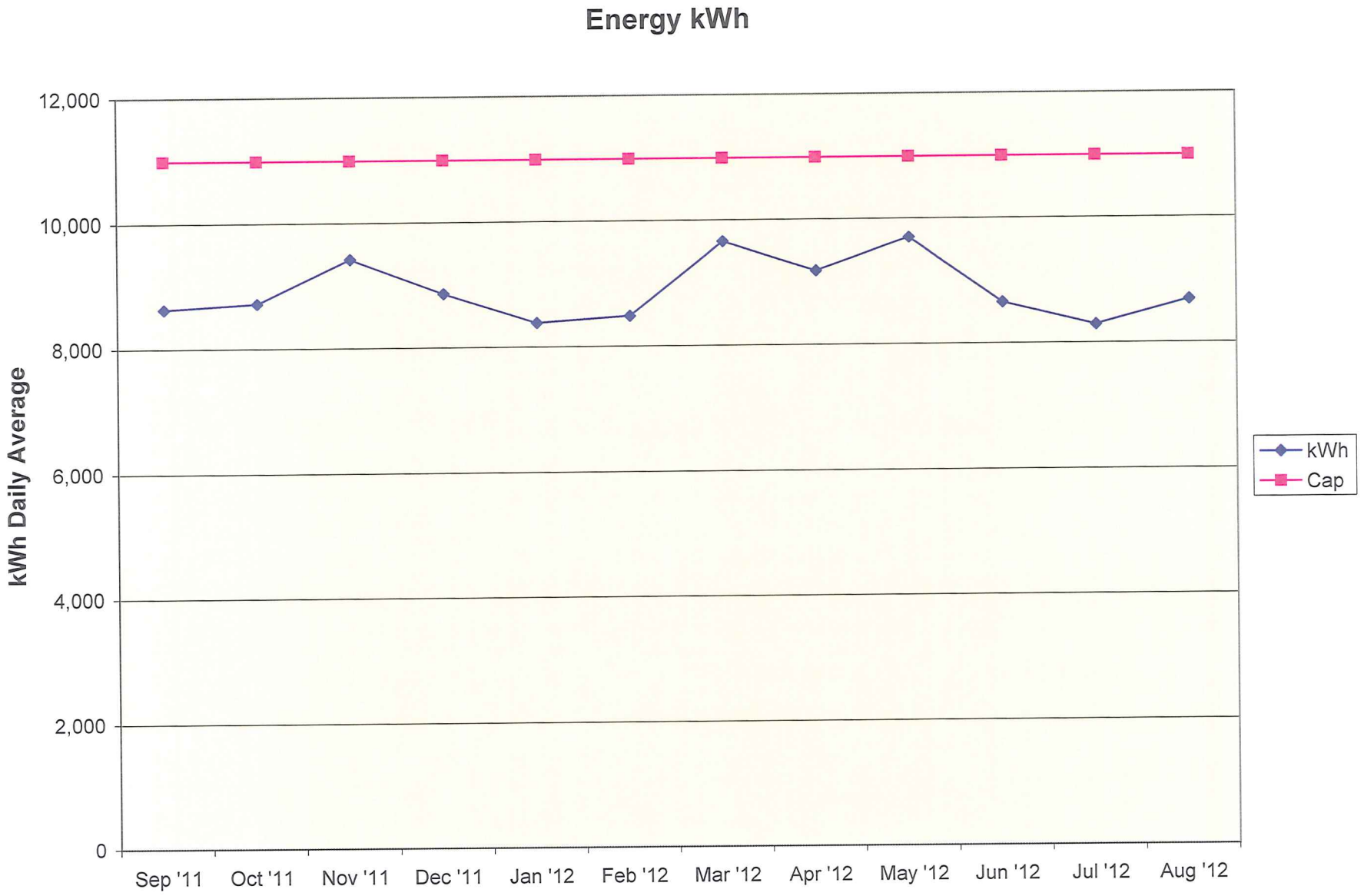


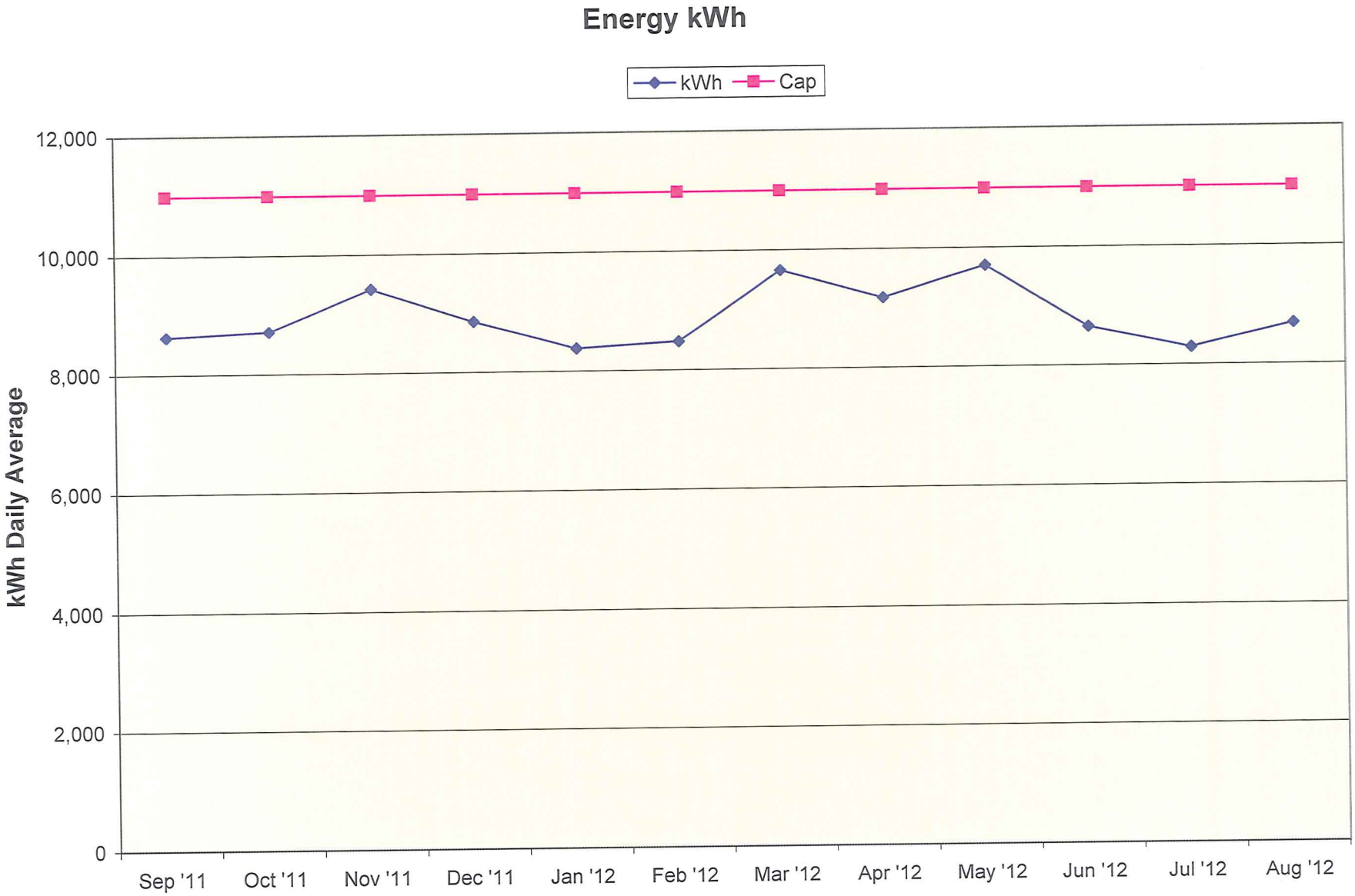
Disinfection

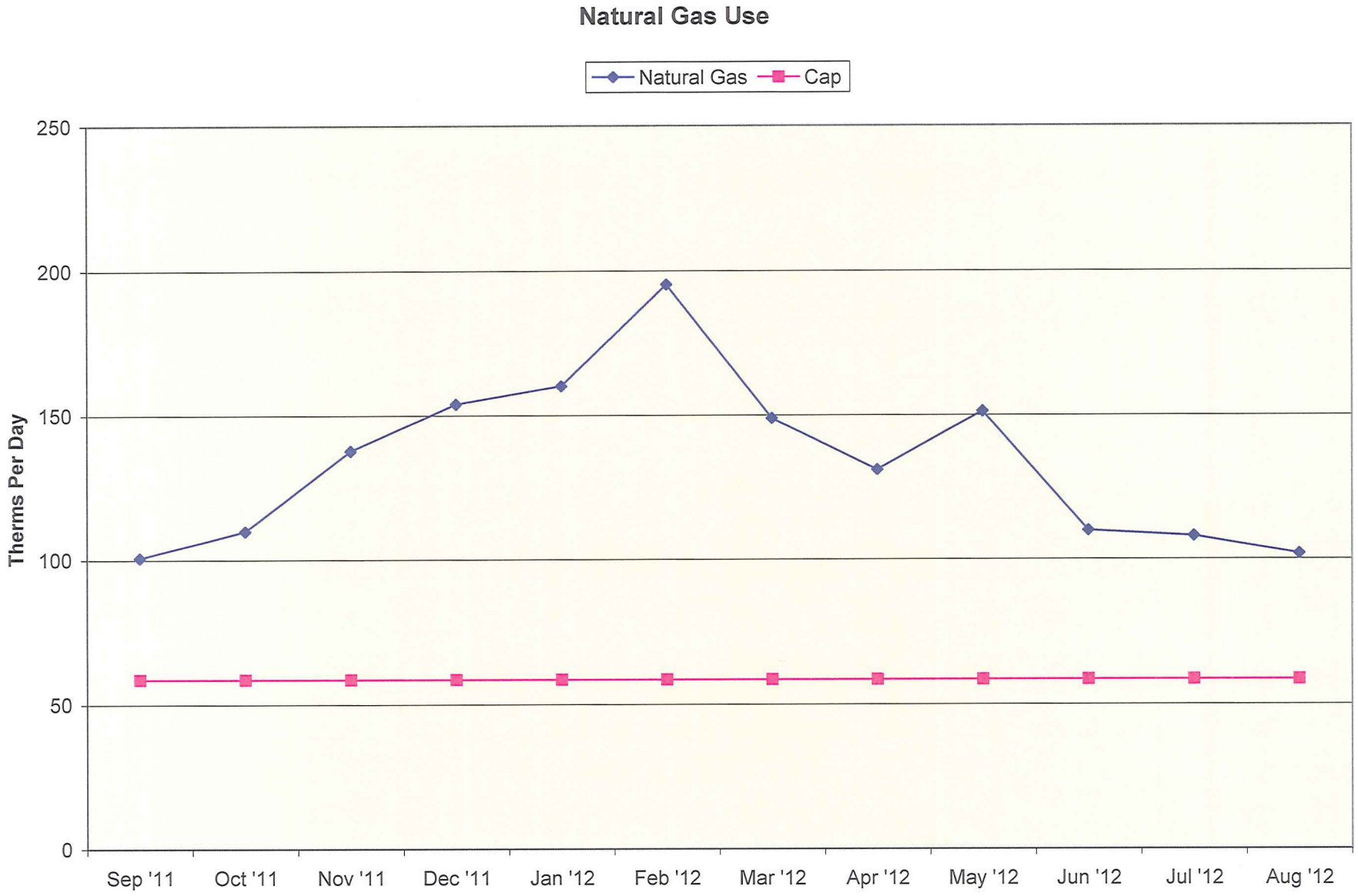
LIMITS - NPDES
Entero 30 day geo mean 35 mpn /100ml
Fecal 140 mpn monthly median
Fecal 430 mpn 90th percentile 30 day
LIMITS - RECLAMATION
Total Coliform 240 mpn 5 sample median
Total Coliform maximum 10,000 mpn/100 ml




Energy kWh/MG
kW/MG
Cap
kWh/MG
(Cap 2,328)
2,500
2,000
1,500
1,000
500
0
Sep '11
Oct '11
Nov '11
Dec '11
Jan '12
Feb '12
Mar '12
Apr '12
May '12
Jun '12
Jul '12
Aug '12


Energy kWh
kWh Daily Average
12,000
10,000
8,000
6,000
4,000
2,000
0
Sep '11
Oct '11
Nov '11
Dec '11
Jan '12
Feb '12
Mar '12
Apr '12
May '12
Jun '12
Jul '12
Aug '12
kWh
Cap


Energy kWh
kWh
Cap
12,000
10,000
8,000
6,000
4,000
2,000
0
kWh Daily Average
Sep '11
Oct '11
Nov '11
Dec '11
Jan '12
Feb '12
Mar '12
Apr '12
May '12
Jun '12
Jul '12
Aug '12


Natural Gas Use
Natural Gas
Cap
Therms Per Day
250
200
150
100
50
0
Sep '11
Oct '11
Nov '11
Dec '11
Jan '12
Feb '12
Mar '12
Apr '12
May '12
Jun '12
Jul '12
Aug '12

TOTAL COLIFORM (RECLAMATION)			
Aug-12			
(1) 5 Sample Median not to exceed 240 mpn/100 mL			
(2) Maximum not to exceed 10,000			
Note (2): Maximum must be confirmed by a follow-up sample taken within 24 hours			
Date		Value	Median
July 20, 2012		8	
July 23, 2012		13	
July 25, 2012		4	
July 27, 2012		4	
August 1, 2012		4	4
August 2, 2012		50	4
August 3, 2012		13	4
August 4, 2012			
August 5, 2012			
August 6, 2012		11	11
August 7, 2012			
August 8, 2012		30	13
August 9, 2012			
August 10, 2012		900	30
August 11, 2012			
August 12, 2012		30	30
August 13, 2012			
August 14, 2012		14	30
August 15, 2012			
August 16, 2012		30	30
August 17, 2012			
August 18, 2012			
August 19, 2012			
August 20, 2012		50	30
August 21, 2012			
August 22, 2012		13	30
August 23, 2012			
August 24, 2012		110	30
August 25, 2012			
August 26, 2012			
August 27, 2012		13	30
August 28, 2012			
August 29, 2012		30	30
August 30, 2012			
August 31, 2012		50	30
Maximum		900	30

Novato Sanitary District
Conventional Pollutants Report

VEOLIA WATER

August, 2012

Date	INFLUENT - A001			Effluent - E002							
	Flow Total	pH	Ammonia	Coliform / Bacteria			pH	Ammonia	Temp		
				Fecal	Entero	Total					
	MGD	su	mg/L	MPN/100 mL			su	mg/L	Deg C		
08/01/12	4.14	7.4				4	7.1		23.7		
08/02/12	4.07	7.2				50	7.0		23.8		
08/03/12	3.87	7.2				13	7.0		23.8		
08/04/12	3.88										
08/05/12	3.88										
08/06/12	4.00	7.3				11	7.1		23.7		
08/07/12	3.94	6.5					7.0		24.4		
08/08/12	3.96	7.2				30	7.0		23.7		
08/09/12	3.84						7.0		24.0		
08/10/12	4.02					900	7.0		24.0		
08/11/12	3.58										
08/12/12	3.76					30					
08/13/12	3.83	7.2					7.1		24.2		
08/14/12	4.04					14	7.1		24.1		
08/15/12	4.09	7.1					7.1		24.0		
08/16/12	4.10	7.2				30	7.1		23.4		
08/17/12	3.93	7.3					7.1		23.6		
08/18/12	4.47										
08/19/12	3.99										
08/20/12	4.16	7.5				50	7.1		23.3		
08/21/12	4.70	7.3					7.1		23.6		
08/22/12	4.39	7.2				13	7.1		23.1		
08/23/12	4.48	7.2					7.1		23.6		
08/24/12	4.42	7.0				110	7.0		23.6		
08/25/12	4.20										
08/26/12	4.54										
08/27/12	4.61	7.3				13	7.1		23.6		
08/28/12	4.52	7.1					7.1		24.1		
08/29/12	4.03					30	7.0		24.1		
08/30/12	4.35	7.4					7.0		24.0		
08/31/12	4.37	7.3				50	7.0		23.2		
Monthly											
Minimum	3.58	6.5				4	7.0		23.1		
Maximum	4.70	7.5				900	7.1		24.4		
Total	128.16										
Average	4.13	7.2					7.1		23.8		

Novato Sanitary District
BOD/TSS Report

VEOLIA WATER

August, 2012

Date	Flow	Influent				Effluent				BOD % Removal	TSS % Removal
		BOD		TSS		BOD		TSS			
	MGD	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	PERCENT	PERCENT
08/01/12	4.14	228	7,872	346	11,947	8	276	<5	<173	96.5	98.6
08/02/12	4.07	204	6,925	289	9,810	5	170	<5	<170	97.5	98.3
08/03/12	3.87	232	7,488	297	9,586	10	323	<5	<161	95.7	98.3
08/04/12	3.88										
08/05/12	3.88										
08/06/12	4.00	224	7,473	327	10,909	7	234	5	180	96.9	98.3
08/07/12	3.94										
08/08/12	3.96	292	9,644	364	12,022	<5	<165	<5	<165	98.3	98.6
08/09/12	3.84										
08/10/12	4.02	234	7,845	400	13,411	6	201	<5	<168	97.4	98.8
08/11/12	3.58										
08/12/12	3.76	289	9,063	372	11,665	<5	<157	<5	<157	98.3	98.7
08/13/12	3.83										
08/14/12	4.04	383	12,905	465	15,668	<5	<168	<5	<168	98.7	98.9
08/15/12	4.09										
08/16/12	4.10	219	7,488	295	10,087	6	205	<5	<171	97.3	98.3
08/17/12	3.93										
08/18/12	4.47										
08/19/12	3.99										
08/20/12	4.16	494		337	11,692	6		<5	<173	98.8	98.5
08/21/12	4.70										
08/22/12	4.39	209	7,652	367	13,437	6	220	<5	<183	97.1	98.6
08/23/12	4.48										
08/24/12	4.42	228	8,405	231	8,515	7	258	<5	<184	96.9	97.8
08/25/12	4.20										
08/26/12	4.54										
08/27/12	4.61	270	10,381	292	11,227	13	500	<5	<192	95.2	98.3
08/28/12	4.52										
08/29/12	4.03	233		343	11,528	<5		5	168	97.9	98.5
08/30/12	4.35										
08/31/12	4.37	264		326	11,881	13		<5	<182	95.1	98.5
Weekly Averages											
08/04/12	Week 1	221	3,369	311	4,739	8	116	5	76		
08/11/12	Week 2	250	3,774	364	5,495	6	91	5	78		
08/18/12	Week 3	297	4,454	377	5,658	5	80	5	75		
08/25/12	Week 4	310	3,642	312	5,087	6	108	5	82		
	Week 5										
Monthly											
Minimum	3.58	204	6,925	231	8,515	<5	<71	<5	<71	95	98
Maximum	4.70	494	12,905	465	15,668	13	227	5	<87	99	99
Total	128.16										
Average	4.13	267	8,595	337	11,559	<7	<109	<5	<79	97	98

Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
August 2012

General:

For the month of August 2012, the Collection System Department spent about 67% of its time on sewer maintenance, and 33% of its time on pump station maintenance.

After accounting for all leaves for the month of August, the Collection System had the equivalent of: (a) 3.5 full time field workers for on Sewer Maintenance, and (b) 1.8 full time field workers on Pump Station Maintenance.

Sewer Maintenance:

A total of 79,740 feet of sewer pipelines were cleaned for the month. Staff completed 467 maintenance work orders generated by the ICOMMM3 CMMS system, with no outstanding work orders. The footage cleaned per hour, line cleaned/month, and outstanding work orders are within established parameters for the department. Graphs showing the length of line cleaned/month, footage cleaned/hour worked, along with the overflows/month are attached.

Pump Station Maintenance:

The Collection System Department conducted 226 lift station inspections for the month of August 2012, with 97 of the inspection visits generated through the JobCal Plus CMMS system. The breakdown of these inspections is as follows: 22 Flygt submersible pump stations, 1 time per month, 9 Gorman/Rupp dry well/wet well stations, 1 entry per month, and 4 main stations that are visited daily. There were no maintenance issues of note for the month of August 2012.

Note: The JobCal Plus program is not only used for scheduling and tracking pump station related maintenance work orders, it is also used for ladder inspections, reclamation maintenance work orders, SCADA backup scheduling, and vehicle maintenance scheduling.

Sanitary Sewer Overflows (SSOs):

For the month of August 2012, there was one (1) SSO, with full (100%) recovery of the overflow amount for the event:

No.	Date	Location	Amount, gal	Cause
1	8/4/2012	0 San Andreas Dr	5	Roots/Wipes

****

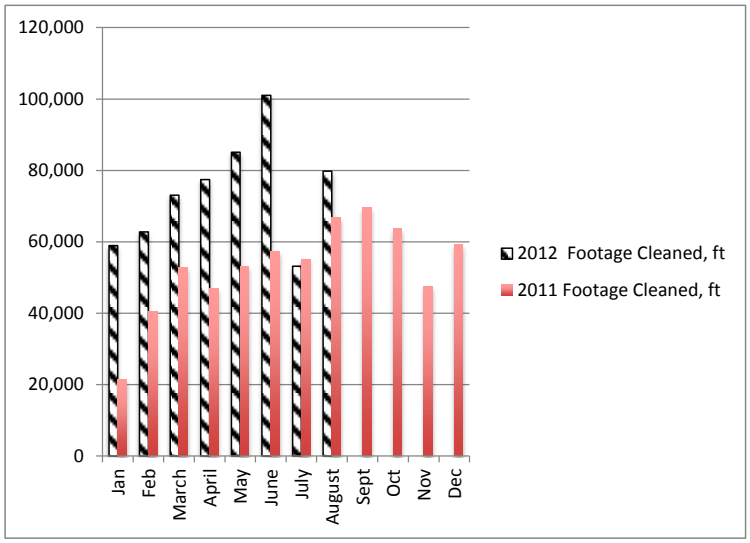
Novato Sanitary District

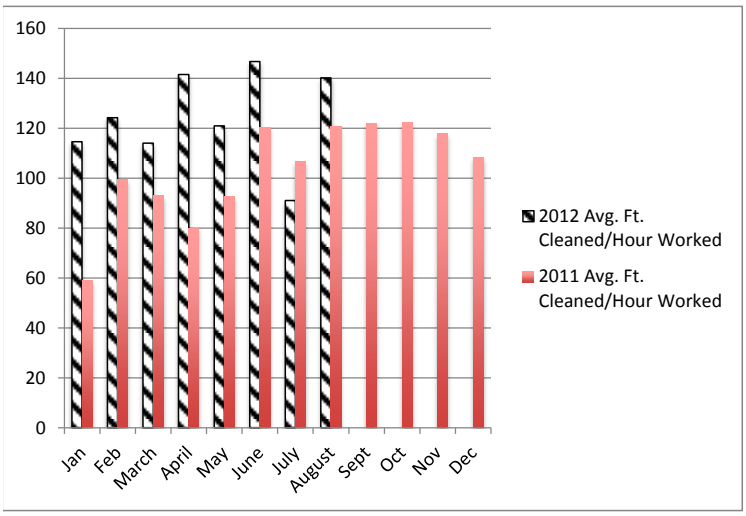
Collection System Monthly Report For 2012

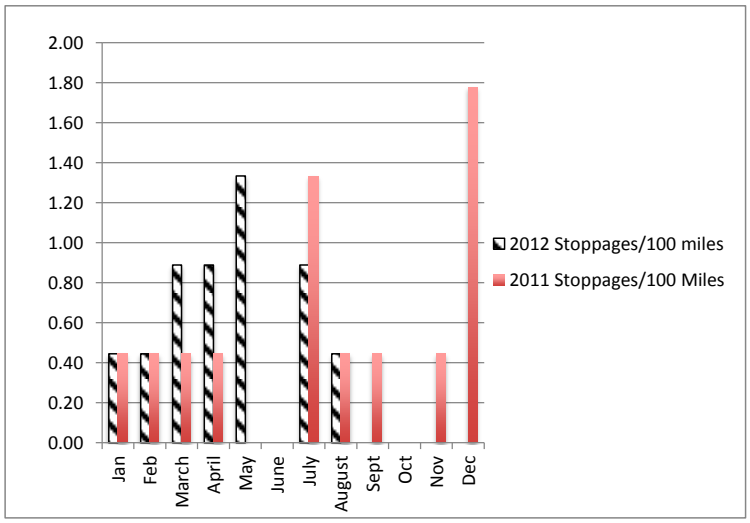
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
Employee Hours Worked	547	549	689	575	709	723	611	612	0	0	0	0	5,015	
Number of Employees	3.2	3.2	4.0	3.3	4.1	4.2	3.5	3.5	0.0	0.0	0.0	0.0		
Regular Time Worked on Coll. Sys., hrs	514	505	640	547	703	688	584	569					4,749	
Regular Time Worked on Other, hrs [1]	69	148	174	189	153	232	341	336					1,641	
Vacation/Sick Leave/Holiday, hrs	221	357	292	365	371	77	194	257					2,134	
Overtime Worked on Coll. Sys., hrs	33	44	49	29	6	35	27	44					266	
Overtime Worked on Other, hrs [1]	1	0	3	13	1	7	1	10					35	
After Hours Callouts, #	1	2	0	0	0	1	0	1					5	
Service calls, normal hours, #	7	3	8	4	6	6	8	3					45	
Average S.C. response time, mins	29	30	23	13	14	14	18	20					161	20
Productivity														
Rodder Work Orders Generated, ft	16	18	3	54	92	75	56	13					327	
Rodder 3203 Ft. Cleaned	1,626	1,064	708	10,369	12,117	12,886	8,995	3,071					50,836	6,355
Flusher Work Orders Generated	275	286	299	344	428	452	235	454					2,773	
Truck 3205V Ft. Cleaned	7,667	23,744	0	2,364	2,125	0	6,892	24,699					67,491	8,436
Truck 3206V Ft. Cleaned	49,636	37,928	59,307	64,640	70,815	88,100	37,294	51,970					459,690	57,461
Camera Ft. Videoed	5,274	1,031	13,000	1,565	8,545	17,237	23,790	15,534					85,976	10,747
Work Orders Completed	291	304	302	398	520	527	291	467	NA	NA	NA	NA	3,100	388
Work Orders backlog	14	42	67	41	27	28	16	0					235	29
Total Footage Cleaned	58,929	62,736	73,015	77,373	85,057	100,986	53,181	79,740	0	0	0	0	591,017	49,251
Stoppages	1	1	2	2	3	0	2	1					12	
Minor	0	1	2	2	3	0	1	1					10	
Major	1	0	0	0	0	0	1	0					2	
Overflow Gallons	75	26	398	316	68	0	3,385	5					4,273	
Volume Recovered	0	26	108	93	63	0	3,385	5					3,680	
Percent Recovered	0%	100%	27%	29%	93%	NA	100%	100%	NA	NA	NA	NA	86%	
Benchmarks														
Average Ft. Cleaned/Hour Worked	115	124	114	142	121	147	91	140	NA	NA	NA	NA	NA	124
Total Stoppages/100 Miles	0.4	0.4	0.9	0.9	1.3	0.0	0.9	0.4	0.0	0.0	0.0	0.0	5.3	NA
Average spill response time (mins)	8	9	20	20	28	0	14	60	NA	NA	NA	NA	NA	20
Callouts/100 Miles	0.4	0.9	0.0	0.0	0.0	0.4	0.0	0	NA	NA	NA	NA	2.2	0.2
Overtime hours/100 Miles	15	20	22	13	3	16	12	1	NA	NA	NA	NA	118	12
Overflow Gallons/100 Miles	33	12	177	140	30	0	1504	2	0	0	0	0	1899	

[1]This category includes time spent on: Data input, Training, Service Calls, Overflow Response, as well as any other activity that does not directly relate to main line cleaning or CCTV work.

Collection System 2011-12 Graphs







Novato Sanitary District

Pump Station Monthly Report For 2012

	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
Employee Hours Worked	334	263	336	276	401	331	352	307	0	0	0	0	2,600	
Number of Employees	1.9	1.5	1.9	1.6	2.3	1.9	2.0	1.8	0.0	0.0	0.0	0.0		1.2
Regular Time Worked on Pump Sta	254	236	280	246	281	277	294	283					2,151	
Overtime Worked on Pump Sta	80	27	56	30	120	54	58	25					449	
After Hours Callouts	4	2	6	2	3	4	4	4					29	
Average Callout response time (mins)	23	25	38	27	34	22	24	23					216	27
Work Orders														
Number generated in month	114	154	112	105	119	119	130	123	0	0	0	0	976	
Number closed in month	87	73	88	80	92	93	103	97						
Backlog	27	81	24	25	27	26	27	26						

NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Reclamation Facilities Report
August 2012

Summary:

The rancher worked on sprinkler repairs this month. There were no significant changes in the irrigated parcels and irrigation times have been shortened to maintain a balanced pond level. The motor for Irrigation Pump No. 2 failed last month and due to the high replacement cost staff has requested quotes for repair of the motor. 95.40 MG of recycled water was irrigated during the month of August. Pond depth at the end of the month averaged 4.1 feet. The Dedicated Land Disposal (DLD) site was prepared for sludge application and sludge was pumped out of Sludge Lagoon No. 1 into the disposal area.

Ranch Operations:

The rancher began and continues to repair sprinklers broken by hay removal operations and cattle.

Irrigation Systems:

Site 2: As previously reported, valves and actuators in Parcel 6 have failed and need to be replaced. Refurbished valves and actuators have been received and staff will schedule the replacement work when corral fencing is received to be installed to protect the area from cattle when the existing concrete boxes are removed to replace the existing actuators. This is also the case for Zone 1 in Parcel 7. Zone 2 in Parcel 8 is also malfunctioning and staff cannot find the cause. A new control panel will be installed and rewired to see if that solves the problem when they arrive. Irrigation times in all Parcels have been reduced to balance plant flow into the Storage Ponds with irrigation flow to the Parcels to maintain a balanced pond level.

Site 3: All zones in all Parcels are functioning normally and there is nothing to report. Irrigation times in all Parcels have been reduced to balance plant flow into the storage ponds with irrigation flow to the Parcels to maintain a balanced pond level.

Site 7: All zones in all Parcels are functioning normally and there is nothing to report. Zone 3 in Parcel 7 and Zone 3 in Parcel 8 were left off as these two Zones are in an area that gets too wet. Irrigation times in all Parcels have been reduced to balance plant flow into the storage ponds with irrigation flow to the Parcels to maintain a balanced pond level.

Irrigation Pump Station:

The 400 Hp motor for Pump 2 failed in July and staff has received quotes for replacement. Due to the high replacement cost staff is requesting multiple quotes for repair of the motor.

95.40 MG of recycled water (3.08 MG per day average) was irrigated during the month of August. Pond depth at the end of the month averaged 4.1 feet between the two storage ponds.

NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Reclamation Facilities Report
August 2012

Sludge Handling & Disposal:

The Dedicated Land Disposal (DLD) site was chiseled to allow the underlying sludge to dry. After drying, the DLD was then re-contoured with a mud cat and prepared to accept sludge from the lagoons. The contractor moved in his equipment and emptied Sludge Lagoon No. 1. Approximately 750,000 gallons of sludge was pumped out of Lagoon No. 1.

Novato Wastewater Treatment Plant Biofilter Final Performance Testing

Prepared for: Beverly James, Manager-Engineer, Novato Sanitary District

Prepared by: James Joyce, P.E., V&A

Reviewed by: Brian Huang, E.I.T., V&A

Date: October 4, 2012

1. PRE-SAMPLING INSPECTION

All biofilters had been in continuous operation for at least one month prior to sampling. An initial inspection of the biofilters in advance of sampling revealed that the biofilters were properly constructed according to the drawings and the media was as specified. The inspection also revealed that the biofilters were being over-irrigated with an un-even spray pattern. The surface of the biofilter media was green where the excessive irrigation was allowing algae to grow. Figure 1.1 illustrates this condition.

Figure 1.1: Primary No. 1 Biofilter Before Testing

The over-watering visually illustrated a deficiency in the spray irrigation system. Although the majority of the bed was being over-irrigated, one area was dry and clearly not receiving sufficient irrigation. A dig-down into the dry area of the biofilters revealed very dry media with an unpleasant odor being released, indicating insufficient moisture to promote proper biology. A dig-down into the wet media area revealed saturated, shiny media particles with free water on the surface and obviously over-watered.

The arrangement of the nozzles was apparently not providing even irrigation of the biofilter surface. The irrigation pattern of all biofilters at the Novato WWTP showed this same pattern of over-irrigation with a dry area. The dry area was along the perimeter with no irrigation spray heads.

As a corrective action, the irrigation to all biofilters was turned off for 16 hours to allow the biofilters to drain and re-establish proper moisture content. The dry areas on all biofilters were then manually irrigated every 4 yours to bring these areas up to proper moisture level. The next day the sampling of the biofilter was performed.

2. SAMPLING

2.1 Primary No. 1 Biofilter

Figure 2.1.1 illustrates the location of irrigation spray nozzles and the wet and dry areas of this biofilter. At the time of the testing the inlet H_2S gas concentration was 20 ppm and the surface of the biofilter appeared dry. The pressure in the biofilter was 1.8 inches of water column (in/wc). A dig-down revealed ample moisture at a depth of 2 inches and no excess moisture. There were a few flies and their larvae living on the media which attract many different types of small predatory spiders. The fly larvae feed on the excess biomass from odor degradation keeping the ecosystem in balance.

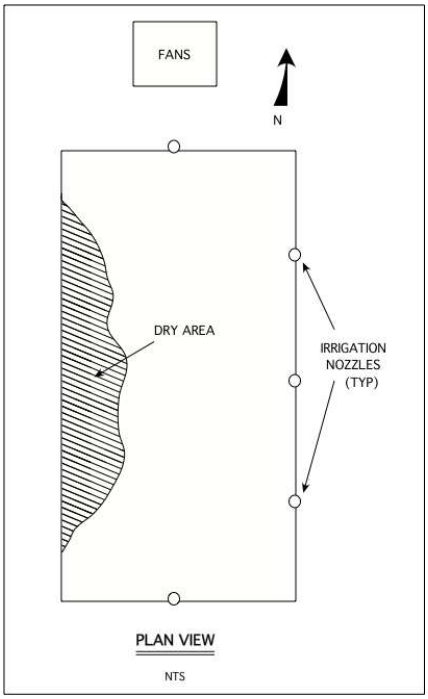


Figure 2.1.1: Primary No. 1 Biofilter Showing Irrigation System and Coverage

There were no worms or other higher life forms present in the media indicating the media is free of fine humus and soil materials necessary for their lifecycle. The presence of earthworms in organic media indicates the media is breaking down and will likely need replacement soon. The odor from the surface was a very mild compost/woody scent that was undetectable at a distance of 5 feet.

The flux hood, tubing and Jerome analyzer were set up on the media in six different locations around the biofilter surface and the prescribed sampling protocol was followed. Figure 2.1.2 illustrates the arrangement used for sampling all locations.

Figure 2.1.2: Typical Equipment Arrangement for Biofilter Performance Testing

This biofilter was repetitively sampled according to the sampling protocol in each of six locations as shown in Figure 2.1.3. The sampling locations were selected to be representative of the entire surface of the biofilter.

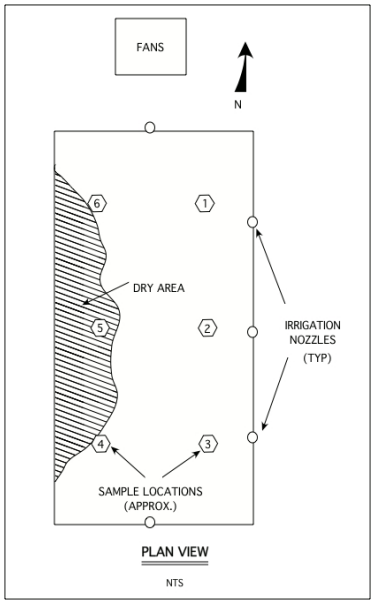


Figure 2.1.3: Primary No. 1 Biofilter Sampling Locations

2.2 Primary 2/Headworks Biofilter

Figure 2.2.1 illustrates the location of irrigation spray nozzles and the wet and dry areas of this biofilter. At the time of the testing the inlet H_2S gas concentration was 7 ppm and the surface of the biofilter appeared dry although still slightly greenish in color. Primary No. 2 was not in operation during the testing so only foul air from the headworks was being treated in the biofilter. This accounts for the markedly lower H_2S gas concentration compared with primary No. 1.

A dig-down revealed ample moisture at a depth of 2 inches and no excess moisture. Typical media biology was observed. The odor from the surface was a very mild compost/woody scent that was undetectable at a distance of 5 feet.

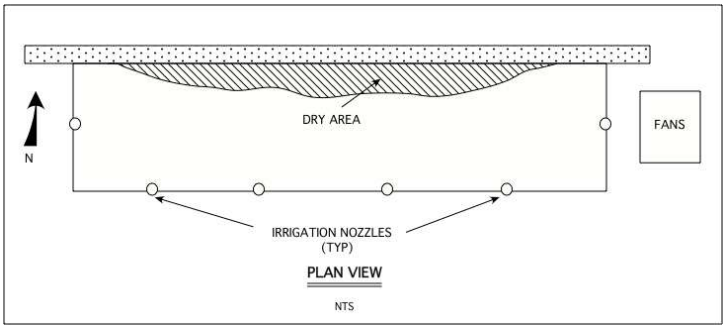


Figure 2.2.1: Primary No. 2/HW Biofilter Showing Irrigation System and Coverage

The flux hood, tubing and Jerome analyzer were set up on the media in six different locations around the biofilter surface. The sampling protocol was followed for each of the six locations as shown in Figure 2.2.2. The sampling locations were selected to be representative of the entire surface of the biofilter.

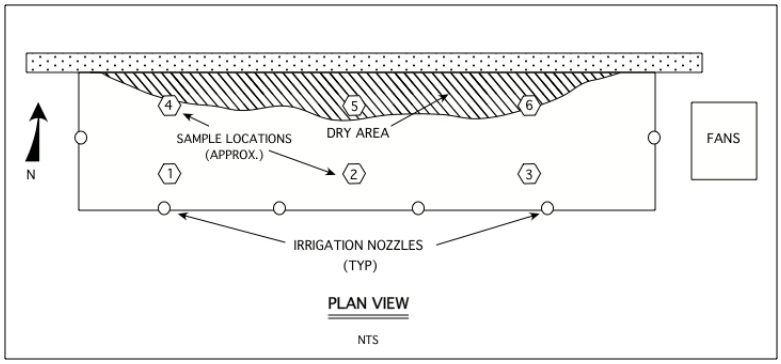


Figure 2.2.2: Primary No. 2/HW Biofilter Sampling Locations

2.3 Aeration/IPS Biofilter

Figure 2.3.1 illustrates the location of irrigation spray nozzles and the wet and dry areas of this biofilter. At the time of the testing the inlet H_2S gas concentration was 5.9 ppm and the surface of the biofilter appeared dry although still slightly greenish in color. A dig-down revealed ample moisture at a depth of 2 inches and no excess moisture. There were a few flies and their larvae living on the media. The odor from the surface was a very mild compost/woody scent that was undetectable at a distance of 5 feet.

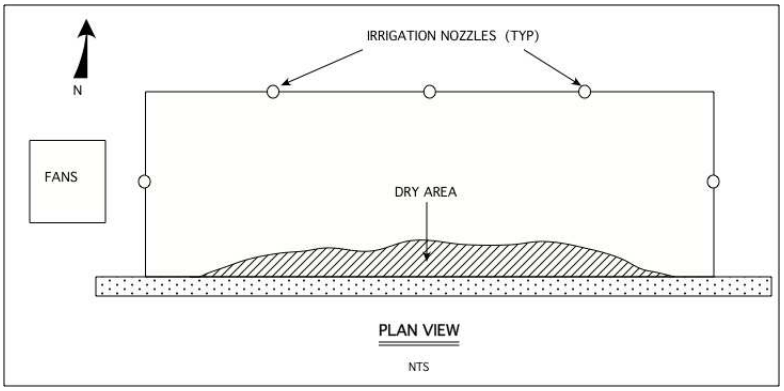


Figure 2.3.1: Aeration/IPS Biofilter Showing Irrigation System and Coverage

The flux hood, tubing and Jerome analyzer were set up on the media for each of the six locations as shown in Figure 2.3.2. The sampling locations were selected to be representative of the entire surface of the biofilter.

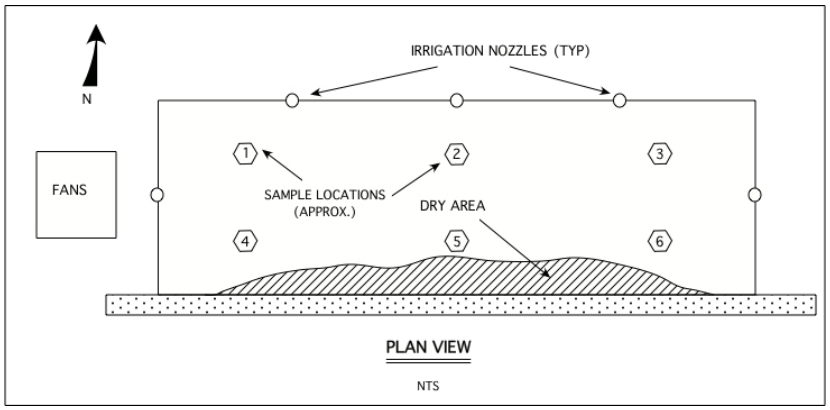


Figure 2.3.2: Aeration/IPS Biofilter Sampling Locations

2.4 GBT/Digesters Biofilter

Figure 2.4.1 illustrates the location of irrigation spray nozzles and the wet and dry areas of this biofilter. At the time of the testing the inlet H_2S gas concentration was 0.233 ppm and the surface of the biofilter appeared dry. A dig-down revealed ample moisture at a depth of 2 inches and no excess moisture. The

media biology was typical. The odor from the surface was a very mild compost/woody scent that was undetectable at a distance of 5 feet.

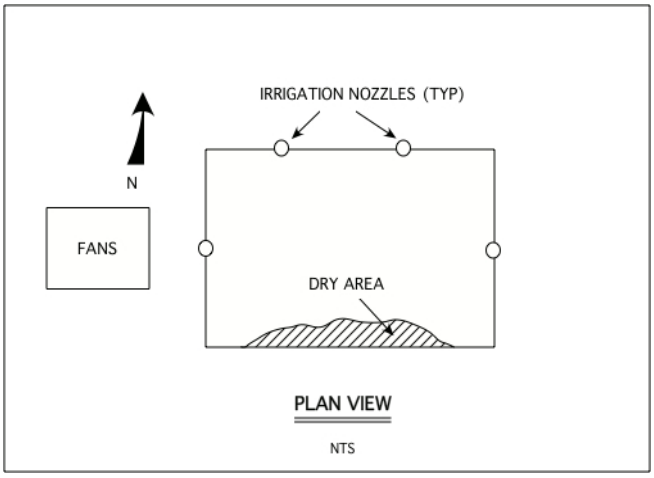


Figure 2.4.1: GBT/Digesters Biofilter Irrigation Scheme and Coverage

The flux hood, tubing and Jerome analyzer were set up on the media in two different locations on the biofilter surface. The small area of this biofilter only justified two sampling locations, which kept the "biofilter surface area-to-sample ratio" approximately similar with the other biofilters. The sampling protocol was followed for each of the two locations as shown in Figure 2.4.2. The sampling locations were selected to be representative of the entire surface of the biofilter.

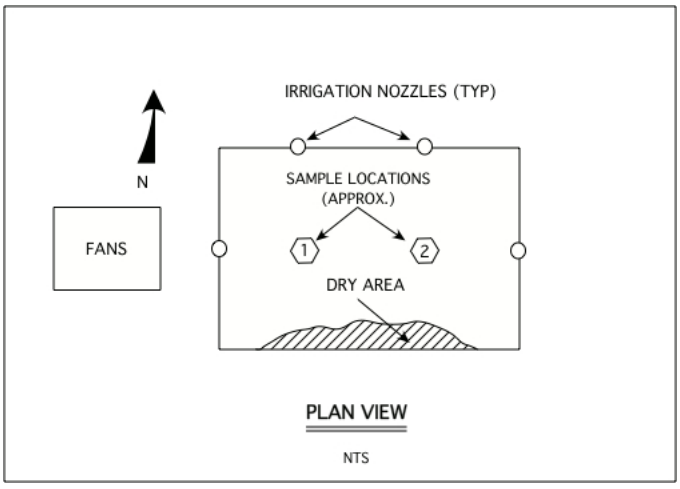


Figure 2.4.2: GBT/Digesters Biofilter Sampling Locations

3. SAMPLING RESULTS AND DISCUSSION

The specification requirement for performance of the biofilters was 0.1 ppm max exhaust H_2S concentration if the influent H_2S concentration was less than 10 ppm, or 99 percent removal of inlet H_2S concentration if the inlet is over 10 ppm. The original wording in the specification is presented below:

> **B.** System Performance Criteria: The odor control systems shall demonstrate the following performance when operating under design flow conditions listed above:
>
> | **Blower Inlet Ducts** | **Top of Soil Bed** |
> |---|---|
> | 1-10 ppm H_2S | 0.1 ppm H_2S |
> | Greater than 10 ppm H_2S | 1.0% of Inlet (99.0% removal) |

The summary results for all biofilter testing at the Novato WWTP are shown below in Table 1. All results shown are in parts-per-million (ppm) of hydrogen sulfide gas (H_2S).

Table 1
Summary Results of Biofilter Testing

Biofilter	Inlet Sample	Sample Location 1	Sample Location 2	Sample Location 3	Sample Location 4	Sample Location 5	Sample Location 6	Sample Average (ppm)	Max Limit	Pass / Fail
Primary 2/HW	7	0.000	0.000	0.002	0.001	0.000	0.000	0.0005	0.1	PASS
Primary 1	20	0.001	0.002	0.001	0.004	0.025	0.004	0.0062	0.2	PASS
Aeration/IPS	5.9	0.000	0.000	0.001	0.000	0.001	0.000	0.0003	0.1	PASS
GBTs/Digesters	0.233	0.000	0.000	NS	NS	NS	NS	0.0000	0.1	PASS

As shown in Table 1, all biofilters were performing well within original specifications. Notable are the slightly higher H_2S concentrations from the dryer areas of the biofilters, such as locations 4, 5 and 6 on the Primary No. 1 biofilter. These locations were on the edge, or within, the previously dry area for this biofilter. Although the media was manually wetted for the prior 16 hours, this media was not sufficiently acclimated to the odor due to in sufficient irrigation.

It should also be noted that Primary No. 2/HW biofilter was not treating odor from Primary No. 2 at the time of testing. The primary clarifiers at Novato WWTP represent the highest H_2S loading at the plant. Switching from Primary No. 1 to Primary No. 2 will cause a die-off of bacteria in the No. 1 biofilter and result in initially low bacteria concentration in the No. 2 biofilter. Switching between primary clarifiers should be done gradually over a few days, if possible, to allow acclimation of the biology in the un-used biofilter and causing temporary odor release. When switching between primary clarifiers make sure the un-used biofilter is well irrigated to assure non-moisture-limiting conditions during the aggressive acclimation. An odor-free acclimation to a new biofilter should take about two days and will be most tricky

when switching from biofilter No. 2 to No. 1 because the No. 1 biofilter has no other source of odor (food) for the bacteria when Primary No. 1 is offline. At least the No. 2 biofilter will have continuous odor from the headworks to keep the biology functioning, albeit a lower capacity, when the primary clarifier is offline. This will provide a viable "seed" population of proper biology for a faster acclimation to higher concentrations.

4. RECOMMENDATIONS

The irrigation spray pattern was insufficient to provide even coverage for the biofilters. Additional spray heads should be added to the opposite side of the biofilters where no heads exist or other actions taken to provide even irrigation over the entire biofilter surface. A licensed irrigator should perform the modification and installation of additional spray heads and/or the corrective adjustment of the biofilter coverage patterns.

APPENDIX A

BIOFILTER FLUX EMISSIONS SAMPLING PROTOCOL

INTRODUCTION

This procedure outlines the approach to fieldwork for the collection of biofilter surface flux odor emissions samples, which are typically sent for laboratory analysis and further assessment. In the case of the Novato WWTP biofilters the acceptance criteria are based upon the percent removal of hydrogen sulfide gas (H_2S) according to the following specification from the original design:

B. System Performance Criteria: The odor control systems shall demonstrate the following performance when operating under design flow conditions listed above:

Blower Inlet Ducts	Top of Soil Bed
1-10 ppm H_2S	0.1 ppm H_2S
Greater than 10 ppm H_2S	1.0% of Inlet (99.0% removal)

It is understood that other odor compounds besides H_2S will also be present in the inlet airstream and will require removal. The vast majority of odor compounds at wastewater treatment plants cannot be directly measured as easily as H_2S. While no instrument exists to measure these odor compounds, they can be subjectively detected by a trained odor specialist. For this reason, the acceptance criteria for the modified organic media Novato WWTP biofilters will be the original H_2S criteria listed above, but including the criteria of “no perceptible odor” at a distance of 10 feet downwind from the biofilter.

Surface flux emissions samples are collected from the surface of a biofilter using a static Flux Chamber (Flux Hood). This device enables the quantification of emissions to air from the surface of a biofilter without the influences of ambient odor sources or wind. Typically, a flux hood operates by simulating a standard “breeze” by injecting a known quantity of inert gas (typically nitrogen gas) into the chamber. The gas is applied through tubing that disperses the gas around the inside perimeter of the chamber and the sample is collected through another tube at the center of the chamber as shown in Figure A1.

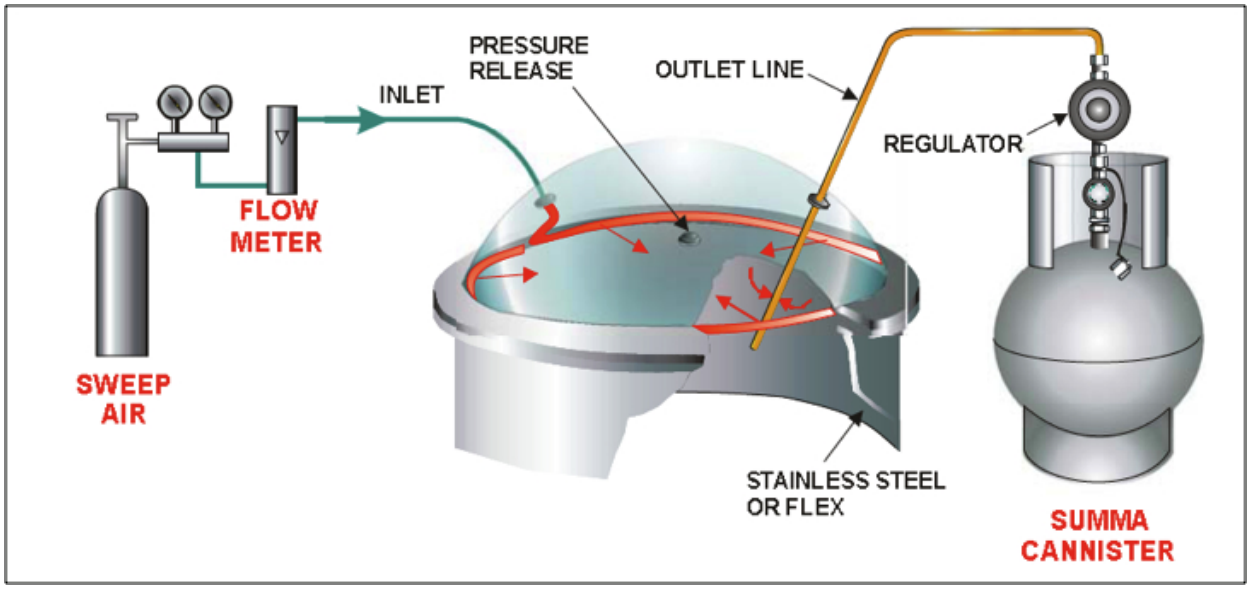


Figure A1: Typical Flux Hood Operation

The application of a known volume and velocity of an inert gas provides a controlled environment that is more accurate and useful for dispersion modeling. As shown in Figure A1, the sample is typically collected for laboratory odor analysis in a SUMMA canister or a Tedlar™ bag. This methodology generally follows US EPA Guidance for Measurement of Gaseous Emission Rates from Land Surfaces Using an Emission Isolation Flux Chamber (US EPA, 1986 and Reinhart, 1992). This method is applicable to the measurement of air emission rates at the ground surface from undisturbed sites where contaminants have been released to the surface or subsurface (US EPA, 1986). The static flux hood method is listed as the preferred testing technique for the direct measurement of volatile organic compounds (VOC) vapor emissions by the US EPA in the Air/Superfund Technical Guideline Series (US EPA, 1990) and it is also included by the NSW EPA as test method OM-8 on the list of "Approved methods for the sampling and analysis of air pollutants in New South Wales" (NSW EPA, 2005).

NOVATO BIOFILTER SAMPLING

Because the Novato biofilters have a percent removal acceptance criteria, sweep air will not be required. The pressure of the biofilter fans will move air upward through the media and into the collection chamber. A sample tube will carry the captured air directly to the field H_2S measurement instrument. In this way, a direct comparison between the inlet H_2S gas concentration and the pure, un-diluted exhaust from the biofilter is possible. A photograph of the flux hood used at the Novato WWTP is shown in Figure A2.

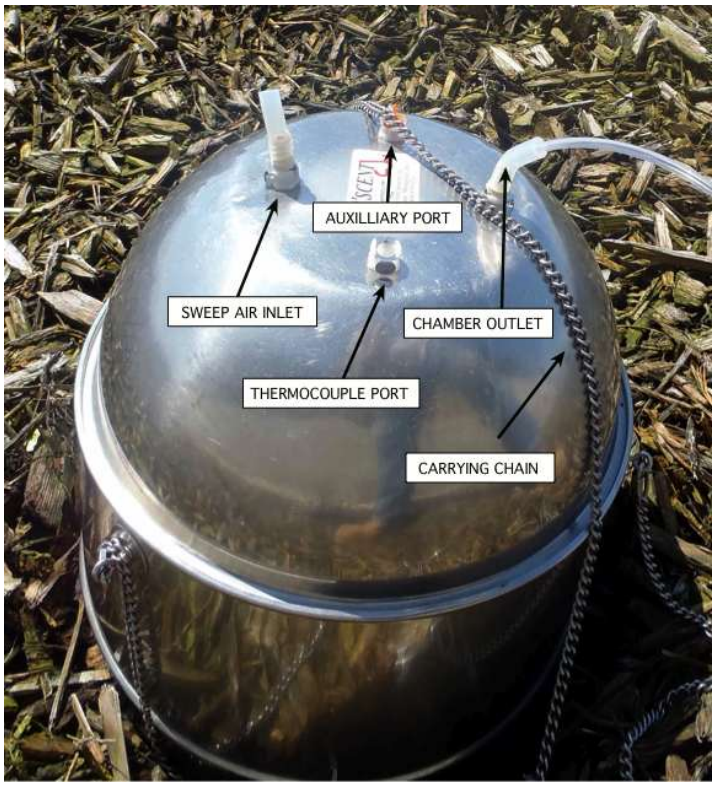


Figure A2 - Photograph of the Isolation Flux Hood

INSTALLATION AND OPERATION OF THE FLUX HOOD

The flux hood volume is not a critical parameter in this testing so the flux hood will be placed on top of the media and moved back and forth so the sharp edge of the bottom settled a few inches into the media. This will force a similar amount of media up inside the chamber, but our intent is to capture un-diluted exhaust so the embedment of the rim of the hood into the media allows capture of the biofilter exhaust only and prevents wind disturbance.

Once properly seated on the media, one end of the polytetrafluoroethylene (PTFE) sampling tubing is connected to the outlet side of the flux hood and routed to the Jerome 631 Hydrogen Sulfide Analyzer but not connected. The flux hood will be given enough time to pressurize and force all fresh air from the hood and connected tubing. After two minutes the tubing shall be connected to the Jerome analyzer and sampling shall begin. The Jerome analyzer has a pump which pulls air from the flux hood tubing for analysis.

With a diameter of 16 inches the flux hood presents a collection area of approximately 1.4 square feet (sq.ft.). Based upon the known dimensions and airflows of the various biofilters the volume of air that will be captured by the flux hood is much larger than the airflow requirement of the sampling device. This assures that the flux chamber will stay pressurized and only pure exhaust air will be collected by the

Jerome analyzer. Any excess air will exit through the sweep air and auxiliary ports on the top of the hood and through the sampling tubing.

The flux hood has a total volume of approximately 2 cubic feet, or around 57 liters. All of the calculated airflow rates into the flux hood are greater than 57 liters per minute, therefore; allowing two minutes for stabilization of the hood and tubing is more than adequate to assure capture of pure, un-diluted biofilter exhaust.

Table A1
Calculation of Airflows in the Flux Hood and Jerome Meter

Biofilter	Area (sq.ft.)	Airflow (cfm)	Airflow (cfm/ft2)	Airflow (liters/ft2)	Airflow to Flux Hood (liters/min)	Jerome Airflow Requirement (liters/min)	Excess Airflow from Flux Hood (liters/min)
Primary 2/HW	3250	6270	1.9	54.6	76.4	0.15	76.3
Primary 1	675	1570	2.3	65.8	92.2	0.15	92.0
Aeration/IPS	1300	2800	2.2	61.0	85.3	0.15	85.2
GBT/Digesters	128	200	1.6	44.2	61.9	0.15	61.8

HEALTH AND SAFETY

The collection of flux emissions samples from the surface of a biofilter does not require any penetration of the ground surface, nor is the technique typically used within confined spaces. However all works undertaken will be in accordance with the site-specific Health, Safety and Environment Plans.

SAMPLING

Once the flux hood, tubing and Jerome meter are positioned and stabilized the air is tested. The Jerome meter shall be a factory-calibrated instrument with a valid calibration sticker dated within the last 12 months. The instrument shall be operated through as many sample collections as necessary to result in three successive readings less than 10 percent apart. The Jerome analyzer takes in approximately 0.15 liters per sample event with a duration of approximately 30 seconds. The final reading recorded shall be the average of the last three readings.

DOCUMENTATION AND QA REQUIREMENTS

Information which must be recorded during each sampling event includes:

- time and date;
- location, including a map or sketch to show the location of the sample;
- description of the sampling location (i.e. biofilter name, location, etc.) and type of sample collected;
- weather conditions/observations;
- odor, presence of any moisture within the flux hood or any other observations.

EQUIPMENT REQUIRED

Listed below is the equipment required to conduct biofilter flux hood sampling:

- Flux hood;
- Flexible Teflon or PTFE tubing (sufficient for the sampling required);
- Air flow calibrator;
- Air temperature meter;
- Decon solution;
- Swagelok fittings;
- Camera;
- Notebook;
- Health and Safety Plan and appropriate field notes;
- Health and Safety equipment
- Site map and sampling plan.

APPENDIX B

BIOFILTER OPERATIONS AND MAINTENANCE GUIDELINE

BIOFILTER OPERATION AND MAINTENANCE GUIDELINES

The following Operation and Maintenance guidelines have been prepared to assist Novato Sanitary District Operations personnel in the weekly operation, maintenance and troubleshooting of constructed in-ground, organic media biofilters for the removal of odors generated at the Novato Wastewater Treatment Plant. Organic media biofilters have historically out-performed other types of odor control technologies and still have lower operating cost and maintenance requirements. However, biofilters still require some regular operational attention along with some special consideration due to the treatment of hydrogen sulfide.

These guidelines are divided into four sections. Section I is a general discussion of biofilters, how they work and the biology and chemistry involved. Section II contains recommended weekly, monthly and annual operation and maintenance requirements. Section III contains a guide to troubleshooting problems, and Section VI discusses media replacement options and procedures.

SECTION I - BIOFILTERS

Biofilters, sometimes called "Soil Bed Filters" or "Compost Filters", are an innovative alternative to conventional foul air treatment at municipal wastewater facilities. Biofilters have become increasingly popular in recent years due to their low operating costs and high treatment efficiency. The following discussion provides some background on the history of biofilters for odor control and how they work.

History

In 1957, Dr. Richard Pomeroy received a patent for a "Soil Bed Filter" system. Additional studies conducted in the early 1960's documented pilot construction and operation of various biofilters. Conclusions from the studies remain mostly valid for today's systems. During the next two decades, biofilters gained popularity in Europe, while they remained largely unused at United States wastewater facilities.

However, over the past 15 to 20 years, there has been a rapid increase in the installation of these systems in the United States. The main reason for the resurgence was the overall better odor removal performance, lower initial and life cycle costs, as well as the heightened public awareness regarding wastewater odors. Biofilters are now considered state-of-the-art and are listed as Best Available Control Technology (BACT) by most Air Quality Management Districts around the United States.

Odor Removal Mechanism

The odor removal mechanism of biofilters has been well documented. Essentially, two processes are occurring simultaneously. While odorous air passes through the biofilter media, the gases are adsorbed onto the moist surfaces of media particles where biological degradation of the odorous compounds occurs.

The biofilter acts as a biological reactor where a thriving, non-hazardous microbial population of many different types of common soil bacteria, yeasts and protozoans live. In order to support the microorganisms optimum media and moisture content are important. Early researchers found that moist loamy soils provided good performance, while clays and sand proved less effective. The moist, warm conditions in the media supported optimum microbial growth while the odorous air provides the food source for the organisms.

In biofilters such as those at the Novato Wastewater Treatment Plant, which treat air containing both hydrogen sulfide gas (H_2S) and volatile organic compounds (VOCs), two biological processes must be present. When H_2S is present in the air a type of bacteria called Acidithiobacillus converts the H_2S to sulfuric acid. The conversion to acid is rapid and the Acidithiobacillus out-compete any other organisms. The acid prevents the growth of any other types of bacteria, so this process occurs in the lower portion of the media bed. Once all of the H_2S has been converted to acid the bacteria that consume VOCs can survive in the upper portion of the media bed where the pH is normal. Removing the acid is one of the functions of the irrigation system, described later in this guideline.

Physical Description

A typical in-ground biofilter installation includes a pipe network of perforated pipe through which to send the odorous air (Figure B.1). The perforated pipe is generally 12 to 18 inches below the media and surrounded by acid-proof granular material. The granular material helps to distribute the malodorous air quickly and uniformly across the entire surface area of the biofilter. Above the piping and granular material is the organic filter media. The organic media is typically 3 to 4 feet deep. Separating the media and the granular material is a plastic, tri-planar porous net material which allows air to pass upward to the organic media but prevents the excessive migration of fine media particles into the granular material, making media replacement easier.

Extensive research has been performed to determine an optimum biofilter media. Hundreds of different media have been tested and used over the years, including compost, wood chips, rice hulls, peat, soil, sand, gravel and various mixtures of these materials. While some mixtures may show better performance, local availability and economy dictates the best mixture. Local media can always be found which meets the requirements of the specifications. It is not necessary to spend large sums on transportation of “special” media when a little investigation can almost always find a suitable media.

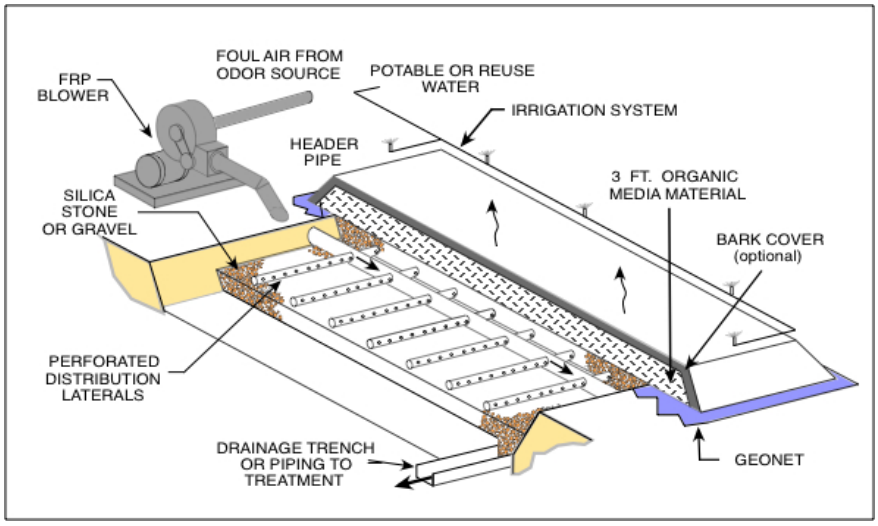


Figure B.1 – Typical In-Ground Biofilter Arrangement

Biofilters must also be provided with a drain system to remove rainwater and excess irrigation water. Some biofilter installations in extremely dry environments may include a mist or spray system to humidify the inlet air, as well as an external and/or internal irrigation system to increase media moisture content. Proper moisture application is required to promote biological activity, prevent media drying and cracking and flush the acid and other decomposed odor residuals from the media. Too much irrigation will cause premature structural collapse, compaction and decrease the life of the media.

External irrigation consists of pop-up type spray irrigation systems or permanent arc-sprayers. Internal irrigation consists of plastic piping emitters embedded approximately 12 inches above the top of the stone or gravel media. The Novato biofilters have both external pop-up rotary sprayers and an internal plastic pipe emitter system.

SECTION II - WEEKLY AND MONTHLY CHECKS

The following biofilter system checks should be performed at the frequency indicated to assure proper operation. A running log of observations, measurements, checks and notes should be maintained for comparison and to detect any significant deviations in operating parameters which may indicate more serious problems that could become critical or affect successful operation of the biofilter.

Weekly Checks

Fans. The fan is the most critical mechanical component of a biofilter system. If the fan is not properly operated and maintained the system could fail and cause odor release. The fan should be verified as operating within design pressures and headlosses on a weekly basis by recording the duct discharge pressure in a logbook. The belts and drive system should be visually inspected for excessive movement and proper tension, and adjusted as required. The motor and fan should not be making excessive noise or unusual noises. If excessive vibration is noted, manufacturer's manuals should be consulted.

Note: Volatile fatty acids, mists and particulates in odorous airstreams will stick to the internal surfaces of odor control ductwork, including the impellers on the fans. Over time these deposits build up, particularly on high velocity components of the system such as impellers. Impellers can become unbalanced and cause vibration, which will eventually fail the fan if not corrected. Cleaning of the fan impellers and housing through the inspection/maintenance hatch can often fix fan vibration problems quickly.

The fan housing drain trap should be checked to make sure it is open and draining but not releasing odor. Most of the fan checks are to detect deviation from normal operation. Comparison with previous day's checks and initial start-up conditions is required to make this an effective operation. To maintain this "memory", logbooks should be used to note observations and the personnel performing these checks should be consistent.

Ductwork. Because of different temperatures inside and outside the ductwork, water vapor will condense to water inside the ductwork under certain conditions. The amount of water condensed will vary, but can be significant and require draining to avoid filling low spots in the duct. Drains with traps should be provided at all low spots on the ductwork so water can leave without releasing odor or allowing air to enter the duct. Accumulation of water in ductwork can significantly restrict airflow, cause excessive headloss, odor release and potentially damage the system if not detected and removed.

Biofilter. The biofilter is the heart of the system and must be operating properly. All duct headloss and pressure measurements should be checked weekly and logged. Any significant deviations should be brought to the attention of the Supervisor.

As an optional test, a periodic determination of the pH of the drainage water from the beds should be performed and logged. A cup on a string and some pH paper can provide this data easily and cheaply. The pH of the drain water is directly related to the mass of hydrogen sulfide gas being removed. Therefore, lower pH is often seen in the summer when temperatures and hydrogen sulfide concentrations are highest.

Irrigation Systems. One of the most critical parameters for the biofilter is media moisture. As mentioned earlier, the Novato biofilters are equipped with two separate irrigation systems, one external surface irrigation system and one internal emitter irrigation system.

The media should be checked weekly to determine the media moisture condition. This does not require a laboratory determination of moisture content. An adequate determination of moisture content can be obtained in the field by digging down by hand approximately 6 inches into the media at least one hour after the last irrigation cycle. This is done because the upper 6 inches will not be representative of the true moisture content below due to surface drying and wind action.

1. Properly Irrigated Media. The media at 6 inches depth should be dark in color, and look and feel moist like it contains moisture, but not be wet with free water or have a "shiny" appearance. The

media should not hold together when compressed with the hands under moderate pressure. A small volume of water may be dripping from the drain trap.

2. Under Irrigated Media. The media appears light in color and dry at a depth of 6 inches. The surface of the media may be cracked and the media may be shrinking away from the sides of the biofilter. There is no water coming from the drain piping. There may be a noticeable odor from the surface of the biofilter. Under this circumstance it is advisable to operate the external and internal irrigation systems to immediately restore surface and bed moisture. If the media is left dry to too long, dry rot fungus can become established in the media. Once the white dry-rot fungus becomes established on the surface of media particles the media cannot be re-wetted because the mycelium of the fungus is hydrophobic and resist re-wetting. In severe cases the media must be replaced to restore proper operation.

3. Over Irrigated Media. The media at 6 inches depth is dark and “shiny” with free water on the surface, and water can be squeezed out of the media with manual compression. The media particles will be soft and may hold together when formed into a ball. There will be a significant volume of water draining continuously from the drainpipe. Under this condition the irrigation system should be turned off until the media dries out to an acceptable condition and then re-start the irrigation program and adjust accordingly. Sustained operation in this condition will cause premature compaction and replacement of the media.

It is also advisable to perform a "walk-around" of the biofilter to detect any odor release, holes, shrinkage or thin spots in the media, animal damage, the condition of the media/berm interface, leakage of water or other unusual media conditions. Any unusual conditions or observations should be investigated further and notes should be logged.

Monthly Checks

The following checks should be performed monthly, or more frequently if required by equipment manufacturer's recommended operations. These activities are in addition to the weekly checks.

Fans. Lubrication of the fan components, including bearing, pulleys and other grease items as required by the fan manufacturers specifications should be performed. A schedule of required greasing for the fans and dampers should be made a part of the operator’s logbook.

Irrigation rate. The starting irrigation rate for all biofilters is 0.25 gal/ft^2/day total from both surface and in-bed irrigation systems. After operating at this rate for a week the media should be checked as described above and irrigation adjusted as necessary to maintain a moist but not wet media condition at a depth of 6 inches.

Media irrigation practice for the Novato biofilters could be different for winter and summer modes depending upon ambient temperatures. In summer mode when the average daily air temperatures (measured hourly) are above 40°F the irrigation rate should be started at 0.25 gallons per square food per

day, and adjusted appropriately as described above. Winter mode should be initiated in the fall if average daily air temperatures (measured hourly) fall below 40°F or if freezing air temperatures are achieved. This may not be an issue for Novato, but if freezing temperatures are sustained the winter mode should be followed. Winter operation consists of turning all irrigation systems off and draining the piping to avoid possible freezing damage. There will likely be enough moisture from condensation in the media to maintain the biofilter all winter without irrigation. If weekly moisture checks show the media is drying unacceptably under winter conditions, supplemental moisture can be added manually with a hose to avoid operating the buried irrigation system during freezing weather.

Weeding. Weeds and grasses will invariably grow in a biofilter. Grass and small weed varieties will usually not interfere with proper biofilter operation. However, large tree species or shrub species should be removed. These vegetation species have a long taproot which can extend far into the bed and provide a vertical route for the short-circuiting of foul air. This can potentially cause odor release. The growth of normal weeds and grasses, although unsightly, will normally not affect biofilter operation. Spraying with systemic weed control chemical agents can control the weeds and grasses.

Foot Traffic. It is important to note that biofilter media will be significantly compacted by even infrequent foot traffic and weeding should never be performed by hand unless plywood sheets are laid down first to spread out the weight of an operator and prevent media compaction. Obviously, no machinery should ever be allowed on top of the biofilters.

SECTION III - TROUBLE SHOOTING GUIDELINES

The following section addresses trouble shooting of possible problems. This section is not designed to address equipment troubleshooting, since that information is more thoroughly addressed by the specific manufacturer's information. This section addresses odor release from a biofilter and the potential causes and corrective actions for it.

Biofilter. There are many reasons why biofilters may release odor. Some of the reasons and their corrective actions are listed below.

Drains. Biofilter cells must drain and are equipped with drain piping. The lower portion of the biofilter is under pressure and that pressure will be transmitted to the drain piping. If the drain piping is not equipped with a "trap" or turned down below a standing water level, the air pressure will cause the release of odor at the discharge of the drain. Check the drain trap in the manhole and the lateral cleanouts to make sure they are not emitting odor from this pressure.

Vertical/Smooth Surfaces. Vertical or other smooth surfaces (ducts, walls) can act as short-circuits and allow foul air to by-pass the media and be released untreated. All of the Novato biofilters have straight walls against the media. Check for odor blowback around any vertical walls or piping against the media. If short-circuiting is suspected and the cause cannot be found easily, smoke testing the media can potentially detect them. Smoke testing should be performed with continuous smoke loading for at least 10 minutes. Shorter durations of smoke do not properly define fugitive air locations.

Animals. Animals can sometimes dig or burrow into the media. Deer will also sometimes walk on the media which pokes holes in the media and allows air to escape untreated. Visual inspection for these holes and burrows, and covering with loose media as required can help control odor releases from these types of short-circuits.

SECTION IV - MEDIA REPLACEMENT OPTIONS

Biofilter media does not load up or trap contaminants, it uses biology to convert them to other non-odorous products. Biofilter media does not become hazardous or require special handling when it reaches the end of its life. The primary cause of media replacement is compaction. Compaction is a function of the media type and size, combined with the conditions under which it operates. In extremely rainy or wet environments the media will not last as long as a more moderate climate because the media is very wet or saturated frequently, which leads to structural collapse. Biofilter media treating high hydrogen sulfide gas concentrations can also compact earlier due to the production of sulfuric acid. The only way a biofilter can remove hydrogen sulfide is as sulfuric acid. Prolonged exposure to high concentrations of sulfuric acid can chemically accelerate the breakdown of the media and lead to compaction.

Whatever the source, compaction of the media directly reflects on the pressure in the biofilter. Once the pressure in the biofilter reaches or exceeds the rated pressure of the fan, less than design volumes of air will be moved through the biofilter. This causes lower odor extraction from the odor source(s) resulting in odor release. This is why it is recommended to never walk on biofilter media. Once lost, compaction cannot be regained. Never “fluff” or “till” a biofilter media, as this will only accelerate compaction.

Biofilter media must be occasionally replaced due to compaction. Media compaction is primarily a function of rainfall, gravity, traffic, fines in the media and chemical as well as biological degradation. We cannot avoid many of these factors so media degradation over time will occur. The process of media compaction takes varying periods of time, but even in areas with high rainfall, a 4 to 5-year media life is not uncommon if the media is properly specified. In arid or desert locations, media life can extend beyond 10 years. It is essential to the life of the media that foot traffic on the media is strictly limited to essential purposes and that no heavy equipment be allowed on the media at any time. Replacement media should be identical to the original specification, unless poor performance was obtained and professional counsel is sought for a replacement media.

At some time in the future, media replacement will be required. The Novato biofilters all have only one cell; therefore, all of the media must be replaced at the same time.

Media Replacement

Removal of the media can be accomplished by several methods. During the media removal stage, some medium weight equipment can be allowed on the media. Since the media is being replaced, compaction is not important. However, the weight of the equipment must not crush the PVC air distribution headers under the rock media. This would cause major problems with air distribution and require significant rehabilitation effort. Any equipment used should not tear or otherwise disturb the plastic net layer used to separate the rock from the media. If a Bobcat™ is used, special care should be exercised to avoid contact with the plastic net layer.

It should be decided before media replacement whether the in-bed irrigation tubing will be saved during media removal for re-installation in the new media. If the tubing will be saved, it should be disconnected from the water supply and pulled out of the media before media removal begins. The tubing can then be re-connected to the water supply when the new media is placed. If the tubing will not be saved during media removal then new irrigation tubing will be required. This is a site-specific call.

A Gradall™ type extended bucket loader or a backhoe with a steel plate bolted to the bucket can be very useful in removing loose organic media. This equipment is used to reach out and drag the media off the bed to the side of the biofilter where a conventional bucket loader or Bobcat™ can pick it up and place it in trucks for haul away. The media can then be taken to a landfill for use as cover, or re-composted for beneficial reuse. For the Novato biofilters, removal of the wood planking walls is recommended to prevent damage during media removal. It can be replaced during new media placement. Organic biofilter media is non-hazardous and can be used directly for residential or community projects without modification. It cannot ever be recycled into new biofilter media.

Even when equipment is used, some manual labor, pitchforks and a Vactor™ can be effective. Whatever the gross media removal method, there will still be some fines and a small amount of media left on top of the plastic net. Lifting one edge of the plastic net will allow the media to be concentrated where it can be removed by the gross removal technique. Continuing to walk across the cell and lifting the plastic net will allow removal of much of the remaining fines and media. All attempts should be made to minimize the amount of organic fines that get mixed with the stone media. Remove as much media as possible with the Vactor without losing the stone media.

Once the old media is removed, new media can be replaced. This method can also employ several techniques, but heavy equipment must be kept off the filter. The objective in placing the new media is to leave as much porosity and permeability as possible. The media should not be chopped, shredded or modified in any way during placement. New media should follow the original specification for organic media.

Blowing the media on can be effective as long and the particles are uniform and are not reduced in size or segregated during placement. Blowing the media on is not highly recommended.

The best media placement method is a moving belt where the media is placed onto the belt and the belt is extended and moved laterally to spread the media with a minimum of drop (see Creter Crane™). Dropping the media from a great height naturally segregates the media into larger and finer particles, which causes short-circuiting and ineffective odor removal.

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Dental Amalgam Mercury Reduction Ordinance, Ordinance No. 117	**MEETING DATE: October 8, 2012** **AGENDA ITEM NO.: 8.a.**

RECOMMENDED ACTION: Consider and adopt the Dental Amalgam Mercury Reduction Ordinance, Ordinance No. 117; and authorize staff to publish a summary of the Ordinance in the Marin Independent Journal.

SUMMARY AND DISCUSSION:

The Regional Water Board adopted a Mercury Watershed Permit effective January 2008 which requires a reduction of mercury discharges from all controllable sources to San Francisco Bay. The Permit's goal is to, eventually (over decades), lower the mercury concentration in the Bay water and sediment. The Permit establishes new mercury concentration and mass limits for wastewater dischargers, requires mercury source control, and mandates a 20% mercury reduction by 2018. The Permit identifies dental amalgam as a major mercury source and Section V.C.2 of the Permit specifically requires wastewater agencies to regulate dental offices using source control techniques, with specific source control programs.

Since 2008, the District has worked to implement a phased dental amalgam program with respect to the local dentist community. The program has initially involved a voluntary Best Management Practices (BMP) based approach for source control of dental amalgam, which would then transition to a more prescriptive ordinance based program to cover at least 85% of dental offices working with dental amalgam, by the end of 2012.

Staff has prepared the attached Dental Amalgam Mercury Reduction Ordinance to comply with the source control regulatory requirements of the 2008 Mercury Watershed Permit. The Ordinance is modeled after a similar ordinance that was prepared by the Central Marin Sanitation Agency (CMSA) that has been successfully implemented and publicly accepted.

Staff recommends that the Board: (a) Consider and adopt the Ordinance No. 117, and (b) Authorize staff to publish a summary of the Ordinance in the Marin Independent-Journal.

ALTERNATIVES: Do not adopt Ordinance

BUDGET INFORMATION: NA

DEPT.MGR.:	**MANAGER-ENGINEER:**

NOVATO SANITARY DISTRICT

Ordinance No. 117

AN ORDINANCE MINIMIZING DISCHARGE OF MERCURY FROM DENTAL AMALGAM WASTE TO THE SANITARY SEWER

SECTION 1 – INTRODUCTION

The Board of Directors (Board) of the Novato Sanitary District (District) of Marin County does adopt and ordain as follows:

This Ordinance shall be known as the “Dental Amalgam Mercury Reduction Ordinance of the Novato Sanitary District" and may be so cited and pleaded.

This Ordinance is adopted pursuant to provisions of Section 6400 *et. seq*. of the Health and Safety Code of the State of California.

SECTION 2 – PURPOSE AND POLICY

A. The purpose of this Ordinance is to identify and mandate pretreatment requirements necessary to reduce the discharge of mercury from non-domestic amalgam wastes into the District’s wastewater system.

B. Mercury is a toxic metal that bioaccumulates in several species of fish in San Francisco Bay, making such fish unsafe for human consumption. In 2007 the San Francisco Bay Regional Water Quality Control Board adopted the San Francisco Bay Mercury Watershed Permit to control discharge of mercury into the Bay. The Permit requires all sewerage agencies (including the District) to implement mercury control strategies.

C. Dental amalgam, sometimes referred to as “silver filling,” is a silver-colored material used to fill teeth that have cavities. Dental amalgam is approximately 50% mercury, mixed with silver and other metals. If improperly managed by dental offices, dental amalgam can be released into the environment. When installing or removing amalgam fillings, dentists may discharge amalgam wastes to the sanitary sewer via drains in the dental offices. As a result, dental amalgam is the largest controllable source of mercury in the District’s service area. This Ordinance is intended to significantly reduce the quantity of mercury from amalgam waste that enters the District’s wastewater system.

D. District Ordinance No. 70, as amended by District Ordinance No. 115 (collectively, the “Sewer Use Ordinance” (SUO), authorizes the District to regulate and control the quantity and quality of discharges into the public sewer

system so that they will not adversely affect the environment. (Section 801.) The SUO prohibits the discharge of non-domestic wastewater into the District's wastewater system without a sewer use permit. (Section 802.) The SUO also prohibits the discharge of toxic and poisonous pollutants that are hazardous to the environment and human health. (Section 808(e).) Because mercury is a toxic pollutant, the SUO prohibits the discharge of mercury in excess of 0.1 mg/L into the District's wastewater system. (Section 809(f).) Nonetheless, the discharge of mercury from amalgam waste remains a problem. Non-domestic sewer users that use amalgam to install, remove, repair, or replace dental fillings are therefore subject to this Ordinance, which sets forth applicable waste management and pretreatment requirements in accordance with SUO Article VIII, and shall be regulated as either Class II or Class III dischargers under the provisions of the SUO.

SECTION 3 - DEFINITIONS

Amalgam separator: A device that employs filtration, settlement, centrifugation, or ion exchange to remove amalgam and its metal constituents from a dental office vacuum system before it discharges to the sanitary sewer.

Amalgam waste: Includes non-contact amalgam (amalgam scrap that has not been in contact with the patient); contact amalgam (including, but not limited to, extracted teeth containing amalgam); amalgam sludge captured by chairside traps, vacuum pump filters, screens, and other amalgam trapping devices; used amalgam capsules; and leaking or unusable amalgam capsules.

ISO 11143: The International Organization for Standardization's standard for amalgam separators.

SECTION 4 – WASTE MANAGEMENT PRACTICES

All owners and operators of dental facilities that use amalgam fillings, and that discharge or contribute non-domestic wastewater into the District's sewer system, shall comply with the following waste management practices, which are required by this Ordinance:

(a) The use of bulk mercury is prohibited. Only precapsulated dental amalgam is permitted.

(b) It shall be unlawful to rinse chairside traps, vacuum screens, or amalgam separator equipment in a sink or other connection to the sanitary sewer.

(c) Amalgam waste shall be stored and managed in accordance with the instructions of the recycler or hauler of such materials.

(d) Owners and operators of dental facilities shall ensure that all staff members who handle amalgam waste are trained in the proper handling, management and disposal of mercury-containing material and shall document how training is being provided to staff. Training records shall be available for inspection by an authorized representative of the District during normal business hours.

(e) Bleach and other chlorine-containing disinfectants shall not be used to disinfect the vacuum line of the extraction system.

SECTION 5 – AMALGAM SEPARATORS

Except as provided in Section 6 of this Ordinance, all owners and operators of dental vacuum suction systems shall comply with the following pretreatment requirements:

(a) An amalgam separator device certified in accordance with ISO 11143, or the most recent standard promulgated by ISO for amalgam separators, shall be installed for each dental vacuum suction system on or before December 31, 2013; provided, however, that all dental facilities that are newly constructed on or after the Effective Date of this Ordinance shall include an installed ISO 11143 certified amalgam separator device. The installed device must be ISO 11143 certified as capable of removing a minimum of 95 percent of amalgam. The amalgam separator system shall be certified at flow rates comparable to the flow rate of the actual vacuum suction system operation.

(i) Neither the separator device nor the related plumbing shall include an automatic flow bypass.

(ii) For facilities that require an amalgam separator that exceeds the practical capacity of ISO 11143 test methodology, a non-certified separator will be accepted, provided that smaller units from the same manufacturer and of the same technology are ISO-certified.

(b) All amalgam separators installed pursuant to 5(a) above shall be on the “Bay Area Pollution Prevention Group (BAPPG) List of Accepted Amalgam Separators,” May 2009 or any more recent revision. For amalgam separators installed prior to the date of this Ordinance, approval may occur by the District on a case-by-case basis and separators must meet the standards of 5(a) above.

(c) Certification of installation shall be submitted to the District within 30 days of installation of the separator. The District will provide a certification form, which must

be completed in order to demonstrate that the amalgam separator device was properly installed.

(d) Amalgam separators shall be maintained in accordance with manufacturer recommendations. Records documenting separator maintenance and disposal or recycling of amalgam waste shall be available for inspection upon request by an authorized representative of the District during normal business hours.

SECTION 6 – EXEMPTIONS

The following types of dental practice are exempt from Section 5 above, provided that use of amalgam fillings occurs at each dental facility no more than 3 days per year: (1) Orthodontics; (2) Periodontics; (3) Oral and maxillofacial surgery; (4) Radiology; (5) Oral pathology or oral medicine; (6) Endodontistry and prosthodontistry.

SECTION 7 – ENFORCEMENT

The District shall retain all rights to enforcement of this Ordinance as set forth in SUO Article IX and Government Code section 54740. In addition, pursuant to SUO Section 830, District staff is authorized to perform inspections and sampling on the premises of non-domestic sewer users' dental offices and to review user records relevant to the discharge of amalgam waste to the District's sewer system.

SECTION 8 – MISCELLANEOUS

Compliance with this Ordinance does not constitute Compliance with the SUO, and nothing herein is intended to abrogate or conflict with the SUO.
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SECTION 9 – EFFECTIVE DATE

This ordinance shall be effective thirty days after the date of adoption.

* * * * * * * *

I hereby certify that the foregoing resolution was duly and regularly passed and adopted by the Board of Directors of Novato Sanitary District, Marin County, California, at a meeting thereof duly held on the ___ day of _____, 2012, by the following vote:

AYES, and in favor thereof,	Directors: _____
NOES,	Directors: _____
ABSENT,	Directors: _____

_____
President, Board of Directors
Novato Sanitary District

ATTEST:

_____
Secretary
Novato Sanitary District

1977536.1

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Capital Projects: Annual Treatment Plant & Pump Station Improvements – Bahia Pump Station Drainage Improvements; Project 72805-12-01	**MEETING DATE: October 8, 2012** **AGENDA ITEM NO.: 9.a.**

RECOMMENDED ACTION: Consider granting Final Acceptance of the Bahia Pump Station Drainage Improvements, and authorize staff to file the Notice of Completion.

SUMMARY AND DISCUSSION:

On August 27, 2012 the District Board of Directors awarded the Contract for the Bahia Pump Station Drainage Improvements to Maggiora & Ghilotti for a low bid amount of $31,600. The work began on the project on September 17, 2012 and substantial completion was on September 28, 2012. The objective of these improvements is to reconfigure areas of the Bahia Pump Station site which may be susceptible to sewage overflows, so as to contain these overflows within the pump station site and prevent them from leaving the site into the neighboring wetlands.

The Contractor has completed the project and the project is ready for final acceptance. The final cost to complete the project is $31,600. There were no change orders on this project. It is recommended that final acceptance be granted, and staff authorized to file the Notice of Completion.

ALTERNATIVES: None

BUDGET INFORMATION: This project was funded under Account 72805, Annual Treatment Plant & Pump Station Improvements.

DEPT.MGR.:	**MANAGER-ENGINEER:**

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Capital Projects: Annual Collection System Repairs – Simmons Lane Sewer Repairs 2012; Project 72803-11-05	**MEETING DATE: October 8, 2012** **AGENDA ITEM NO.: 9.b.**

RECOMMENDED ACTION: Consider granting Final Acceptance of the Simmons Lane Sewer Repairs 2012, and authorize staff to file the Notice of Completion.

SUMMARY AND DISCUSSION:

On May 14, 2012 the District Board of Directors awarded the Contract for the Simmons Lane Sewer Repairs 2012 to Team Ghilotti for a low bid amount of $37,721.00. The work began on the project on July 1, 2012 and substantial completion was on July 13, 2012. The work included repairs to the sewer main on Simmons Lane and well as a relief sewer in the intersection of Simmons Lane & San Marin Drive.

The Contractor has completed the project and the project is ready for final acceptance. The final cost to complete the project is $37,721. There were no change orders on this project. It is recommended that final acceptance be granted, and staff authorized to file the Notice of Completion.

ALTERNATIVES: None

BUDGET INFORMATION: This project was funded under Account 72803, Annual Collection System Repairs.

DEPT.MGR.:	**MANAGER-ENGINEER:**

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Annual Treatment Plant/Pump Stations Improvements, Account No. 72805	**MEETING DATE: October 8, 2012** **AGENDA ITEM NO.: 9.c.**

RECOMMENDED ACTION: Consider and approve a proposal from Veolia Water in the not-to-exceed amount of $311,950 to perform the cleaning of the digester at the Ignacio treatment plant site and digester No. 2 at the Novato treatment plant site, as "Additional Services" under Section 8 of the Contract Service Agreement.

SUMMARY AND DISCUSSION:

The next stage of the Treatment Facilities Upgrade, Contract C (Solids Handling Facilities), will bid later this year. A major component of Contract C is the rehabilitation and upgrade of the existing Digester No. 2 at the Novato Treatment Plant, which requires the digester be taken out of service, cleaned and its contents disposed. Digester No.1, constructed under Contract B, will remain in service and meet all digestion demands of the plant while Digester No. 2 is out of service. In preparation, Veolia has removed Digester No. 2 from service after ensuring that the contents meet the Process to Significantly Reduce Pathogens (PSRP) and Vector Attraction Reduction (VAR) requirements of 40 Code of Federal Regulations (CFR), Part 503 biosolids regulations.

Also, the Ignacio Treatment Plant was decommissioned in 2010, and all existing process units were decommissioned, except for the anaerobic digester. Although no more raw sludge was fed into the digester, it was left in service for a further period of time, since it contained digesting sludge, to ensure that the contents would meet the PSRP and VAR requirements of 40 CFR, Part 503 regulations. Upon meeting these requirements, the digester was removed from service.

Veolia Water has demonstrable experience in cleaning or managing the cleaning of digesters at the various treatment facilities that they operate nationwide. Section 8.1.3 and 8.2 of the District's Contract Service Agreement with Veolia provides for additional services on a negotiated basis. Staff requested, and Veolia has provided a proposal, that as the operator of the District's treatment facilities, Veolia will assume the responsibility to clean these two digesters and appropriately dispose of the contents to the District's sludge facilities at its Reclamation Area, in accordance with all regulations. Also, Veolia's proposal is explicit in that Veolia shall be solely responsible for the means and methods employed for accomplishing the cleaning and sludge disposal.

To prepare their proposal, Veolia developed specifications and solicited bids from three companies. Synagro of Suisun City was the sole proposer. Veolia negotiated a contract with Synagro, whereby Synagro will perform the required cleaning and disposal services, for a lump sum of $130,750 for the Ignacio digester and $143,740 for the Novato Digester No. 2. Veolia's proposal also includes a project management fee of 10% or $27,450, and staff agrees that this is reasonable. Also, typical to such operations, and to account for unknowns related to sludge quantities ultimately handled, Synagro requested a risk-sharing approach whereby the contract would have a $20,000 initial contingency, after which the contingency risk falls on Synagro. Veolia has agreed to cost-share this contingency with the District to a $10,000 amount each. The total cost will be $311,950 to the District. Staff recommends that the Board approve the Veolia proposal in this not-to-exceed amount.

ALTERNATIVES: N/A

BUDGET INFORMATION: The work will be funded from Account No. 72805 – Annual Treatment Plant/Pump Stations Improvements, which has a FY12-13 budget amount of $500,000, of which $41,734.83 has been expended as of September 30, 2012

DEPT.MGR.:	**MANAGER-ENGINEER:**

NOVATO SANITARY DISTRICT
BOARD AGENDA ITEM SUMMARY

TITLE: Board of Directors: Policy 5010 Revision: Revise the regular meeting time of the Board from 6:30PM to 5:30 PM.	**MEETING DATE: September 10, 2012** **AGENDA ITEM NO.: 10.a.**

RECOMMENDED ACTION: Consider reviewing its meeting time and adopt a resolution to revise Policy 5010 for the regular meeting time of the Board of Directors, to reflect a change in its meeting time from 6:30 PM to 5:30 PM, and authorize the Manager-Engineer to publish such notice.

SUMMARY AND DISCUSSION:

The Board of Directors regular meeting date and time was set by Resolution No. 95 adopted December 29, 1952. The regular meeting date and time has been changed by resolutions; most recently the meeting time was changed from 4:30 pm to 6:30 pm on August 24, 2009.

The length of board meetings has increased making it difficult to complete the business by a reasonable hour when starting at 6:30 PM. Staff suggests scheduling the start of the meetings one hour earlier at 5:30 PM so as to still provide good opportunities for public participation while avoiding late night meetings.

Staff also recommends that the Board authorize the Manager-Engineer to publish a notice of any changed meeting time in the Marin IJ, the Novato Patch, the Novato Advance, and at the District's web-site in order to publicize the changed meeting time to the District's ratepayers and the public.

ALTERNATIVES: Re-schedule the meeting time to 5:30pm, reschedule the meeting time to another time before 6:30pm, or leave it at the scheduled time.

BUDGET INFORMATION: Rescheduling the meetings to 5:30 PM will save approximately $1,200 in staff overtime costs.

DEPT.MGR.:	**MANAGER-ENGINEER:**

RESOLUTION NO. 3051

A RESOLUTION CHANGING TIME OF REGULAR DISTRICT BOARD OF DIRECTORS' MEETINGS

NOVATO SANITARY DISTRICT

RESOLVED, by the Board of Directors of Novato Sanitary District, Marin County, California that

WHEREAS, the Board of Directors of Novato Sanitary District, in Resolution No. 95, adopted December 29, 1952, provided for the regular date of meetings of said District;

WHEREAS, said regular meeting date and time has been changed by Resolutions from time to time;

WHEREAS, the Board of Directors of Novato Sanitary District desires to further change the regular meeting time of said District;

NOW, THEREFORE, IT IS ORDERED, as follows:

Sec. 1 of said Resolution No. 95, adopted December 29, 1952, shall be, and it is hereby, amended to read as follows:

"Sec. 1. REGULAR MEETINGS: The regular meetings of the Novato Sanitary District, Marin County, California, shall hereafter be held on the **second Monday and the fourth Monday of each and every calendar month, at five thirty (5:30) o'clock P.M**."

* * * * * *

I hereby certify that the foregoing resolution was passed and adopted by the Board of Directors of Novato Sanitary District, Marin County, California, at a regular meeting held on the 8th day of October, 2012, by the following vote of the members thereof:

AYES, and in favor thereof, Members

NOES, Members:

ABSENT, Members:

_____
President, Board of Directors
Novato Sanitary District

ATTEST:

_____
Secretary

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