

NOVATO SANITARY DISTRICT

Meeting Date: September 28, 2015

The Board of Directors of Novato Sanitary District will hold a regular meeting at 6:00 p.m., Monday, September 28, 2015, 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 14, 2015 meeting.

5. CONSENT CALENDAR:

The General Manager-Chief Engineer has reviewed the following items. To his 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 disbursements.
- b. Approve payroll and payroll related disbursements.
- c. Receive report on Mandated Cost Reimbursement, State of California.
- d. Receive letter dated September 18, 2015 from the County Elections Department – “Appointment of nominee(s) in lieu of election”.

6. WASTEWATER OPERATIONS COMMITTEE:

- a. Receive Wastewater Operations Committee report, meeting of September 21, 2015.

- b. *Operations – Collections, Outside Services; Account No. 60153*: Authorize the General Manager-Chief Engineer to execute a project work order with Roto-Rooter Plumbers to provide siphon inspection related CCTV services, in the amount of \$32,000.00.

7. CAPITAL PROJECTS:

- a. *Collection System Improvements, Account No. 72706*: Hamilton Trunk Sewer Replacement – Approve a contract with Nute Engineering for construction phase consulting services on a time and materials basis in the not-to-exceed amount of \$46,000, and authorize the General Manager-Chief Engineer to execute it.

8. BOARD MEMBER REPORTS AND REQUESTS:

- a. North Bay Water Reuse Authority (NBWRA) Board meeting of September 21, 2015 (Director Long).

9. INFORMATIONAL ITEMS:

(These items are for information only, no action will be taken on these items).

- a. University of North Carolina, Chapel Hill, Environmental Finance Center article: “Four Trends in Government Spending on Water and Wastewater Utilities since 1956”.

10. GENERAL MANAGER’S ANNOUNCEMENTS:

11. ADJOURN:

Next resolution no. 3092.

Next regular meeting date: Monday, September 28, 2015, 6:00 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.

NOVATO SANITARY DISTRICT

Board Meeting Minutes

Meeting Date: September 14, 2015

A regular meeting of the Board of Directors of the Novato Sanitary District was held at 6:00 p.m., Monday, September 14, 2015, at the District Office, 500 Davidson Street, Novato.

BOARD MEMBERS PRESENT: President Jean Mariani, Directors Jerry Peters, Gary Butler, William Long, and Brant Miller.

STAFF PRESENT: General Manager-Secretary Sandeep Karkal, and Administrative Secretary Julie Swoboda.

ALSO PRESENT: Steve Krautheim, Field Services Manager, Novato Sanitary District
John O'Hare, Pretreatment Programs Manager, Veolia
Erik Brown, Technical Services Manager, Novato Sanitary District
Laura Creamer, Finance Officer, Novato Sanitary District
Dee Johnson, Household Hazardous Waste Program Coordinator
Nick Franceschine, Consulting Actuary, North Bay Pensions
Michael Kraus, BioMarin
Donald Clark, BioMarin

PLEDGE OF ALLEGIANCE:

AGENDA APPROVAL: The agenda was approved as presented.

PUBLIC COMMENT: None.

REVIEW OF MINUTES:

Consider approval of minutes of the August 24, 2015 meeting.

On motion of Director Peters, seconded by Director Miller, and carried unanimously, the August 24, 2015 Board meeting minutes were approved.

CONSENT CALENDAR:

President Mariani called for a motion on the Consent Calendar items as follows:

- a. Approval of Board member disbursements in the amount of \$2,700.43, regular disbursements in the amount of \$168,598.44, and capital project disbursements in the amount of \$390,455.84.
- b. Received deposit summary, August 2015

On motion of Director Peters, seconded by Director Long and carried unanimously, the above listed Consent Calendar items were approved.

PUBLIC HEARING – SEWER USE ORDINANCE:

- Summary Report – amend and restate District Ordinance No. 115 to incorporate pretreatment program changes. The General Manager stated that at the August 10, 2015 meeting, the District Board set the date of September 14, 2015 for the public hearing to consider restating and amending District Ordinance No. 115 to incorporate pretreatment program changes. He stated that the public hearing announcement was published twice in the Marin Independent Journal as required.

- Open public hearing. President Mariani opened the public hearing at 6:03 p.m.

- Consider protests regarding Amended and Restated Ordinance No. 15. No protests or comments were received.

- Close public hearing. President Mariani closed the public hearing at 6:04 p.m.

- Adopt Amended and Restated Ordinance No. 115 incorporating changes to pretreatment program requirements.

On motion of Director Peters, seconded by Director Butler and carried unanimously, the Board adopted the Amended and Restated Ordinance No. 115, incorporating changes to pretreatment program requirements.

Michael Kraus and Donald Clark left the meeting at 6:08 p.m.

SOLID WASTE COMMITTEE:

- Receive Solid Waste Committee report, meeting of August 31, 2015. The General Manager stated that Committee Members Mariani and Butler attended the August 31st meeting. He introduced Dee Johnson, Household Hazardous Waste Program Coordinator who provided an overview of the Committee report. She stated that the second quarter 2015 diversion report numbers had improved from the first quarter by several percent. She reviewed the outreach events which were held in September and October, and noted that attendance at the Household Hazardous Waste (HHW) facility continues to increase. She stated that the fall E-Waste event is scheduled for October 10 – October 12 from 10:00 a.m. to 3:00 p.m.

Discussion followed.

Dee Johnson left the meeting at 6:15 p.m.

FINANCE COMMITTEE:

- Receive Finance Committee report, meeting of September 2, 2015. The General Manager stated that Committee Members Long and Peters attended the September 2nd meeting. He stated that Nick Franceschine, Consulting Actuary with North Bay Pensions, was at the

Committee meeting and was also present at the Board meeting to provide information and answer questions.

The General Manager stated that the Committee had received a PowerPoint presentation with information on the District's GASB 45 liabilities and potential prefunding scenarios. The Committee had noted that the information provided was very useful and asked that staff and Mr. Franceschine bring it forward to the entire District Board. The General Manager presented the same PowerPoint presentation to the Board and reviewed three GASB 45 liability prefunding scenarios. He stated that the materials being presented were for informational purposes only.

The PowerPoint presentation was followed by a discussion between the Board, staff, and Mr. Franceschine. Upon close of discussion, President Mariani suggested that questions and comments brought forward during the discussion be reviewed by the Finance Committee, and considered at a future Board meeting.

At 7:16 p.m., President Mariani called for a 10 minute recess.

Nick Franceschine and Laura Creamer left the meeting at 7:16 p.m.

At 7:23 p.m., President Mariani reconvened the Board meeting.

CAPITAL PROJECTS:

- Collection System Improvements, Account No. 72706: Hamilton Trunk Sewer Replacement. Review bids received, approve contract award to Michael Paul Company, and authorize the General Manager-Chief Engineer to execute the contract in the bid amount of \$495,728.00. The General Manager stated that at its August 10, 2015 meeting, the District Board made CEQA findings and authorized staff to advertise for bids for this project. On September 3rd, six (6) bids were received as outlined on the Board report. He stated that Michael Paul Company of Petaluma, CA, submitted the apparent lowest bid of \$495,728. He noted that staff had reviewed Michael Paul's bid documents and they appeared to be in order.

The General Manager recommended that the Board award the contract for the Hamilton Trunk Sewer Replacement to Michael Paul Company and authorize the General Manager to execute the contract in the bid amount of \$495,728.00.

On motion of Director Peters, seconded by Director Long, and carried unanimously, the Board awarded the Collection System Improvements, Hamilton Trunk Sewer Replacement Project, Account No. 72706, to Michael Paul Company and authorized the General Manager to execute the contract in the bid amount of \$495,728.

- Annual Treatment Plant & Pump Station Improvements, Account No. 72804: Ignacio Transfer Pump Station Site Improvements, Project Work Order No. 72805-15-01. Review bids received, accept the lowest responsive bid, and authorize the General Manager-Chief Engineer to execute a Contract with Maggiora & Ghilotti Inc., in the amount of \$138,138. The General Manager stated that District staff had requested bids for completing improvements to

increase the wet weather storage capacity of the Ignacio Transfer Pump Station (ITPS). He noted that during last winter's storms, the sludge lagoons were used for storage, but pumps requiring staff attendance were needed. He stated that completing the proposed improvements would allow filling and emptying of the tanks with minimal staff effort.

On September 10th, four (4) bids were received as outlined in the Board report. He stated that Maggiora & Ghilotti Inc. of San Rafael, submitted the apparent lowest bid of \$138,138. He noted that staff had reviewed Maggiora & Ghilotti's bid documents and they appeared to be in order.

The General Manager recommended that the Board award the contract for the Ignacio Transfer Pump Station Site Improvements to Maggiora & Ghilotti and authorize the General Manager to execute the contract in the bid amount of \$138,138.

On motion of Director Peters, seconded by Director Butler and carried unanimously, the Board awarded the Ignacio Transfer Pump Station Site Improvements, Project Work Order No. 72805-15-01 to Maggiora & Ghilotti Inc. and authorized the General Manager to execute the contract in the bid amount of \$138,138.

ADMINISTRATION:

- Approve minor updates to District Policy No. 2047 – "Vehicle Assignment and Usage" to reflect current District staffing, and adopt the updated policy. The General Manager stated that the Vehicle Assignment and Usage policy required a minor update to reflect current District staffing. He recommended the Board approve and adopt the updated policy.

On motion of Director Long, seconded by Director Peters and carried unanimously, the Board approved the updated District Policy No. 2047 – Vehicle Assignment and Usage.

BOARD MEMBER REPORTS AND REQUESTS:

- North Bay Watershed Association (NBWA) report. Director Miller stated that he attended the NBWA meeting which took place at the District office on Friday, September 11th. He discussed the two presentations that were given: Tony Williams, City of Novato, discussed the Hamilton Field Levee System FEMA Accreditation; and Jay Jasperse, Sonoma County Water Agency (SCWA), discussed implementing the Sustainable Groundwater Management Act in Sonoma County.

MANAGER'S ANNOUNCEMENTS:

- The General Manager stated that the District had recently received contacts about strong sewage smells in the Novato area. He noted that the odors were not from District facilities, but likely from Novato area ponds that were "turning over" due to climate conditions at this time of year. He provided the Board with an informational article which was published in the Novato Advance in October, 2013. He noted that the article was based on information provided by the Marin County Department of Public Works and discussed the "turning over" of a local pond, and that it explained how the odors are released.

- North Marin Water District will hold an Aqueduct Energy Efficiency Project Dedication on Thursday, October 1, 2015 at 10:00 a.m. All Directors are invited to attend.

- The next Regular Board meeting will be held on Monday, September 28th at 6:00 p.m. at the District office. The General Manager stated that he may not be in attendance but that Field Services Manager Steve Krauthem and Technical Services Manager Erik Brown will be at the meeting.

- The Wastewater Operations Committee meeting will be held on Monday, September 21st at 2:00 p.m. at the District office.

ADJOURNMENT: There being no further business to come before the Board, President Mariani adjourned the meeting at 7:44 p.m.

Respectfully submitted,

Sandeep Karkal
Secretary

Julie Swoboda, Recording

Novato Sanitary District Operating Check Register

September 28, 2015

Date	Num	Name	Credit
Sep 28, 15			
09/28/2015	58615	American Express-21007	11,178.30
09/28/2015	58623	Golden Gate Petroleum, Corp	7,912.45
09/28/2015	58636	Regional Government Services	5,980.00
09/28/2015	58619	E & M Wonderware, Inc.	3,769.27
09/28/2015	58640	SWRCB-ELAP Fees	2,811.00
09/28/2015	58635	Red Wing Shoe Store	2,805.24
09/28/2015	58638	RMC Water & Environment, Inc.	2,463.50
09/28/2015	58630	North Marin Water District - Lab	2,365.00
09/28/2015	58627	North Bay Pensions	1,425.00
09/28/2015	58631	North Marin Water District Payroll	1,326.25
09/28/2015	58616	Cagwin & Dorward Inc.	1,125.00
09/28/2015	58614	Airgas USA, LLC	965.53
09/28/2015	58618	Control Systems West, Inc.	852.00
09/28/2015	58620	Environmental Products and Acc...	598.11
09/28/2015	58626	Marin/Sonoma Mosquito Dist	566.24
09/28/2015	58637	Reliance Standard Life	475.00
09/28/2015	58621	Evoqua Water Technologies - Lab	378.00
09/28/2015	58617	Claremont EAP, Inc.	295.00
09/28/2015	58624	Grainger	203.92
09/28/2015	58633	Orkin Pest Control, Inc.	144.56
09/28/2015	58634	Randall Bros. Auto Inc.	120.00
09/28/2015	58629	North Marin Water District	119.95
09/28/2015	58625	Honey Bucket	88.21
09/28/2015	58639	Stevenson, Jeffrey MD	85.00
09/28/2015	58632	Novato Chevrolet	55.80
09/28/2015	58622	First Alarm	38.74
09/28/2015	58628	North Marin Auto Parts	33.45
Sep 28, 15			48,180.52

Novato Sanitary District Capital Projects Check Register

September 28, 2015

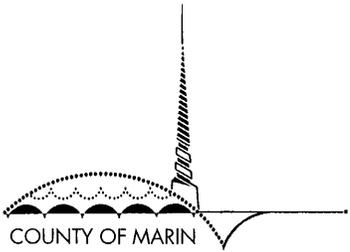
Date	Num	Name	Credit
Sep 28, 15			
09/28/2015	2924	Thompson Builders Corp.	255,312.50
09/28/2015	2916	GHD Inc.	13,515.25
09/28/2015	2919	Linscott Engineering Contractor...	8,684.83
09/28/2015	2923	SC Barns	3,673.58
09/28/2015	2921	Novato, City	2,770.00
09/28/2015	2917	Lateral-King	1,500.00
09/28/2015	2918	Lateral-Rippon	1,500.00
09/28/2015	2920	Miller Pacific Engineering, Inc.	1,012.50
09/28/2015	2922	RMC Water & Environment, Inc.	1,006.00
Sep 28, 15			<u>288,974.66</u>

Novato Sanitary District
Payroll and Payroll Related Check Register
September - 2015

<u>Date</u>	<u>Description</u>	<u>Amount</u>
09/30/2015	September - Payroll	103,308.20
09/25/2015	September - Retirees Health Benefits	12,346.18
09/25/2015	CALPERS Retirement	7,899.62
09/30/2015	United States Treasury	22,573.49
09/25/2015	CalPers Supplemental Income Plan	2,500.00
09/30/2015	EDD	6,422.04
09/25/2015	Lincoln Financial Group	8,214.60
09/25/2015	Lincoln Financial Group-401a Plan	3,460.80
09/25/2015	Lincoln Financial Group-401a Plan	3,510.95
09/25/2015	CALPERS Retirement	12,986.55
09/25/2015	CALPERS Retirement Funding	12,232.00
09/25/2015	Local Union 315	460.00
09/25/2015	Delta Dental	2,396.82
09/25/2015	Operating Engineers Trust	302.08
		<u>198,613.33</u>

NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

TITLE: State Mandated Cost Reimbursement	MEETING DATE: September 28, 2014 AGENDA ITEM NO.: 5.c.								
RECOMMENDED ACTION: Information only.									
SUMMARY AND DISCUSSION: <p>For a number of years the State of California has reimbursed public agencies for costs of complying with State mandated legislation such as Open Meeting Act requirements. While the mandated costs are reimbursable under law, there have been years when, because of State budgetary constraints, the legislature failed to appropriate funds to reimburse agencies.</p> <p>From fiscal year 1997-98 through 2009-10 the District submitted claims and supporting documentation in the amount of \$39,069.00 for reimbursement of posting requirements to comply with Open Meeting Act requirements. To date, reimbursement in the amount of \$10,135.00 has been received. With the deduction of certain disallowed costs, a balance of \$25,166.00 remains owed to the District.</p> <p>In addition to Open Meeting Act requirements, a number of years ago the State authorized reimbursement for costs of responding to Public Records Act requests. However, no claim may be filed unless it exceeds \$1,000 for each fiscal year. The District has submitted claims in the total amount of \$20,321.00 for fiscal years 2008-09 through 2011-12. To date, reimbursement in the amount of \$5,345.00 has been received. With the deduction of certain disallowed costs, a balance of \$9,417.00 remains owed to the District.</p> <p><u>Summary:</u></p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 20px;">Total amount claimed:</td> <td style="text-align: right;">\$59,390.00</td> </tr> <tr> <td style="padding-left: 20px;">Total allowable reimbursement:</td> <td style="text-align: right;">\$50,063.00</td> </tr> <tr> <td style="padding-left: 20px;">Amount received to date:</td> <td style="text-align: right;">\$15,480.00</td> </tr> <tr> <td style="padding-left: 20px;">Amount owed to District:</td> <td style="text-align: right;">\$34,583.00</td> </tr> </table> <p>On March 27, 2015, the parameters and guidelines for the Open Meeting Act/Brown Act Reform program were amended, ending reimbursement for the mandate, effective November 7, 2012. The state's liability for reimbursement under this program has now been eliminated. The District will continue to submit qualifying reimbursement claims for Public Records Act compliance.</p>		Total amount claimed:	\$59,390.00	Total allowable reimbursement:	\$50,063.00	Amount received to date:	\$15,480.00	Amount owed to District:	\$34,583.00
Total amount claimed:	\$59,390.00								
Total allowable reimbursement:	\$50,063.00								
Amount received to date:	\$15,480.00								
Amount owed to District:	\$34,583.00								
BUDGET INFORMATION: For fiscal year 2015-16, \$5,345.00 has been received into Operating Account No. 41140 (Other Revenue). It is unknown when the State will reimburse the remaining \$34,583.00.									
DEPT.MGR: ssk	GENERAL MANAGER: SSK								



ELECTIONS DEPARTMENT

Providing a responsive, transparent, and professional approach to conducting elections.

Lynda Roberts
REGISTRAR OF VOTERS

September 18, 2015

Melvin Briones
ASSISTANT REGISTRAR OF
VOTERS

TO: Novato Sanitary District

SUBJECT: Appointment of nominee(s) in lieu of election

PO Box E
San Rafael, CA 94913

There will **not** be an election of Directors in your district because the number of nominees did not exceed the number of offices to be filled, and no petition was filed to put the office on the ballot. Pursuant to Elections Code Sec. 10515, if an election is not held, the person(s) nominated shall be appointed by the Board of Supervisors and shall serve as if elected.

Marin County Civic Center
3501 Civic Center Drive
Suite 121
San Rafael, CA 94903
415 473 6456 T
415 473 6447 F
415 473 6899 TTY
www.marinvotes.org
elections@marincounty.org

On September 15, 2015, the following nominee(s) were appointed by the Marin County Board of Supervisors:

CAROLE DILLON-KNUTSON	term ending 2017 (short)
JEAN MARIANI	term ending 2019
JERRY PETERS	term ending 2019

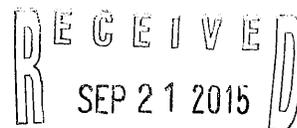
Enclosed are the original and two (2) copies of the Certificates of Election and Oath of Office for your newly appointed members. The members keep the original and you'll keep a copy for your files. Send the second copy to this office. **Please have the members sign each copy.**

If you have any questions, please contact this office at 415-473-6437.

Sincerely,

DAN MILLER
Candidate & Filing Services

encls.



NOVATO SANITARY DISTRICT

NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

TITLE: Receive Wastewater Operations Committee Meeting Report, August 2015	MEETING DATE: September 28, 2015 AGENDA ITEM NO.: 6.a.
RECOMMENDED ACTION: Information. Receive report.	
SUMMARY AND DISCUSSION: <p>The August 2015 reports for wastewater treatment operations, collection system operations, and reclamation facilities are attached.</p> <p>Wastewater Treatment Facility</p> <p>Novato Treatment Plant (NTP) water quality performance was excellent with all parameters well within effluent standards, and there were no NPDES violations. The Recycled Water Facility produced 19.064 MG of recycled water in August, and had no excursions. Safety performance was excellent with another accident-free month for a total of 1,924 accident-free days through the end of August. The Discharge Monitoring Report (DMR), the Electronic Self-Monitoring Report (e-SMR), and the Recycled Water Report, for July 2015, were all submitted on August 20, 2015.</p> <p>Odor Control and Landscaping</p> <p>All of the odor control beds were topped off with media in July to preclude potential odor breakthrough and appear to be functioning well. Operations staff continued to add sodium hypochlorite at the influent junction structure as needed. The redwood trees replanted to the northeast corner of the plant site, and the site vegetation in general, appear to be doing well under the drought conditions, likely due to irrigation with recycled water. The oleander along the northeast fence-line especially seems to be thriving despite suffering frost damage in previous winters.</p> <p>Collection System and Pump Stations</p> <p>Staff cleaned 53,112 ft of sewer lines, televised 3,396 ft with the CCTV truck, and 5,161 ft with the Push Cam. In addition, outside contractors cleaned 8,990 feet of large diameter sewer mains. Staff also performed smoke testing of 10,649 ft of sewer main, conducted 274 lift station inspections, and completed maintenance inspections on four (4) air relief valves.</p> <p><u>Safety:</u> No lost time accidents in August 2015 for a total of 1,632 accident-free days.</p> <p><u>Standard and Emergency Operating Procedures (SOPs & EOPs):</u> No new core SOPs were generated however, staff continues to use the recently completed draft Core Competency Checklist for training purposes.</p> <p><u>Sanitary Sewer Overflows (SSOs):</u> There was one minor Category III SSO in August 2015.</p> <p>Reclamation Facility</p> <p>The rancher tended to his cattle this month and worked on weed management and sprinkler repairs. Parcels were irrigated on all Sites without any reportable issues. Work began to clean out the sludge lagoons. A total of 62.45 MG of treated water was used for irrigation in August.</p>	
Attachment to this Item Summary: Attachment 1: Agenda Packet from September 21, 2015 Wastewater Operations Committee meeting, (August 2015 Reports).	
DEPT.MGR.: JB (Veolia), SRK, DD, EB	GENERAL MANAGER: SSK

NOVATO SANITARY DISTRICT

Meeting Date: September 21, 2015

The Wastewater Operations Committee of the Novato Sanitary District will hold a meeting at 2:00 PM, Monday, September 21, 2015 at the District offices, 500 Davidson Street, Novato.

AGENDA

1. AGENDA APPROVAL:

2. 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 Committee at this time as a result of any public comments made.

3. CONSIDER APPROVAL OF MINUTES OF THE AUGUST 17, 2015 MEETING

4. WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR AUGUST 2015:

- a. Treatment Plant Performance Report
- b. Maintenance Report
- c. Safety and training
- d. Odor control and landscaping report.

5. COLLECTION SYSTEM OPERATIONS AND MAINTENANCE REPORT FOR AUGUST 2015:

- a. Collection System Maintenance
- b. Pump Station Maintenance
- c. Collection System Performance
- d. Safety and Training

6. RECLAMATION FACILITY REPORT FOR AUGUST 2015:

- a. Ranch Operations
- b. Irrigation Parcels
- c. Irrigation Pump Station

7. OTHER ITEMS:

8. ADJOURNMENT:

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.

Materials that are public records and that relate to an open session agenda item will be made available for public inspection at the District office, 500 Davidson Street, Novato, during normal business hours.

August 17, 2015

A regular meeting of the Wastewater Operations Committee of Novato Sanitary District was held at 2:00 p.m., Monday, August 17, 2015, at the District Office, 500 Davidson Street, Novato.

MEMBERS PRESENT: Committee Members Jerry Peters and Brant Miller.

STAFF PRESENT: Sandeep Karkal, General Manager-Chief Engineer
Steve Krautheim, Field Services Manager
Dasse de longh, Interim Collections System Superintendent
Julie Swoboda, Administrative Secretary

STAFF ABSENT: John Bailey, Project Manager, Veolia

OTHERS PRESENT: John O'Hare, Pretreatment Programs Manager, Veolia
Lynda Farmery, Planner, Veolia

AGENDA APPROVAL: Approved as presented.

PUBLIC COMMENT: None.

APPROVAL OF MEETING MINUTES FOR JULY 20, 2015: The July 20, 2015 meeting minutes were approved as presented.

WASTEWATER TREATMENT FACILITIES OPERATIONS AND MAINTENANCE REPORT FOR JULY 2015:

- Treatment Plant Performance Report, Maintenance Report and Safety & Training:

The General Manager introduced John O'Hare, Pretreatment Programs Manager, Veolia who provided an overview of treatment plant operations for the month of July. He discussed key operations and maintenance events at the Novato facility, the Ignacio Transfer Pump Station, the Recycled Water Plant, and the Sludge Lagoons. He stated that the monthly average flow was 3.33 MGD and that the treatment plant performance was very good with no violations or excursions.

The Pretreatment Programs Manager discussed training events completed in July and stated that as of July 31st, Veolia employees have been accident free for a total of 1,893 days. He discussed the training Veolia employees participated in during July. He reviewed the operations and maintenance report and stated that 8.456 million gallons of recycled water were produced. He stated that Jerome Meter (H2S) readings continue to be performed in the neighborhood and within the treatment plant, consistent with a prior request from the Committee.

- Odor control and landscaping report: The General Manager discussed odor control related activities in July. He noted that a potential for odor breakthrough was identified in late June, and operations staff arranged for topping off of media in all odor beds. He stated that in

November staff would be considering the addition of more redwood trees in the northeast corner of the plant site.

COLLECTION SYSTEMS OPERATION AND MAINTENANCE REPORT FOR JULY 2015:

The Field Services Manager presented the Collection Systems Monthly Report for July 2015. He reported that the Collection Systems crew cleaned a total of 82,722 feet of sewer pipeline and that the department completed 405 maintenance work orders which were generated for July. He stated that the District's CCTV van (Closed Circuit TV) televised 40 line segments for 6,798 feet of production and he noted that no areas were identified as needing repairs or further evaluation. He reported on the current Collection System Projects, and outlined the specialized training that the department completed. He stated that as of July 31st, 2015, the Collections Department and the District have worked accident free for a total of 1,601 days.

The Field Services Manager stated that there were no sanitary sewer overflows in July.

RECLAMATION FACILITY REPORT FOR JULY 2015:

The Field Services Manager presented the Reclamation Facilities report for July. He stated that parcels were irrigated on all sites with no reportable issues and that approximately 91.6 MG of treated water was used for irrigation this month. He stated that the Wildlife Pond level was raised to six feet and that the sump pump in the Dedicated Land Disposal area which failed the previous month had been replaced. He noted that there were no sludge handling activities for the month.

MANAGER'S ANNOUNCEMENTS:

The General Manager stated that the District had considered changing its electricity service provider from Pacific Gas and Electric Company (PG&E) to MCE Clean Energy (MCE) and requested MCE provide a cost comparison using the District's Irrigation Pump Station (IPS) as a test case. He stated that the results indicated a potential savings of approximately 6.5% when PG&E and MCE rates were reviewed over the most recent three month billing period. He stated that staff will bring a recommendation for consideration by the entire Board to transfer electricity service providers for the IPS from PG&E to MCE.

The General Manager stated that the next Wastewater Operations Committee meeting will be held on Monday, September 21st at 2:00 p.m. at the District office.

ADJOURNMENT: There being no further business to come before the Committee, the meeting adjourned at 2:45 p.m.

Respectfully submitted,

Sandeep Karkal
General Manager-Chief Engineer

Julie Swoboda, Recording

DRAFT



September 15, 2015

Mr. Sandeep Karkal
Manager - Engineer
Novato Sanitary District
500 Davidson Street
Novato, CA 94545

Subject: Veolia Water Operations Report – August 2015

Dear Mr. Karkal:

I am pleased to provide the Monthly Operation report for August 2015.

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

Best regards,

A handwritten signature in blue ink, appearing to read "John Bailey". The signature is stylized and cursive.

John Bailey
Project Manager, Veolia



**MONTHLY OPERATIONS REPORT
August 2015**

Prepared for

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

Prepared by

Veolia Water West Operating Services, Inc. (VWWOS)

TABLE OF CONTENTS

TREATMENT PLANT PERFORMANCE SUMMARY	1
SAFETY AND TRAINING	2
OPERATIONS AND MAINTENANCE STATUS / REVIEW	2-3
LABORATORY ACTIVITIES SUMMARY	3
ADMINISTRATION	4
ODORS.....	4
MISCELLANEOUS.....	4
ATTACHMENTS	
• Photos	
○ Sludge Lagoon Sampling	
○ Blood Borne Pathogen Training	
○ Flushing Decant Line	
○ Demolition Project – Aeration Basin & Odor Control Structure Removal	
○ Filling Old Influent Pump Station	
• Laboratory Data	
• Recycled Water Report	
• Annual Performance Graphs	
• Process Control Data / Graphs	
• Customer Notifications (Odor / Noise)	
• Jerome Meter Readings and Locations	

TREATMENT PLANT PERFORMANCE SUMMARY: August 2015:

Parameter	Value		Limit	
	Ave	Max	#1	#2
Flow, MGD (monthly ave/max)	3.20	3.70	N/A	N/A
Max Peak Hour, MGD – No Rainfall	N/A	~ 7	N/A	N/A
Influent				
BOD ₅ , lb/day (month ave/max)	8,172	10,909	N/A	N/A
TSS, lb/day (monthly ave/max)	9,506	12,281	N/A	N/A
Effluent				
BOD ₅ , mg/L (monthly ave/weekly max)	7	8	40	N/A
TSS, mg/L (monthly ave/weekly max)	<4	7	N/A	N/A
BOD ₅ - % Removal, Minimum	97	N/A	N/A	N/A
TSS - % Removal, Minimum	99	N/A	N/A	N/A
Ammonia, mg/L – (monthly ave/daily max)	N/A	N/A	N/A	N/A
pH, su (min / max)	6.9	7.1	6.0	9.0
Enterococcus, MPN/100 ml (30 day geo mean)	N/A	N/A	N/A	N/A
Fecal Coliform, MPN/100 ml (30 day median)	N/A	N/A	N/A	N/A
Fecal Coliform, MPN/100 ml (90 th percentile)	N/A	N/A	N/A	N/A
Total Coliform, MPN/100 ml (5 Sample Median/Max)	79	130	240	10,000
Total Permit Exceedances (NPDES)	0			

Title 22 - Recycled Water Production and Quality

Description	Units	Value	Limit
Volume Produced	Million Gallons	19.064	N/A
Average Turbidity	NTU	0.9	2.0
Turbidity > 5 NTU (in 24 hour)	Minutes	0	72
Minimum CT (disinfection)	mg-min/L	>450	450 minimum
Minimum Dissolved Oxygen (DO)	mg/L	8.0	2 mg/L minimum
Maximum Total Coliform	MPN/100 ml	<2	240
Maximum Total Coliform 2 Samples 30 d	MPN/100 ml	<2	23
Total Coliform 7 Sample Median	MPN/100 ml	<2	2.2

Discussion of Violations / Excursions:

Waste Discharge Requirements (WDR) – None

Recycled Water – None

Rainfall. – N/A

SAFETY AND TRAINING:

- Monthly plant safety inspections for Novato WWTP and Ignacio Transfer Pump Station completed
- Five Minute Tailgate training is held daily with all staff.
- No safety incidents for the month of August.
- Accident Free: 6/1/10 – 8/31/15: 1,924 days
- Monthly Safety Topics and Training:
 - Bloodborne Pathogens
 - OSHA Inspections Policy O.103

OPERATIONS & MAINTENANCE STATUS / REVIEW:

Key events for the period:

Novato

- Routine rounds, readings and maintenance
- Performed Fuel Sampling on Main Diesel Fuel Tank, UV Generator Diesel Fuel Tank & Administration Building Generator Fuel Tank
- Replaced Effluent Pump #4 VFD
- Repairs to Blower #3 (Motor Control Panel, Cooling Fan)
- Repaired Hypochlorite Tank Fill Line
- Replaced flanges and valves on High Pressure Water Pump #2
- Repaired #3 water line break near Aeration Basin #3 & 4

Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement

- Aeration Basin #1 & #2 (not needed at current flows)
- Secondary Clarifier #1 (not needed at current flows)
- Primary Clarifier #2 (not needed at current flows)

Ignacio Transfer Pump Station

- Routine rounds, readings and maintenance
- Repair of MSA Gas Sensors in Wet Well

Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement

- None

Recycled Water Plant (RWP)

- Performed plant rounds and maintenance
- Repaired Distribution Pump #1

Equipment Out of Service – Due to Planned Servicing, Maintenance, or Replacement

- None

Sludge Lagoons

- Performed routine rounds and inspection
- Flushed decant Lines

LABORATORY ACTIVITIES SUMMARY:

Irrigation Wet Well Sampling

Monthly sampling of the irrigation wetwell was performed in July and will continue throughout reclamation / irrigation season. The data collected will be compiled and reported in the 2015 triennial Irrigated Pasture Report.

Wildlife Pond and Reclamation Activities

Samples and weekly/monthly observations at the Wildlife pond were taken according to the WDR (Order No. 92-065). See Wildlife Pond monitoring photos.

ADMINISTRATION:

- July Electronic Self-Monitoring Report (SMR) submitted on August 20, 2015
- July Electronic Discharge Monitoring Report (DMR) submitted on August 20, 2015
- July Recycled Water Report submitted on August 20, 2015

ODORS:

- Jerome meter (H2S) readings performed in neighborhood and within treatment plant.
- All readings in neighborhood were at the minimum detection threshold of the Jerome meter.
- Eight noise complaints associated with demolition project.

MISCELLANEOUS

- Process Control Management Plan (PCMP) meetings held weekly.
- Recruitment open for Maintenance Technician.

Veolia Support Staff On/Off Site (Various Times)

John O'Hare	Technical Support
Dave Coffman	Asset Management
Dennis Flosi	Electrical, Instrumentation, & Controls

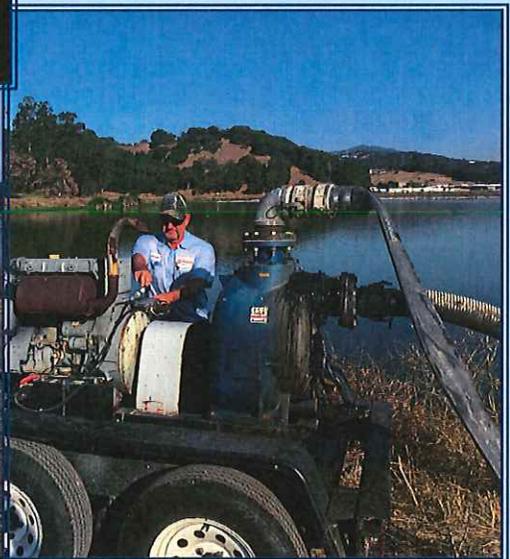
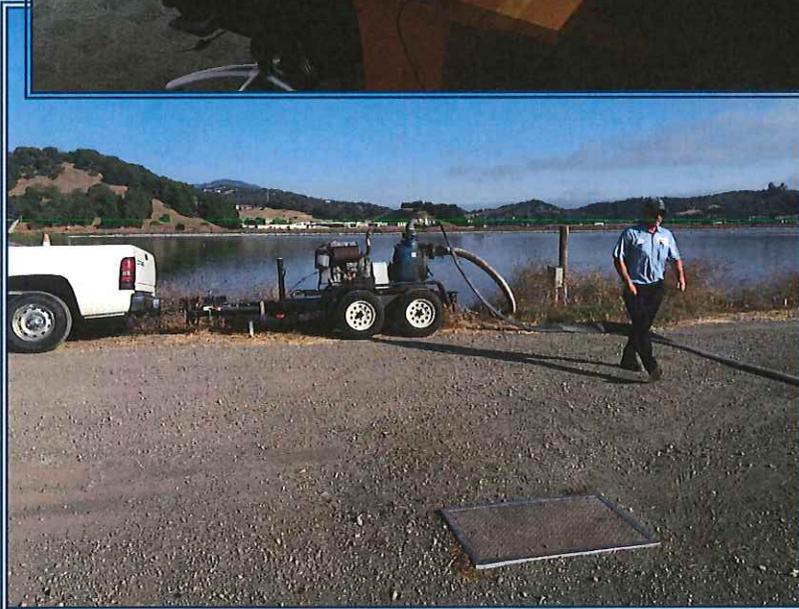


Environmental Services Activities
Sludge Sampling
July/August 2015



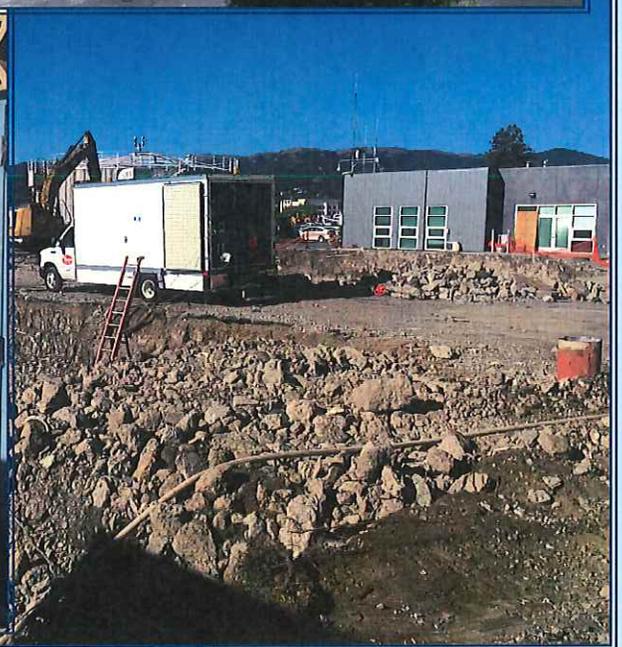


BLOOD BORNE PATHOGEN TRAINING
FLUSHING DECANT LINE
AUGUST 2015



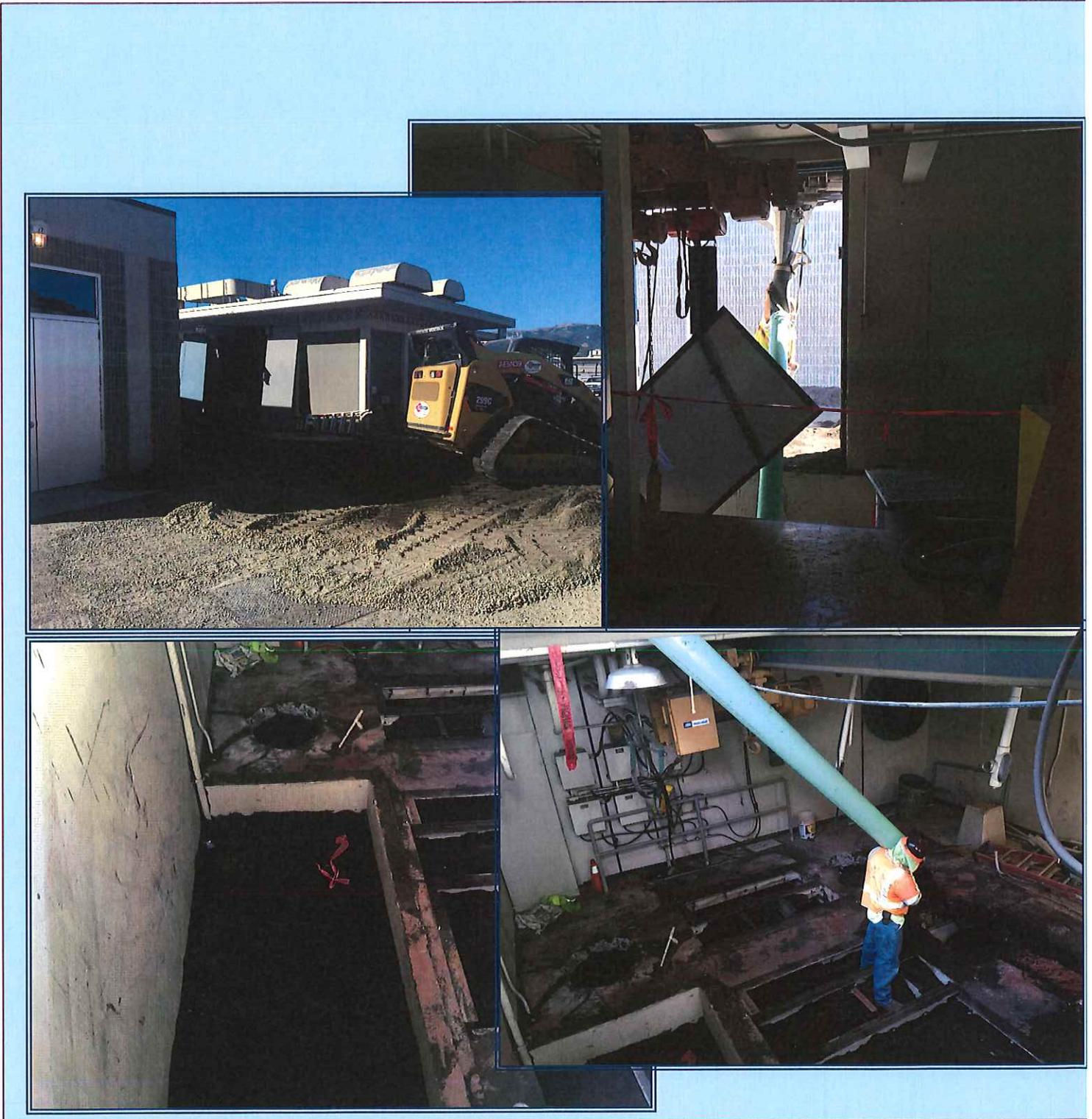


DEMOLITION PROJECT – AERATION BASINS &
ODOR CONTROL STRUCTURE
August 2015





DEMOLITION PROJECT – FILLING INFLUENT PUMP STATION
August 2015



Novato Sanitary District
BOD/TSS Report



August, 2015

Date	Flow MGD	Influent				Effluent				BOD % Removal PERCENT	TSS % Removal PERCENT
		BOD		TSS		BOD		TSS			
		mg/l	lb/d	mg/l	lb/d	mg/l	lb/d	mg/l	lb/d		
08/01/15	2.89										
08/02/15	2.99										
08/03/15	3.51										
08/04/15	3.45										
08/05/15	3.36	266	7,454	319	8,939	8	224	<3	<84	97.0	99.1
08/06/15	3.33	275	7,637	285	7,915	6	167	<3	<83	97.8	98.9
08/07/15	3.25	301	8,159	294	7,969	6	163	<3	<81	98.0	99.0
08/08/15	3.20										
08/09/15	3.36										
08/10/15	3.16										
08/11/15	3.02	390	9,823	349	8,790	8	201	<3	<76	97.9	99.1
08/12/15	3.02	326	8,211	360	9,067	8	201	<3	<76	97.5	99.2
08/13/15	3.05	228	5,800	288	7,326	8	203	14	356	96.5	95.1
08/14/15	3.03										
08/15/15	2.91										
08/16/15	2.98										
08/17/15	3.23										
08/18/15	3.25	298	8,077	354	9,595	6	163	5	136	98.0	98.6
08/19/15	3.39	274	7,747	338	9,556	8	226	4	113	97.1	98.8
08/20/15	3.70	282	8,702	398	12,281	7	216	<3	<93	97.5	99.2
08/21/15	3.24										
08/22/15	3.34										
08/23/15	3.64										
08/24/15	3.32	394	10,909	443	12,266	9	249	3	83	97.7	99.3
08/25/15	3.16	323	8,512	392	10,331	7	184	<3	<79	97.8	99.2
08/26/15	3.10	272	7,032	388	10,031	8	207	<3	<78	97.1	99.2
08/27/15	3.04										
08/28/15	2.89										
08/29/15	2.86										
08/30/15	3.18										
08/31/15	3.33										
Weekly Averages											
08/01/15	Week 1	300	8,060	307	8,212	5	143	3	89		
08/08/15	Week 2	281	7,750	299	8,274	7	184	3	83		
08/15/15	Week 3	315	7,944	332	8,394	8	202	7	169		
08/22/15	Week 4	285	8,175	363	10,478	7	202	4	114		
08/29/15	Week 5	330	8,818	408	10,876	8	214	3	80		
Monthly											
Minimum	2.86	228	5,800	285	7,326	6	163	<3	<76	96	95
Maximum	3.70	394	10,909	443	12,281	9	249	14	356	98	99
Total	99.18										
Average	3.20	302	8,172	351	9,506	7	200	<4	<111	97	99

Novato Sanitary District
Conventional Pollutants Report



August, 2015

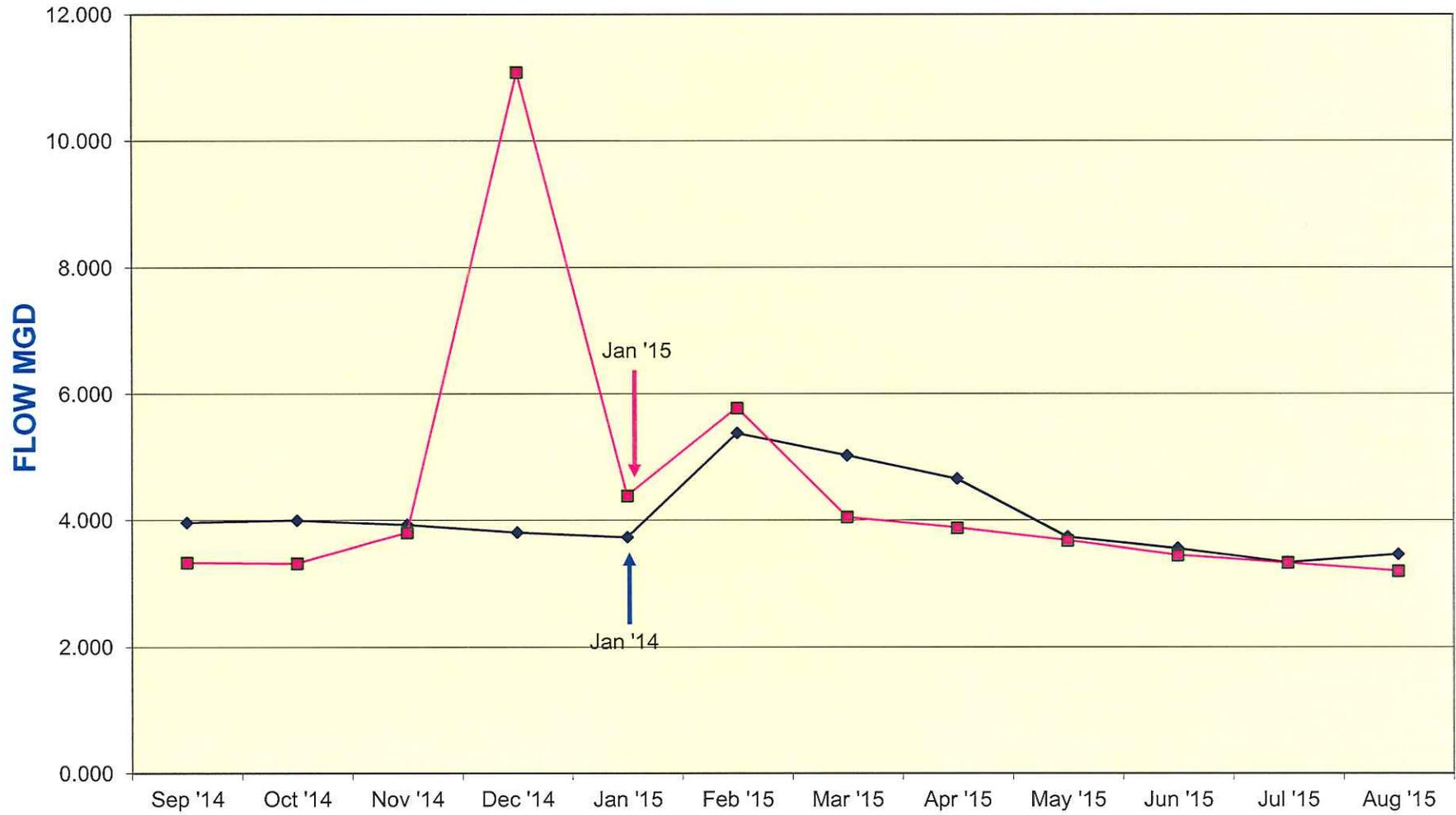
Date	INFLUENT - A001			Effluent - E002							
	Flow Total	pH	Ammonia	Coliform / Bacteria			pH	Ammonia	Unionized Ammonia	Oil & Grease	Temp
				Fecal	Entero	Total					
	MGD	su	mg/L	MPN/100 mL			su	mg/L	mg/L		Deg C
08/01/15	2.89										
08/02/15	2.99										
08/03/15	3.51						6.9				24.7
08/04/15	3.45						7.0				24.4
08/05/15	3.36					17	7.0				24.3
08/06/15	3.33					31	7.0				24.9
08/07/15	3.25					33	7.0				24.7
08/08/15	3.20										
08/09/15	3.36										
08/10/15	3.16	7.0					7.1				24.3
08/11/15	3.02					46	7.0				24.6
08/12/15	3.02	7.1				7	7.0				24.6
08/13/15	3.05					49	7.0				24.7
08/14/15	3.03						7.0				24.9
08/15/15	2.91										
08/16/15	2.98										
08/17/15	3.23						7.0				25.5
08/18/15	3.25					79	7.0				24.9
08/19/15	3.39					33	6.9				24.3
08/20/15	3.70					79	6.9				23.7
08/21/15	3.24						6.9				24.9
08/22/15	3.34										
08/23/15	3.64										
08/24/15	3.32					130	7.0				24.4
08/25/15	3.16					79	7.0				24.1
08/26/15	3.10	7.2				130	7.0				24.7
08/27/15	3.04						6.9				25.2
08/28/15	2.89						6.9				26.1
08/29/15	2.86										
08/30/15	3.18										
08/31/15	3.33						7.0				25.2
Monthly											
Minimum	2.86	7.0				7	6.9				23.7
Maximum	3.70	7.2				130	7.1				26.1
Total	99.18										
Average	3.20	7.1					7.0				24.7

NOVATO SANITARY DISTRICT RECYCLED WATER COMPLIANCE SUMMARY REPORT

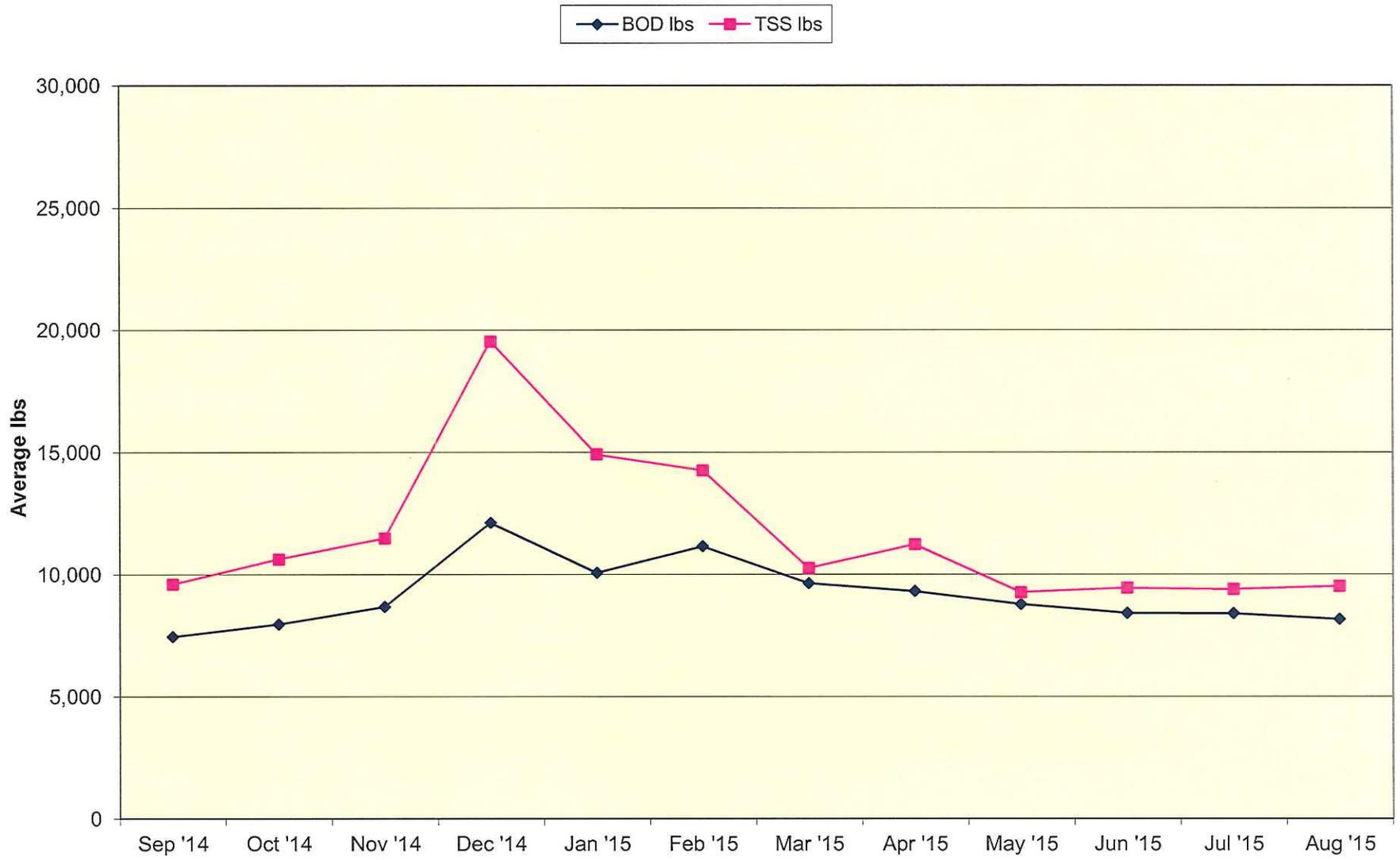
Date	Filter Influent Flow	Recycled Water Flow to Plum St.	Recycled Water Banked	Banked Water To Plum Street Tank	Potable Water To Plum St Tank	Recycled Water Influent Turbidity Max	Recycled Water Influent Turbidity Ave.	Minutes Over 5 Turbidity	Filter Effluent 24 Hr Average Turbidity	Recycled Water Inf Chlorine Dose	Filter Effluent Dissolved Oxygen	Filter Effluent Total Coliform	Chlorint Contact Time
	MGD	MGD	MG	MGD	NTU	NTU	(m)	NTU	(mg/l)	(mg/l)	MPN/100m	Minutes	
8/1/2015	0.820	0.729				2.3	0	1.1			<2	>450.000	
8/2/2015	0.910	0.826				2.4	0	1.1		8.7	<2	>450.000	
8/3/2015	0.840	0.701				1.7	0	0.9		8.0	<2	>450.000	
8/4/2015	0.800	0.687				1.8	0	0.9		8.0	<2	>450.000	
8/5/2015	0.680	0.627				1.7	0	0.9			<2	>450.000	
8/6/2015	0.680	0.592				1.8	0	0.7			<2	>450.000	
8/7/2015	0.920	0.833				2.3	0	0.9			<2	>450.000	
8/8/2015	0.710	0.646				3.0	0	1.5			<2	>450.000	
8/9/2015	0.710	0.655				2.5	0	1.3			<2	>450.000	
8/10/2015	0.790	0.702				3.2	0	1.1		8.9	<2	>450.000	
8/11/2015	0.780	0.704				3.0	0	1.1		8.4	<2	>450.000	
8/12/2015	0.760	0.688				2.2	0	1.0		8.4	<2	>450.000	
8/13/2015	0.840	0.659				2.9	0	1.0			<2	>450.000	
8/14/2015	0.830	0.750				1.6	0	0.9			<1.8	>450.000	
8/15/2015	0.740	0.648				1.6	0	0.8			<2	>450.000	
8/16/2015	0.800	0.710				1.5	0	0.8		9.2	<2	>450.000	
8/17/2015	0.820	0.643				1.2	0	0.9		8.9	<2	>450.000	
8/18/2015	0.880	0.711				1.2	0	0.9		9.0	<2	>450.000	
8/19/2015	0.710	0.388				1.8	0	1.0		8.4	<2	>450.000	
8/20/2015	0.300	0.132				1.3	0	1.1			<2	>450.000	
8/21/2015	0.820	0.641				1.8	0	0.8			<2	>450.000	
8/22/2015	0.660	0.390				0.9	0	0.7			<2	>450.000	
8/23/2015	0.630	0.432				1.0	0	0.6		8.2	<2	>450.000	
8/24/2015	0.650	0.630				1.0	0	0.9		8.0	<2	>450.000	
8/25/2015	0.640	0.432				0.6	0	0.7		8.4	<2	>450.000	
8/26/2015	0.600	0.368				1.6	0	0.7			<2	>450.000	
8/27/2015	0.660	0.479				1.4	0	0.8			<2	>450.000	
8/28/2015	0.750	0.680				1.2	0	0.7			<2	>450.000	
8/29/2015	0.720	0.642				1.1	0	0.6			<2	>450.000	
8/30/2015	0.780	0.711				1.1	0	0.7		9.0	<2	>450.000	
8/31/2015	0.700	0.628				0.8	0	0.7		8.9	<2	>450.000	
Total	22.930	19.064					53.5	0	27.8		128.2	<56	>13,950.0
Minimum	0.300	0.132					0.6	0	0.6		8.0	<2	>450.0
Maximum	0.920	0.833					3.2	0	1.5		9.2	<2	>450.0
Average	0.740	0.615					1.7	0	0.9		8.5	<2	>450.0
Average	0.740	0.615					1.7	0	0.9		8.5	<2	>450.0

FLOW COMPARISON

—◆— 2013 / 14 —■— 2014 / 15



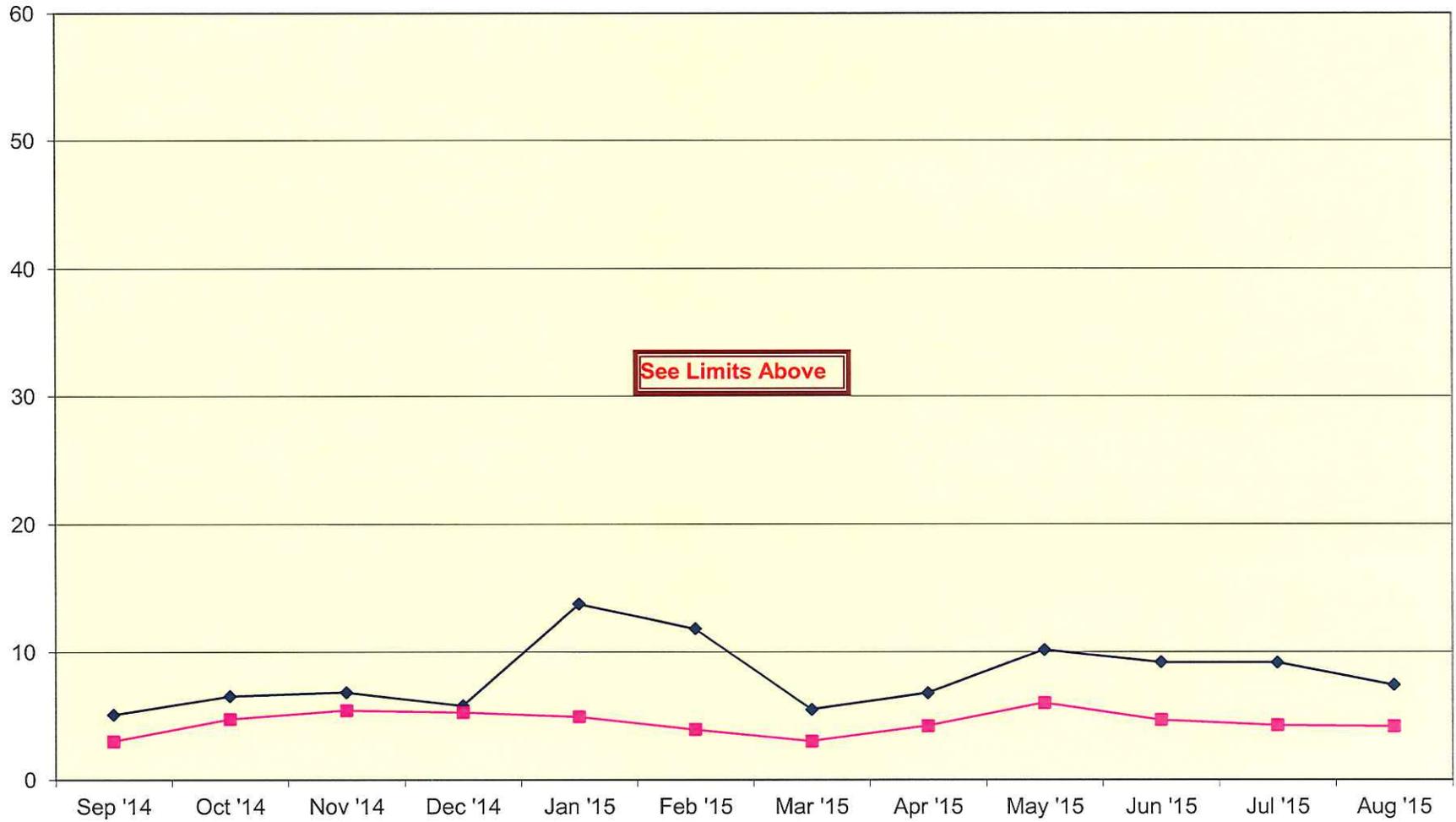
Influent Load BOD / TSS lbs



Effluent BOD / TSS Concentration

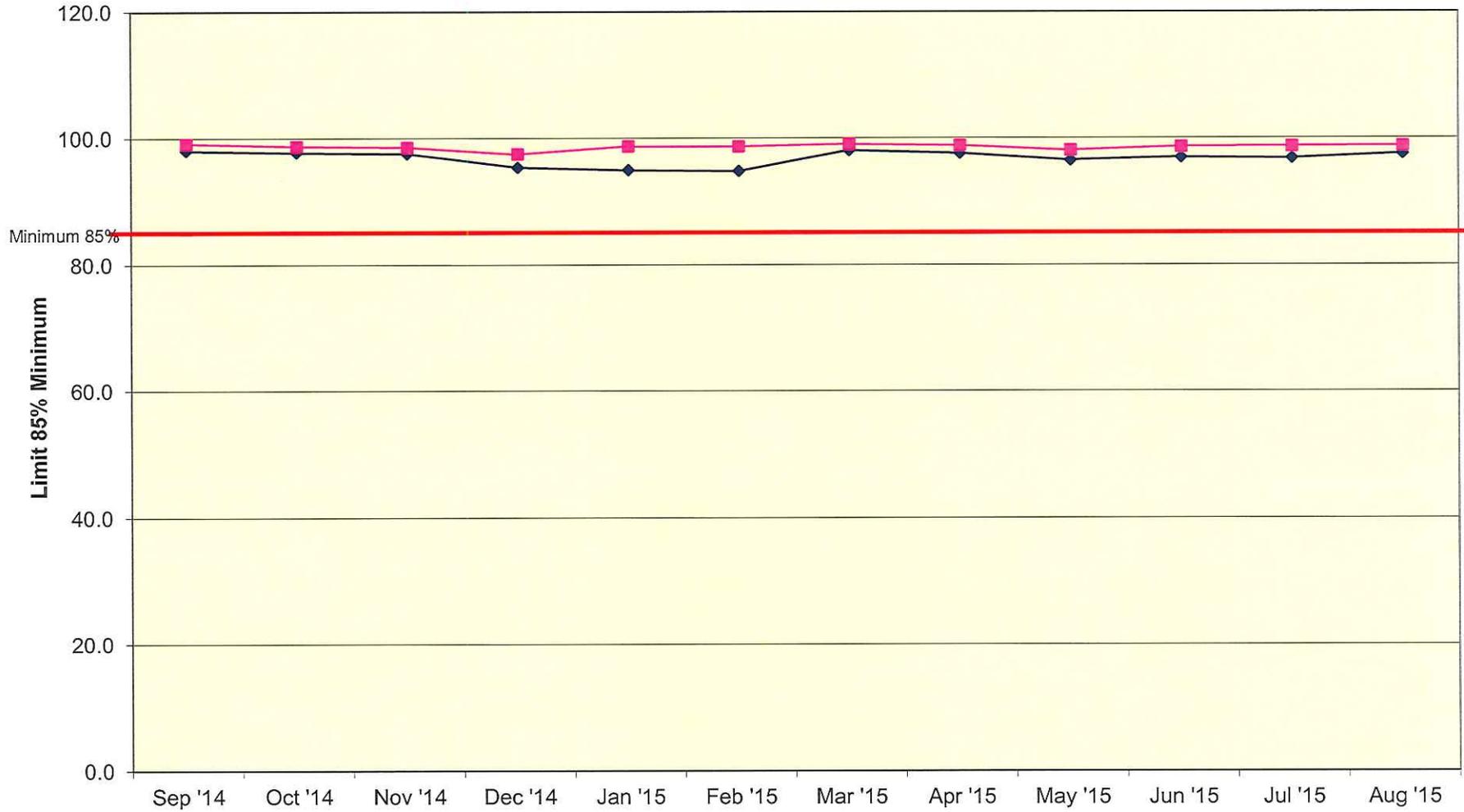
◆ BOD ■ TSS

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



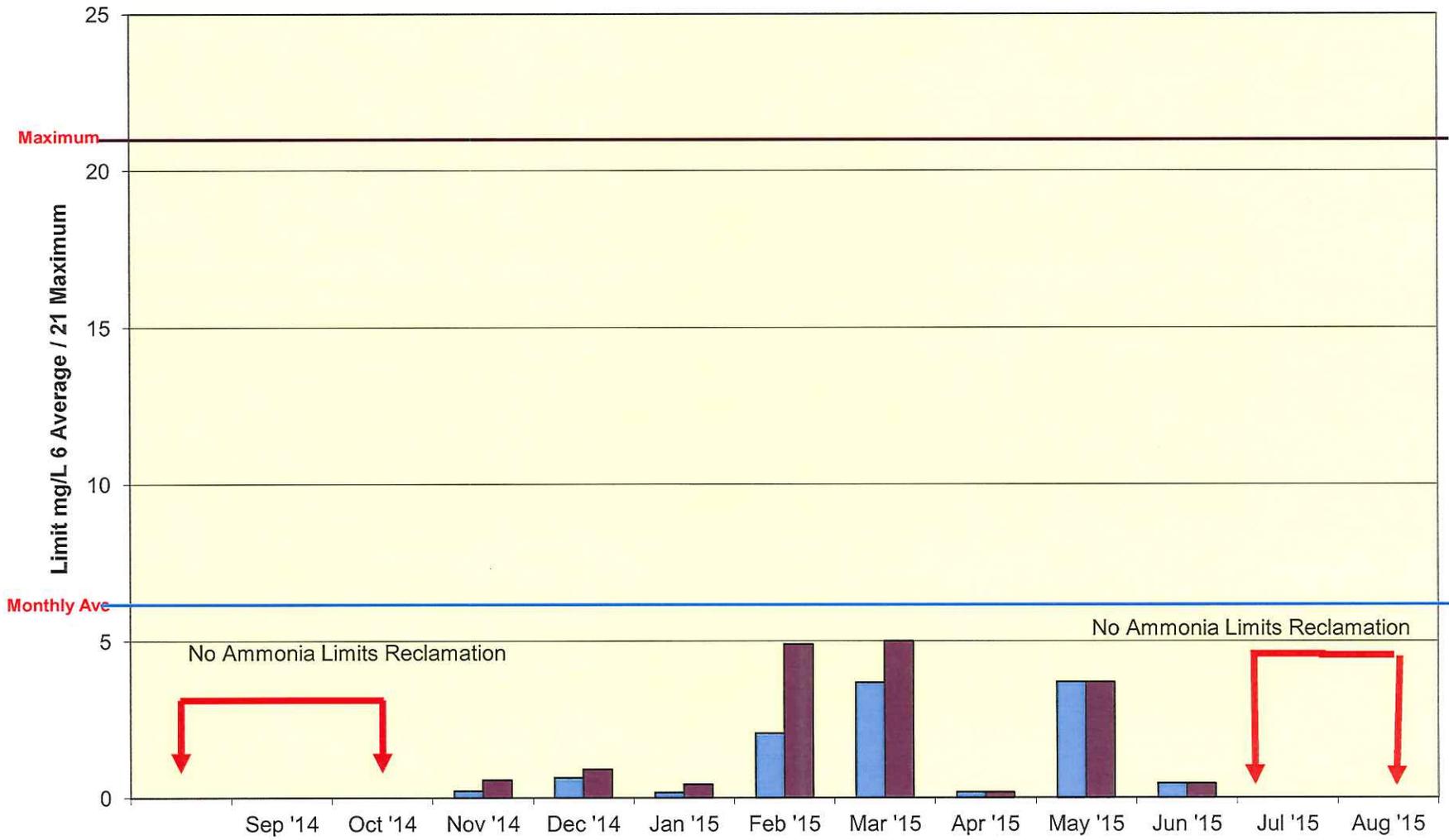
BOD / TSS Percent Removal

◆ BOD ■ TSS



Effluent Ammonia

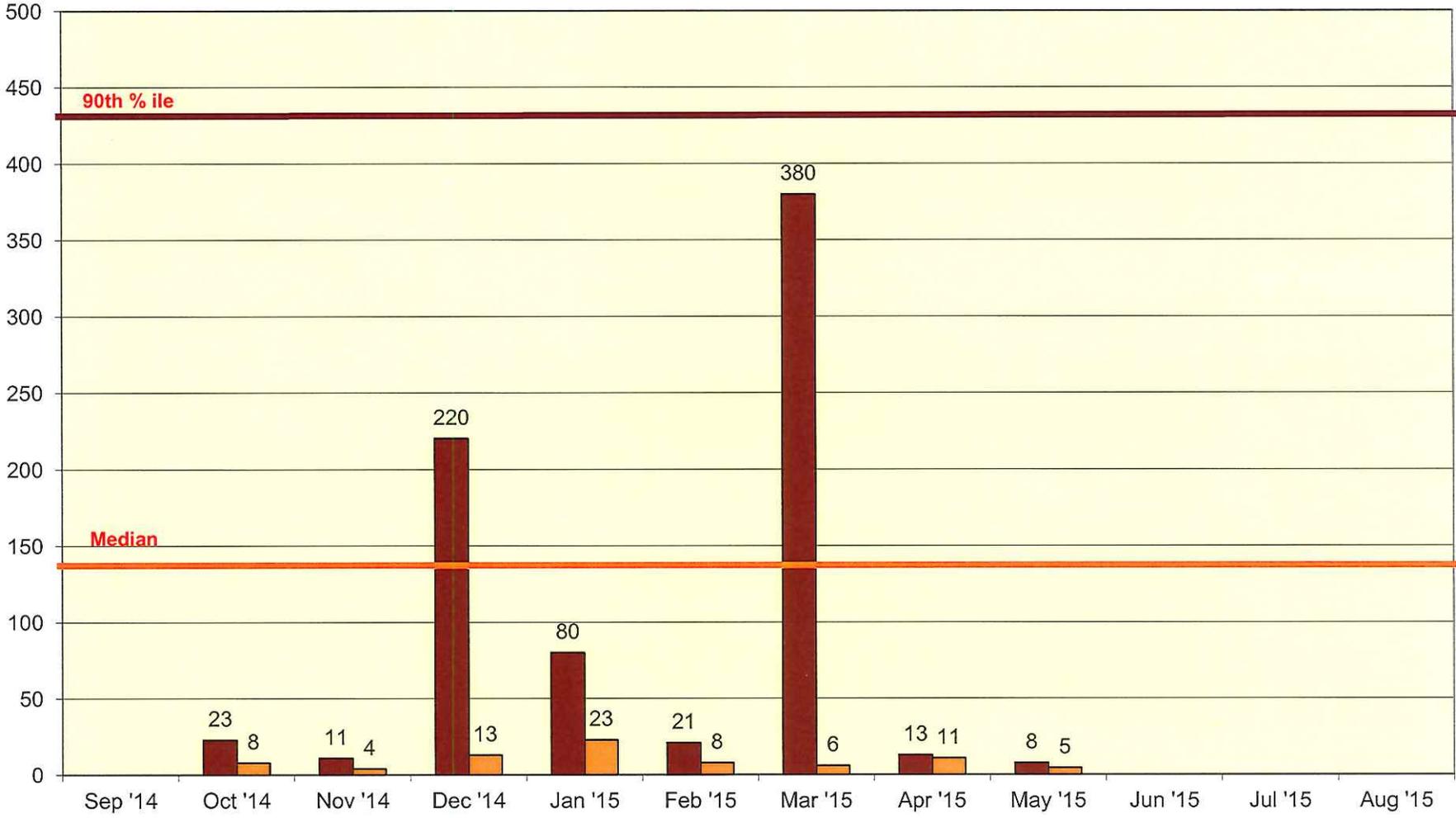
Average Maximum



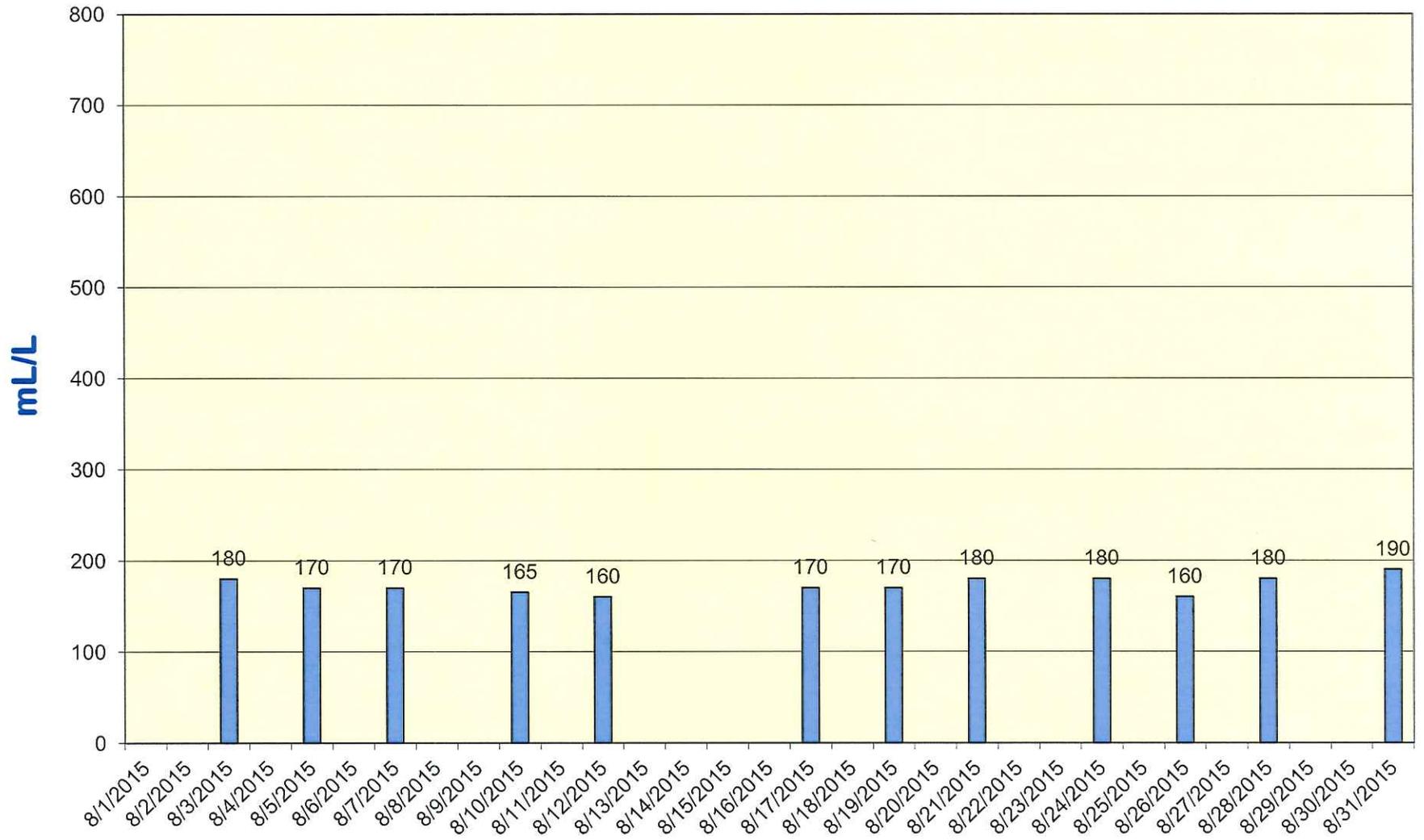
Disinfection - Fecal Coliform

LIMITS - NPDES
Fecal 140 mpn monthly median
Fecal 430 mpn 90th percentile 30 day

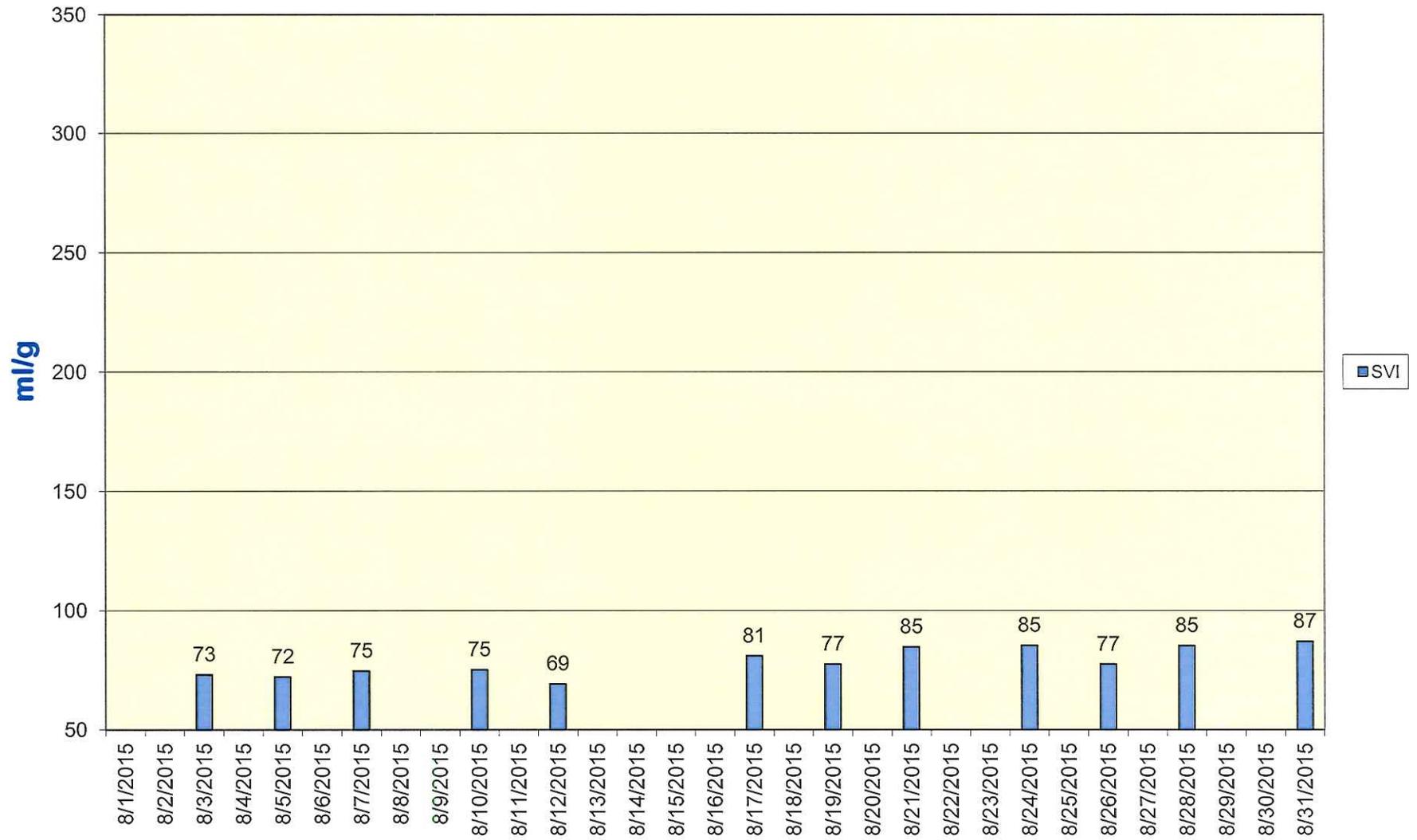
90th % ile 30 day med



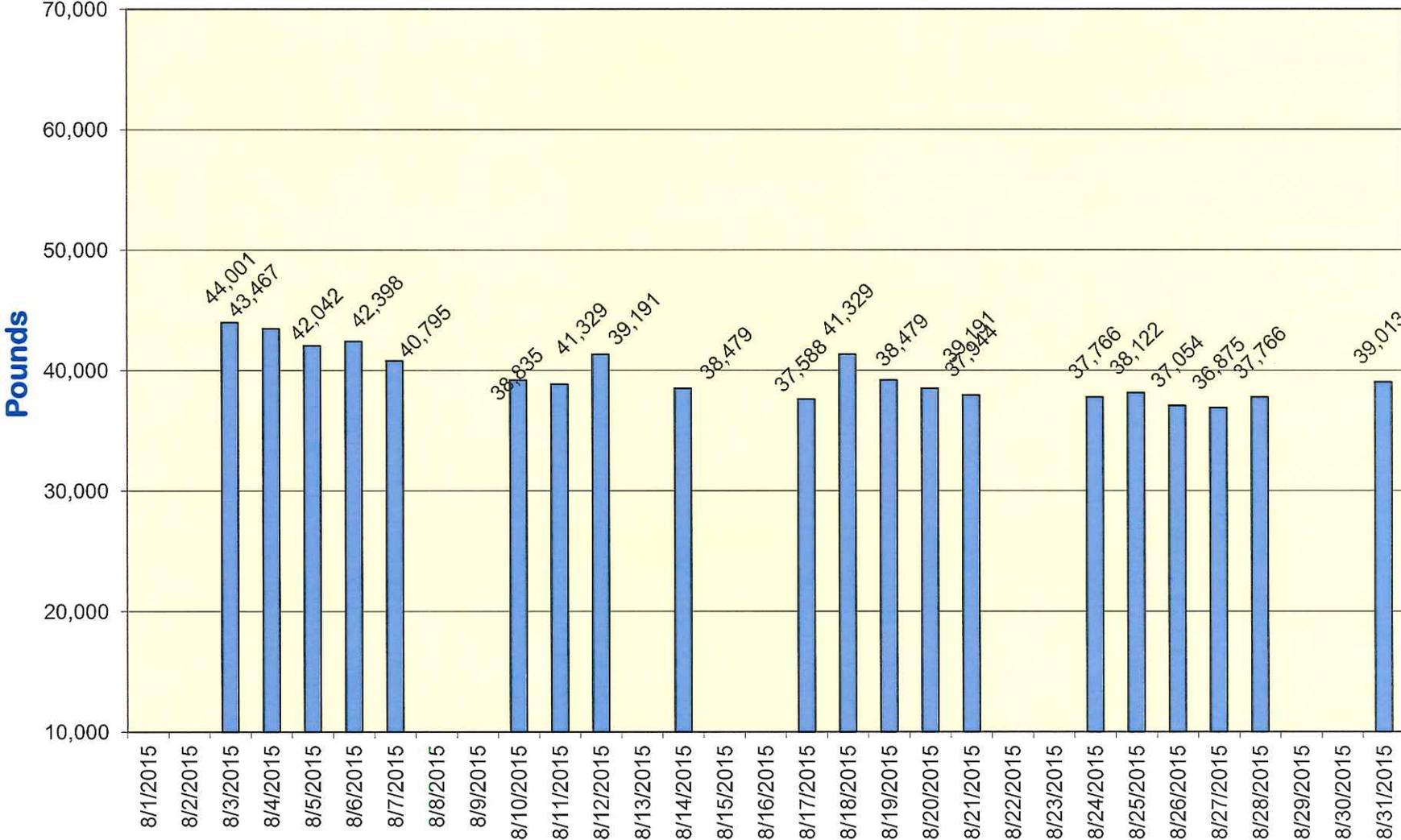
Settleability



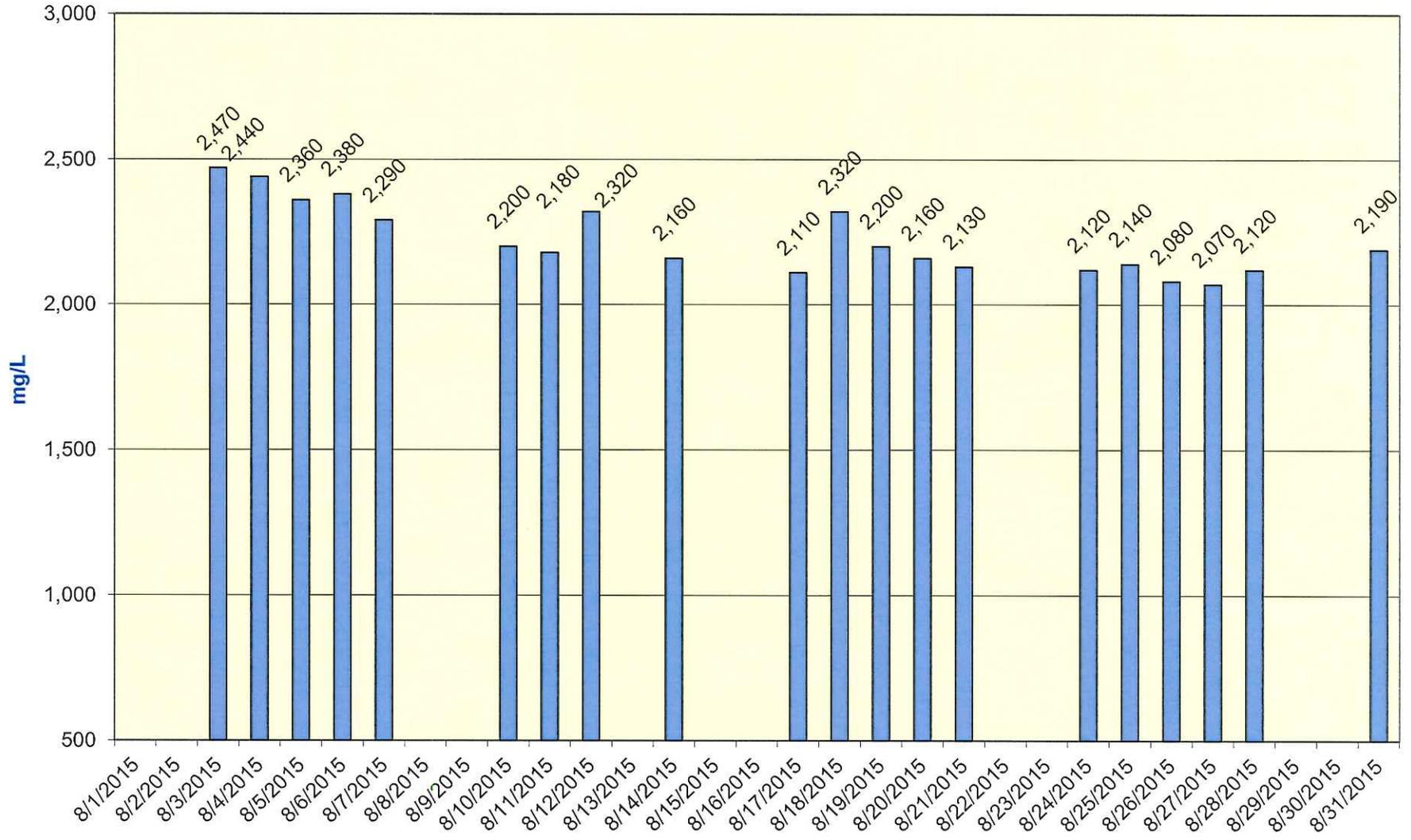
Sludge Volume Index



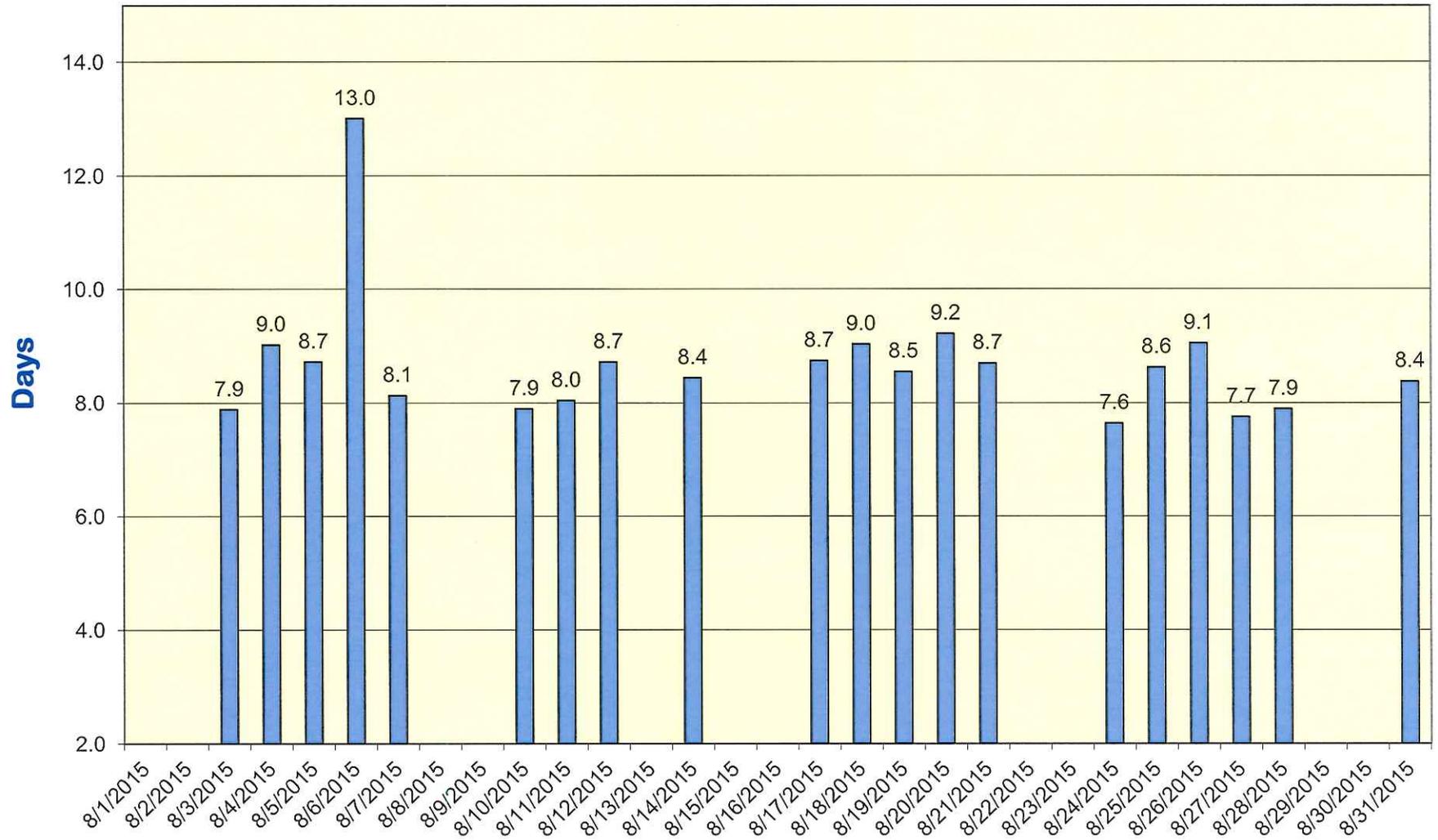
MLSS Inventory



MLSS Concentration



Mean Cell Residence Time

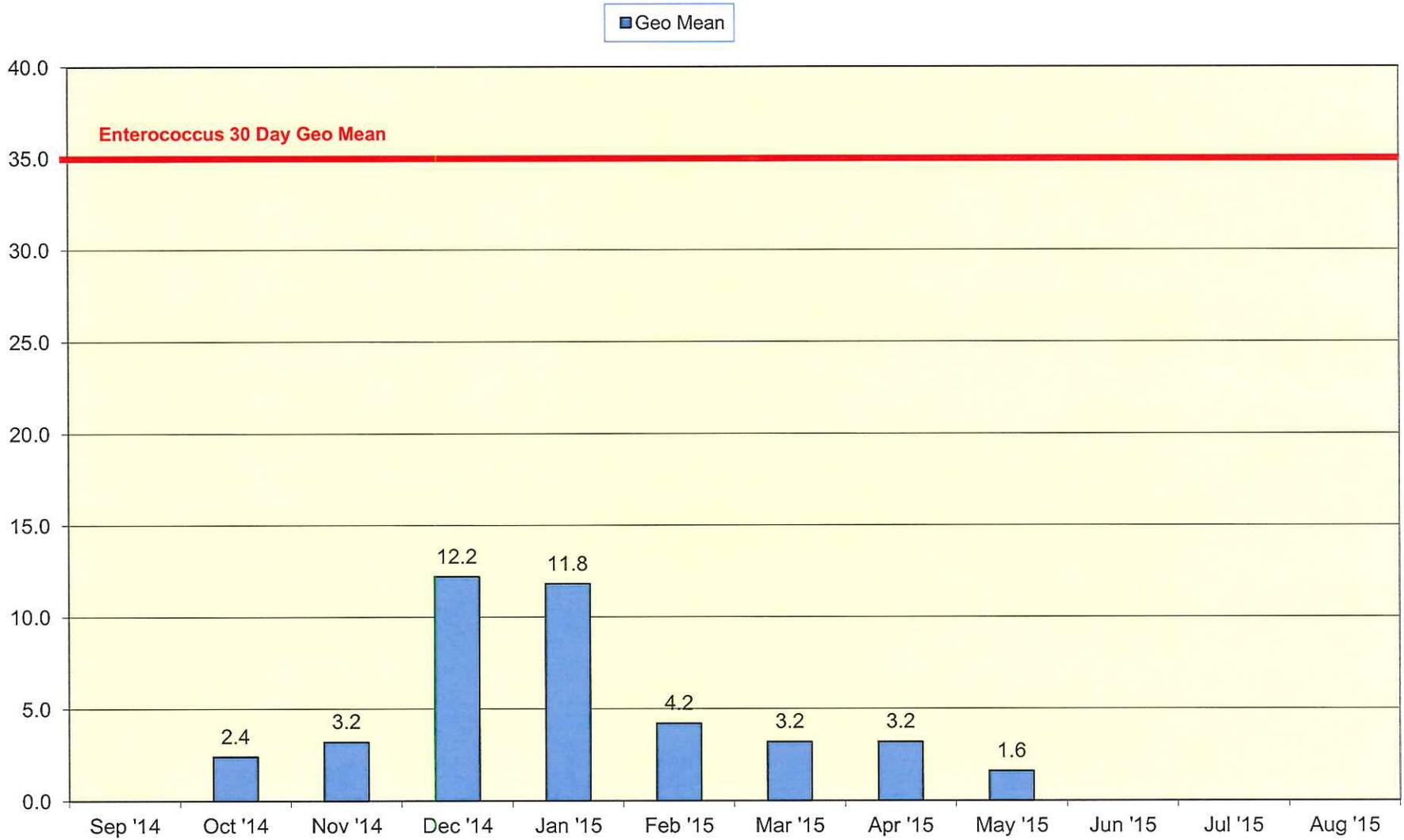


Process Control Data

	Influent Flow	Settleability	MLSS Concentration	MLSS Inventory	F:M Ratio	MCRT	SVI
8/1/2015	2.89						
8/2/2015	2.99						
8/3/2015	3.51	180	2,470	44,001		7.9	73
8/4/2015	3.45		2,440	43,467		9.0	
8/5/2015	3.36	170	2,360	42,042	0.20	8.7	72
8/6/2015	3.33		2,380	42,398		13.0	
8/7/2015	3.25	170	2,290	40,795		8.1	75
8/8/2015	3.20						
8/9/2015	3.36						
8/10/2015	3.16	165	2,200	39,191		7.9	75
8/11/2015	3.02		2,180	38,835	0.20	8.0	
8/12/2015	3.02	160	2,320	41,329		8.7	69
8/13/2015	3.05						
8/14/2015	3.03		2,160	38,479		8.4	
8/15/2015	2.91						
8/16/2015	2.98						
8/17/2015	3.23	170	2,110	37,588		8.7	81
8/18/2015	3.25		2,320	41,329		9.0	
8/19/2015	3.39	170	2,200	39,191		8.5	77
8/20/2015	3.70		2,160	38,479		9.2	
8/21/2015	3.24	180	2,130	37,944		8.7	85
8/22/2015	3.34						
8/23/2015	3.64						
8/24/2015	3.32	180	2,120	37,766		7.6	85
8/25/2015	3.16		2,140	38,122		8.6	
8/26/2015	3.10	160	2,080	37,054		9.1	77
8/27/2015	3.04		2,070	36,875		7.7	
8/28/2015	2.89	180	2,120	37,766		7.9	85
8/29/2015	2.86						
8/30/2015	3.18						
8/31/2015	3.33	190	2,190	39,013		8.4	87
Minimum	2.86	160.00	2,070.00	36,875	0.20	7.6	69
Maximum	3.70	180	2,470	44,001	0.20	13.0	85
Total	92.67	1,885	42,250	752,652	0.40	165.1	855
Average	3.20	171	2,224	39,613	0.20	8.7	78

Disinfection - Enterococcus

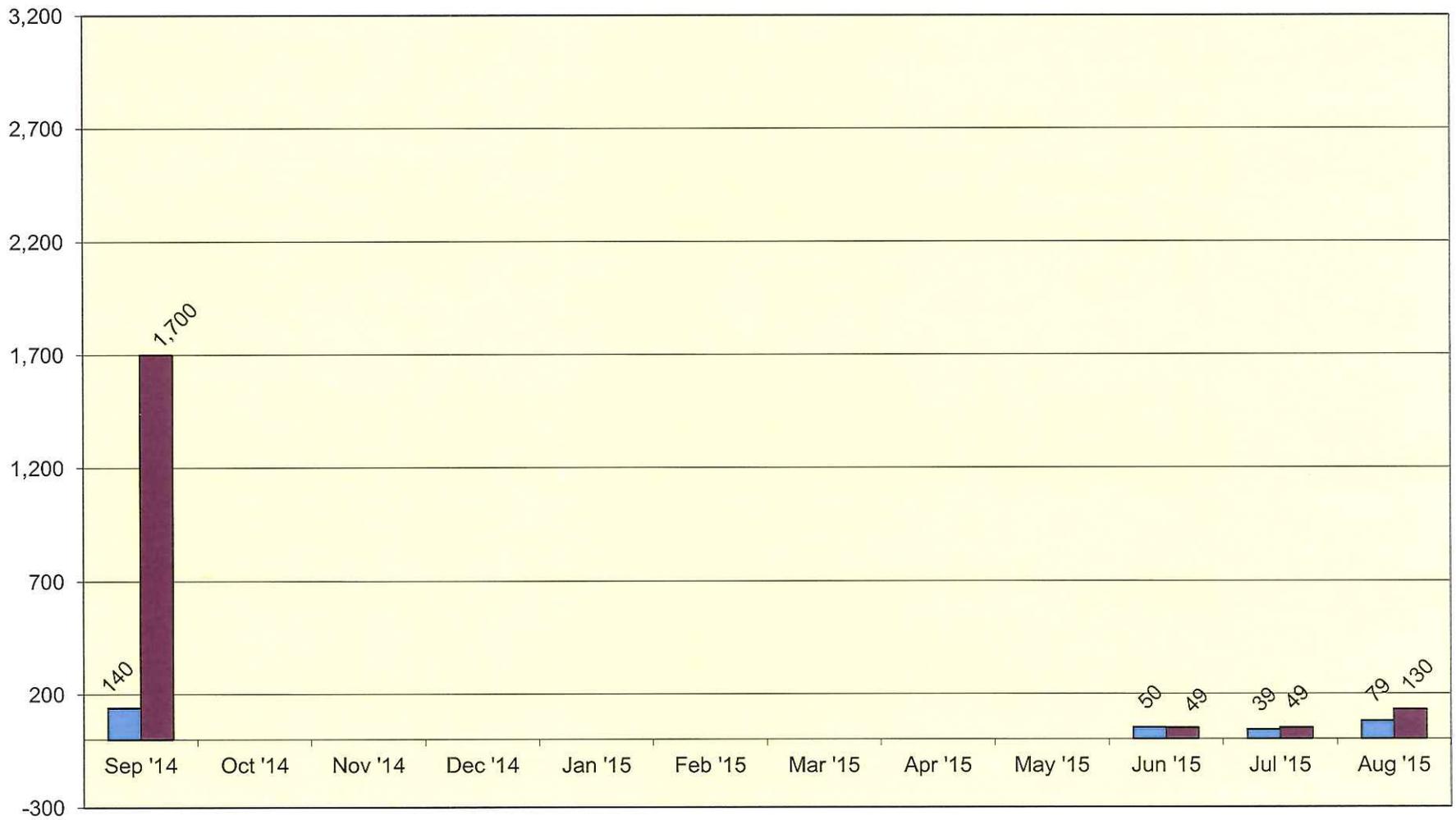
LIMITS - NPDES
Enterococcus 30 day geo mean 35 mpn /100ml



Disinfection - Total Coliform

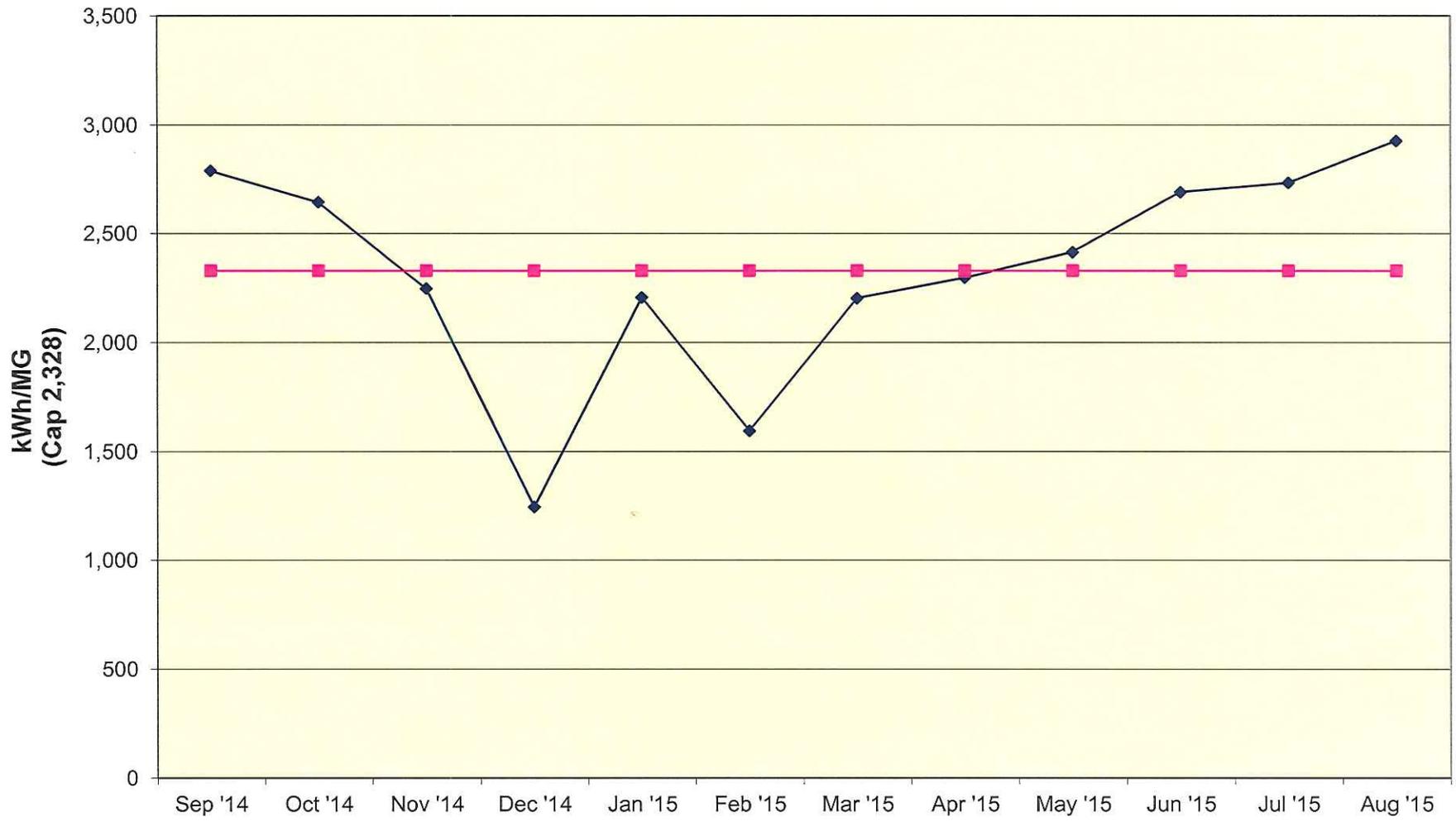
TOTAL COLIFORM LIMITS - WDR
5 Sample Median - 240 mpn /100 ml
Maximum - 10,000 mpn/100 ml

■ 5 Sampl Med ■ Monthly Max



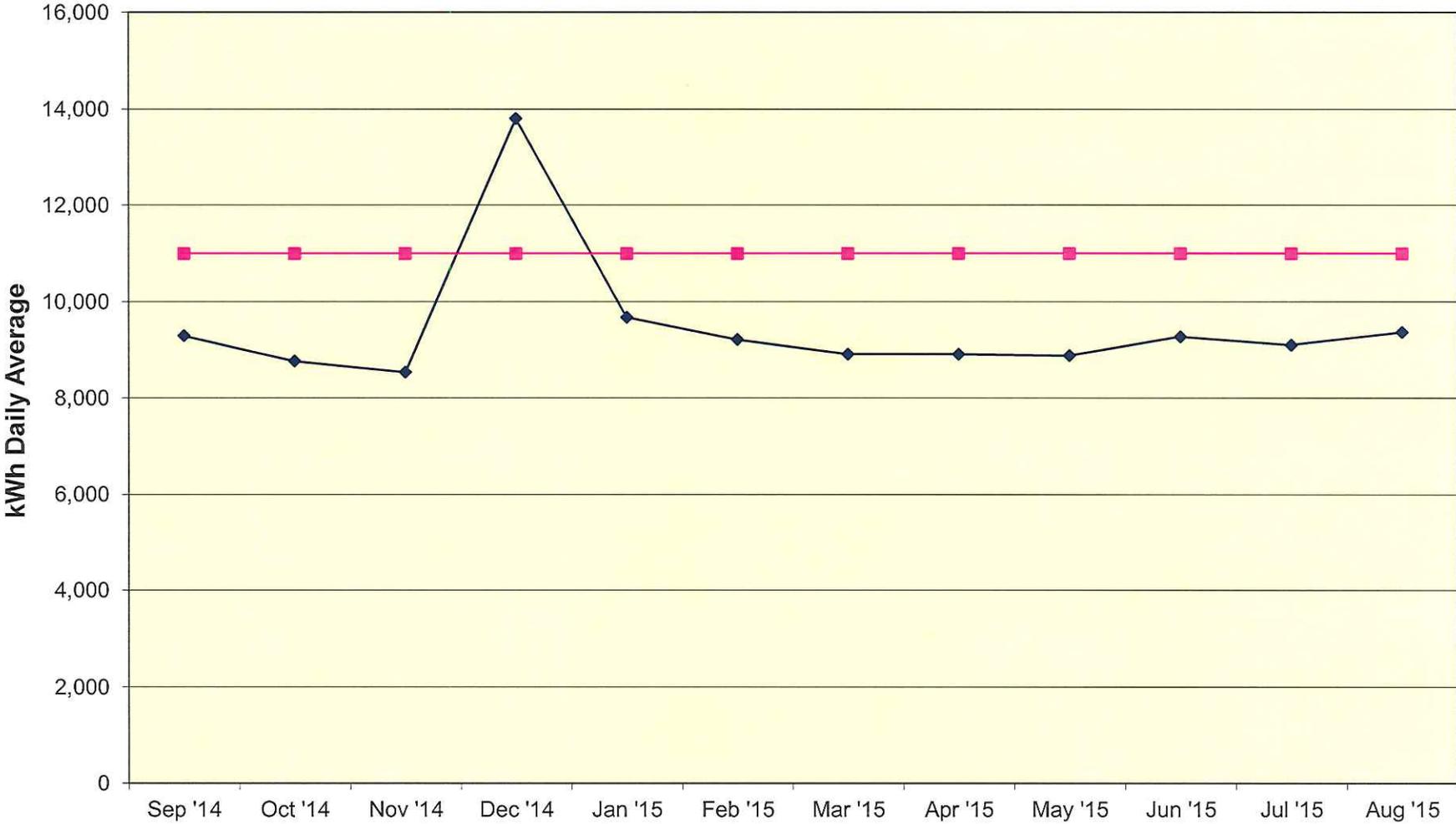
Energy kWh/MG

◆ kW/MG ■ Cap



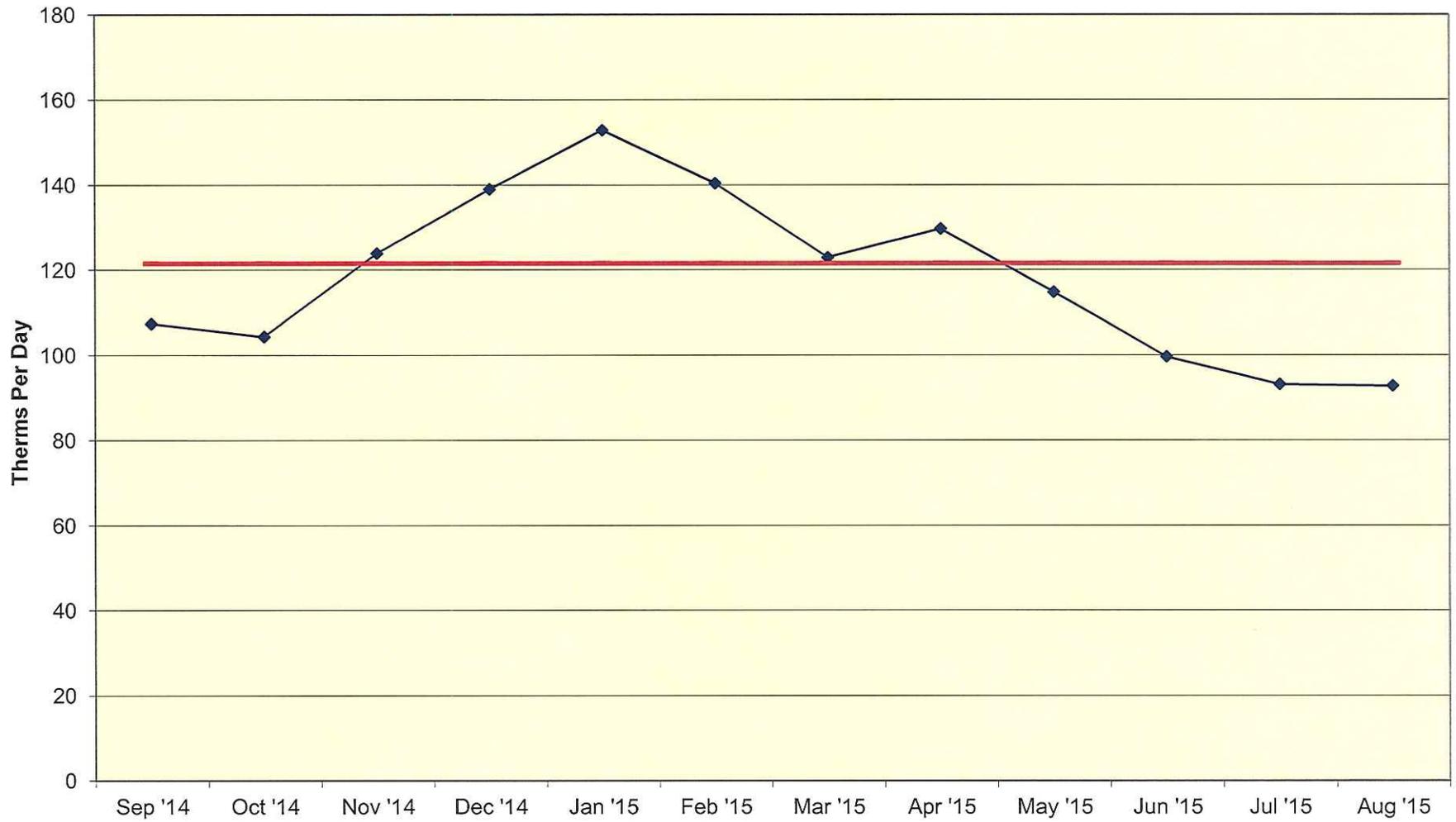
Energy kWh

—◆— kWh —■— Cap

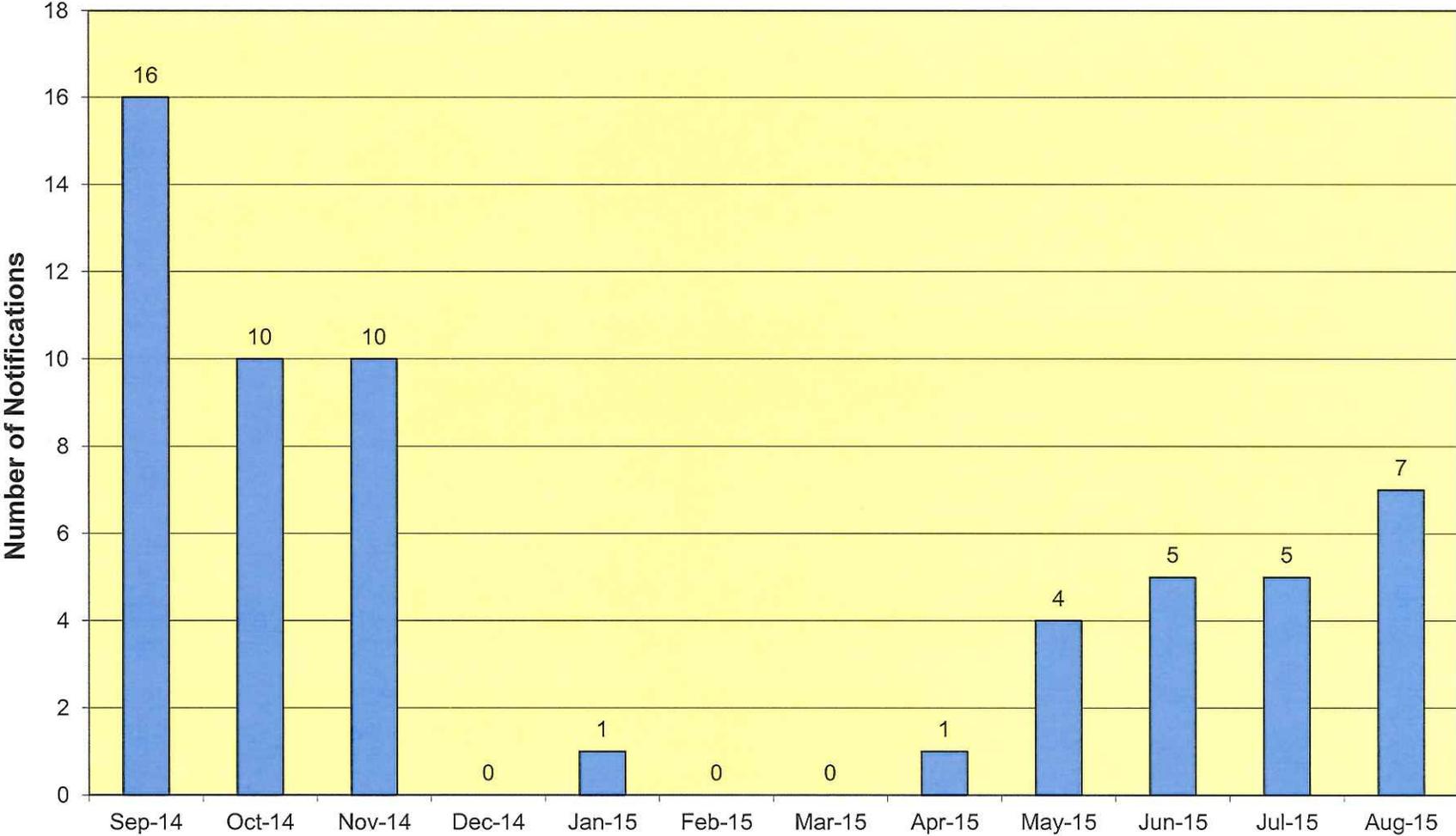


Natural Gas Use

◆ Natural Gas — Cap



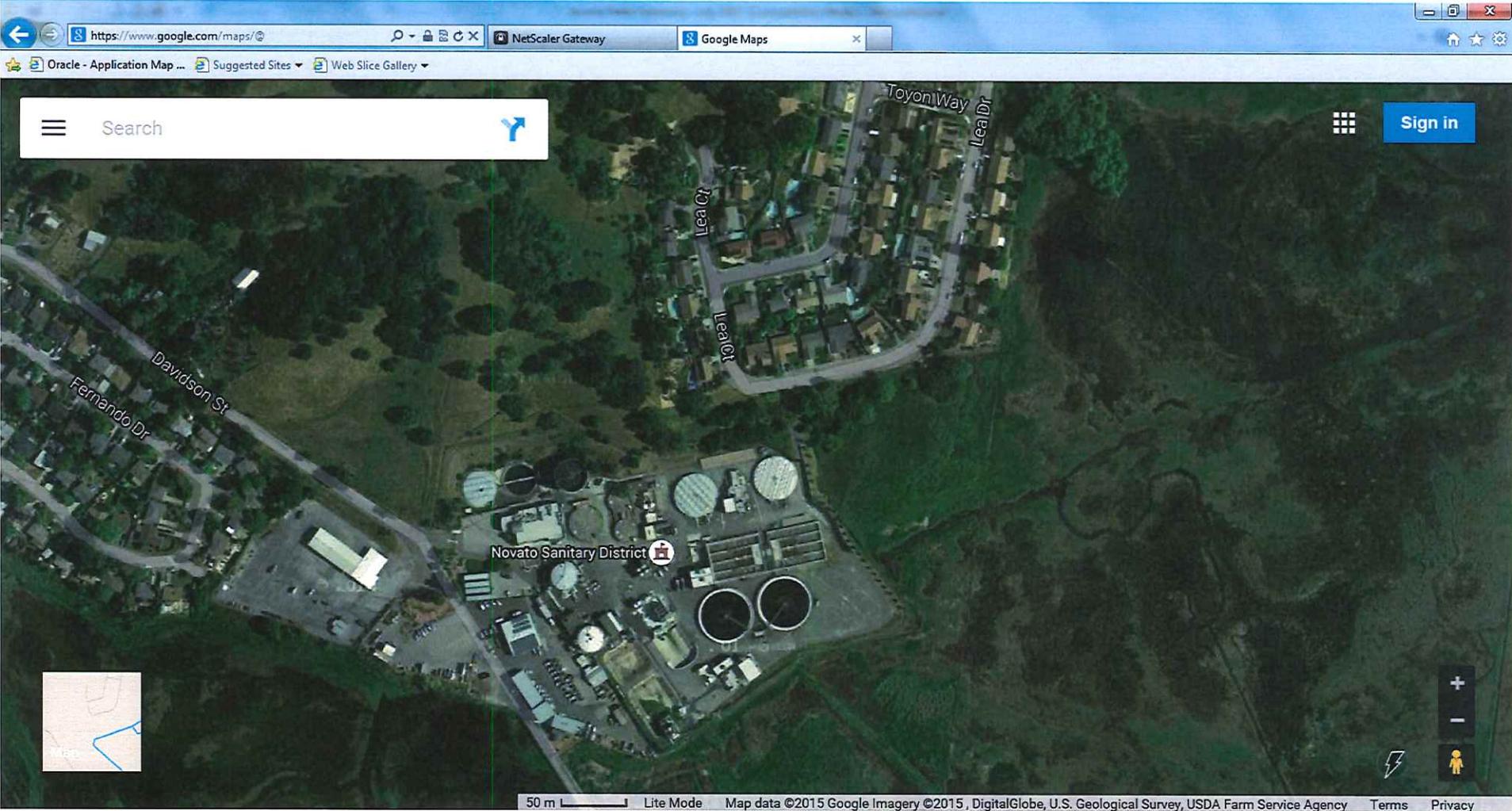
Complaints / Contacts Received



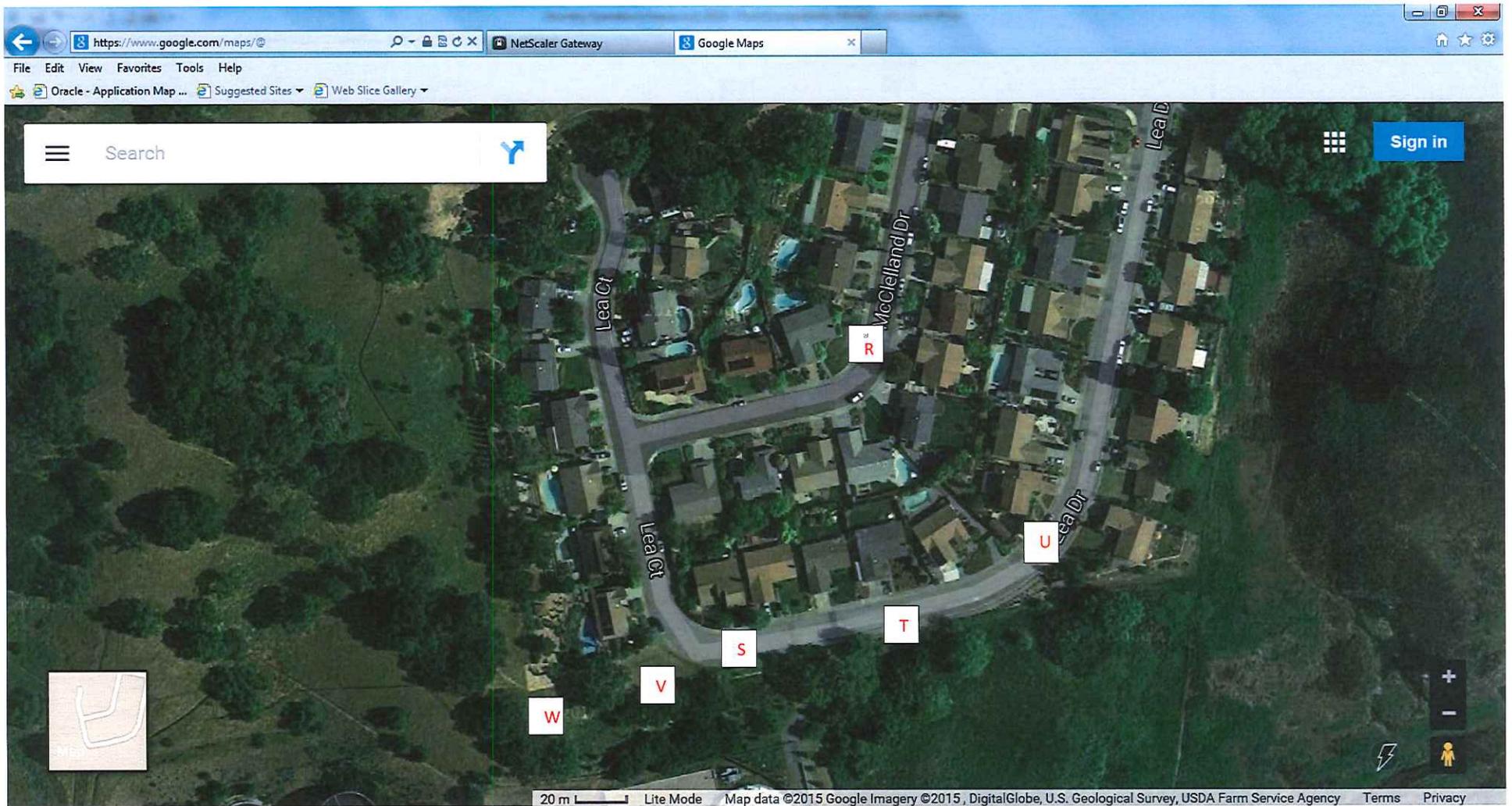
JEROME METER READINGS - JULY 2015

Sample Location	Min	Max	Ave	NOTES / COMMENTS
A: Influent Pump Station	0.000	0.000	0.000	
B: Septage Dumpster	0.000	0.001	0.001	
C: Primary Clarifier #1 Odor Bed	0.004	0.005	0.005	
D: Primary Clarifier #1	0.013	0.032	0.023	
E: Headworks	0.005	0.009	0.007	
F: Primary Clarifier #2 Odor Bed West	0.005	0.008	0.007	
G: Primary Clarifier #2 Odor Bed East	0.003	0.003	0.003	
H: Primary Clarifier #2	0.002	0.003	0.003	
I: Influent Odor Bed	0.002	0.003	0.003	
J: Behind Aeration Basins	0.000	0.003	0.002	
K: Between Aeration Basins 3 & 4	0.003	0.007	0.005	
L: Between Aeration Basins 1 & 2	0.001	0.004	0.003	
M: Digester Odor Bed	0.001	0.002	0.002	
N: Digester #2	0.000	0.001	0.001	
O: Flare Stack	0.001	0.001	0.001	
P: Digested Sludge Transfer Pit	0.001	0.002	0.002	
Q: Digester #1	0.001	0.780	0.391	
R: McLelland	0.001	0.001	0.001	Neighborhood
S: Lea 1	0.001	0.001	0.001	Neighborhood
T: Lea 2	0.000	0.000	0.000	Neighborhood
U: Lea 3	0.000	0.000	0.000	Neighborhood
V: Lea 4	0.000	0.002	0.001	Neighborhood
W: Lea 5	0.000	0.001	0.001	Neighborhood
Primary Clarifier #1 Headspace	45.000	49.000	47.000	Scrubbed Space
Primary Clarifier #2 Headspace	0.005	0.006	0.006	Scrubbed Space

AERIAL OF NSD AND NEIGHBORHOOD



NEIGHBORHOOD JEROME METER LOCATIONS – LEA AND McCLELLAND.



NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Odor Control and Landscaping Report
August 2015

1.0 Background

Staff continues to maintain the on-going operation of the odor control facilities; and the landscaping, especially at the fence-line area next to the Lea Drive neighborhood, and at the northeast portion of the Novato Treatment Plant (NTP) site.

As mentioned in prior reports, the District has already invested significant amounts beyond the substantial initial investment for odor control and landscaping from the original WWTP Upgrade Project. These additional costs have included operational changes, measures related to further odor control measures, noise abatement, visual screening, wind shielding, and daily monitoring.

2.0 Odor control

Activities related to maintenance of the odor control facilities in August included:

- Operations staff continued to monitor media in the large odor control bed between primary clarifiers #1 & #2. The media for this bed, as well as all of the other odor beds, was topped off in July, and all seem to be functioning well.
- Additional Jerome meter readings in the neighborhood continued at the Committee's request from earlier in the summer.
- The Aqua-Fog system continues to be used as needed (from a recommendation by the District's odor consultant Mr. David McEwen of Brown and Caldwell).
- Pre-chlorination: Sodium hypochlorite continues to be added as an oxidizer on an as-needed basis to the influent flow, with operations staff monitoring performance (in accordance with another recommendation by Mr. McEwen).

3.0 Landscaping

The District's landscaping contractor Cagwin and Dorward (C&D) continues to work on an as-needed/as-directed basis on landscaping and vegetation at the District's fence-line on Lea Drive, and at the northeast corner area of the NTP. The redwood trees in the northeast corner of the plant site, and the site vegetation continues to be irrigated with recycled water and seems to be responding to well to the drought conditions. The oleander along the northeast fence-line especially seems to be thriving despite suffering frost damage in previous winters.

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
August 2015**

1.0 General:

An equivalent of about six (6) full time employees (FTE) worked in the Collection System Department during the month of August. The breakdown of staff time for the month in terms of equivalent full-time employee hours utilized, works out approximately as follows:

- 2.0 FTE field workers for Sewer Maintenance (main line cleaning)
- 1.2 FTE field workers for Pump Station Maintenance
- 0.4 FTE field workers for Closed Circuit Television (CCTV) work
- 2.3 FTE field workers for time spent on data input, training, service calls, overflow response, or any other activity that does not directly relate to main line cleaning, CCTV work, or pump station maintenance, or special activities (for e.g. smoke testing of mainlines), and
- An equivalent of 1.1 FTE field workers for vacation, holiday or sick leave.

2.0 Collection System Maintenance:

Performance metrics for the department are presented in the attached graphs showing the length of line cleaned/month, footage cleaned/hour worked, overflows/month, and the CCTV footage achieved. A brief discussion is also provided below.

Line Cleaning Performance:

A total of 367 work orders were generated for August by the ICOM3 Computerized Maintenance Management System (CMMS). Staff completed 367 work orders leaving zero (0) work orders outstanding. The 367 maintenance work orders completed in August resulted in 53,112 feet of sewer pipelines cleaned by staff. In addition, outside contractors cleaned 8,990 feet of large diameter sewer mains this month.

Line cleaning efficiency dropped this month due to a significant amount of “short shots” in the neighborhoods around Randolph Drive & Bolling Circle in the southwest area of Hamilton. In addition, the cleaning crew pre-cleaned sewer mains in preparation for CCTV work which is spread throughout Novato as staff finishes up the 5-year CCTV program.

Smoke Testing

In addition to line cleaning, Collection System Department staff completed smoke testing of the neighborhood west of Simmons Lane between Feliz Road and Leese Lane. Approximately 10,649 feet of sewer main was smoke tested. The smoke testing identified several areas of missing cleanout caps on resident laterals as well as a damaged lateral under a utility box (see Photo 1). Staff will be contacting residents to and notifying them to repair the deficiencies.

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
August 2015**

CCTV Performance:

The District's CCTV van was in the field for nine (9) working days inspecting 30 line segments totaling 3,396 feet. Staff also televised 31 line segments totaling 5,161ft using the Push Cam. The push cam work was performed in lieu of hand rod work. Visual inspection of a sewer main is much more efficient than hand rod, and the crew can also determine if hand rodding is actually necessary.

CCTV Findings:

- **Infrastructure related:** The August CCTV identified one line segment that will require spot repairs, which will be appropriately prioritized under the District's Annual Collection System Repairs Project, Account No. 72805.
- **O&M related:** The July CCTV work did not identify any areas that require a change in sewer line operations.



Photo 1 – Smoke testing; smoke in Utility Box

3.0 Pump Station Maintenance:

The Collection System Department conducted 274 lift station inspections this month. 150 of the inspection visits were generated through the District's JobsCal Plus CMMS system. There are 15 outstanding work orders for the month, 7 corrective and 8 preventive. 4 of the outstanding preventive work orders are not pump station related. A Collection Systems (Pump Stations) Work Order Statistics summary is attached.

In addition to normal maintenance activities, District staff performed the following:

- Assisted a CCTV contractor by shutting down Olive Street Pump Station multiple times during the day so pre-cleaning and CCTV work could be performed downstream of the force main discharge point.
- Manually operated Bel Marin Keys Pump Station No. 5 throughout the night after the pump station controller failed.

4.0 Air Relief/Vacuum Valves (ARVs):

Staff completed maintenance inspections on four (4) air relief/vacuum valves.

5.0 Safety and Training:

General:

Collection System staff attended four (4) safety tailgate meetings.

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
August 2015**

Specialized training:

- Completed training on smoke testing of sanitary sewers.
- Attended training on blood borne pathogens.
- Conducted a drill on portable generator hookup at a pump station in case of a power failure (see Photo 2).



Photo 2 - Javier Vega training Joe Moreno & Aaron Hendricks on Standby Generator hookup at Redwood Pump Station.

Safety performance:

There were no lost time accidents this month for a total of 1,632 accident free days since the last lost time accident.

6.0 Minor Projects:

A tap for a gage on the suction line for Pump No. 3 at the East Hamilton Pump Station was repaired by an outside contractor.

Staff assisted Veolia in cleaning out the discharge line at the Decant Pump Station. Staff also responded to a report of a broken vent line on the Outfall in the pasture just north of the old Dechlorination Station near Novato Creek.

7.0 Standard Operating Procedures (SOPs):

No new core SOPs were identified, and as development of lower priority SOPs is being balanced against workload priorities, department staff did not generate any new SOPs in August. Also, the recently completed draft Core Competency Checklist continues to be used to track the initial training of a recently hired employee, and lessons learned will be incorporated in the final version, which will be used track the training of all department employees. Staff will also develop a similar draft checklist to use for tracking annual checks of Collections Department employees to determine where annual training is necessary.

8.0 Sanitary Sewer Overflows (SSOs):

There was one (1) SSO in August.

No.	Date	Location	Amount, gal	Cause/Probable Cause
1.	8/5/2015	857 DeLong Ave.	<15	Root Intrusion/Debris

On Wednesday, August 5, 2015, at approximately 2:15pm, Aaron Hendricks (CSW I), PJ Siragusa (CSW 1), and Bob Stiles (CSW I), were performing routine mechanical

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
August 2015**

rodder maintenance in an easement on a hillside above Delong Avenue across from Machin Avenue, and discovered a “weeping” manhole (G16070). Aaron immediately called Interim Collection System Superintendent Dasse de longh, and notified him. Dasse notified Steve Krauthem, Field Services Manager, and proceeded to the site.

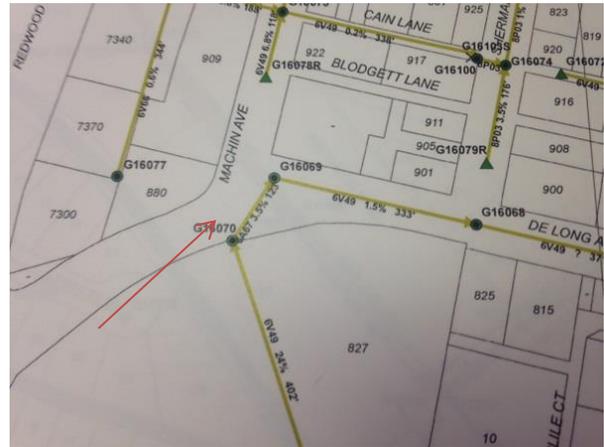


Photo 3 - Location of SSO, 857 DeLong

Aaron and Bob called the hydro-flusher crew for assistance and proceeded to take photos of the site. Dasse arrived on site at 2:30pm. PJ Siragusa, CSW I, was closing off a lane of Delong Avenue in preparation for the hydro-flusher’s arrival. Dasse went up the hill to inspect the overflow manhole and take pictures. The overflow site is in an area of heavy brush and poison oak with barbed wire fencing, and is not normally accessed by the public.

The hydro-flusher crew, Larry Foged (CSW II), and Joe Moreno (CSW I), arrived at 2:40pm and set up at the downstream manhole (G16069) to clear the stoppage. A small amount of flow was noticed in the downstream manhole prior to clearing the stoppage indicating a partial stoppage. At 2:50pm the stoppage was broken at a distance approximately 121 feet upstream from Manhole G16069. District records indicate that the line segment is 123 feet long. The hydro-flusher crew reported seeing roots and some rags in the flow when the stoppage was relieved.



Photo 4 - SSO, 857 DeLong

The initial determination was that this was a Category III event because the overflow soaked into the ground around the manhole, was very low in volume, and did not reach a storm drain or waterway. The low volume was attributed to there being only one house connected to that line segment and the observation that it was a partial stoppage. The saturated area around the manhole was measured to be two feet by four feet. A small amount of rags and debris were removed from the site. Based on the small saturated area measured at the manhole, staff estimated a discharge of no more than 15 gallons.

This line segment was last cleaned on schedule on March 4, 2014 using a hydro-flusher and was on a thirty-six (36) month cleaning frequency. CCTV inspection following the discharge event showed the line segment to be clear and without any signs of root

**Novato Sanitary District
Wastewater Operations Committee meeting
Collection System Operations Report
August 2015**

intrusion, structural defects or other problems. All previous work order history shows no sign of root intrusion on this line segment. For this reason along with the fact that the stoppage was at the downstream side of manhole G16070, we strongly suspect the cause of the overflow to be lateral roots blocking the manhole outlet.

During the performance of the CCTV work, the upstream line segment was also inspected. The inspection revealed that this line segment has root intrusion in many of the joints. Because of this, the upstream line segment's cleaning frequency will be increased from 36 months to 12 months, and it will be added to the Chemical Root Abatement Program for 2016.

This event was reported into the State's CIWQS database on August 5, 2015 as a Category III event, SSO Event ID # 817176 and was certified in CIWQS on August 14, 2015, Certification ID # 742924.

**Novato Sanitary District
Collection System Monthly Report For August 2015 (as of August 31, 2015)**

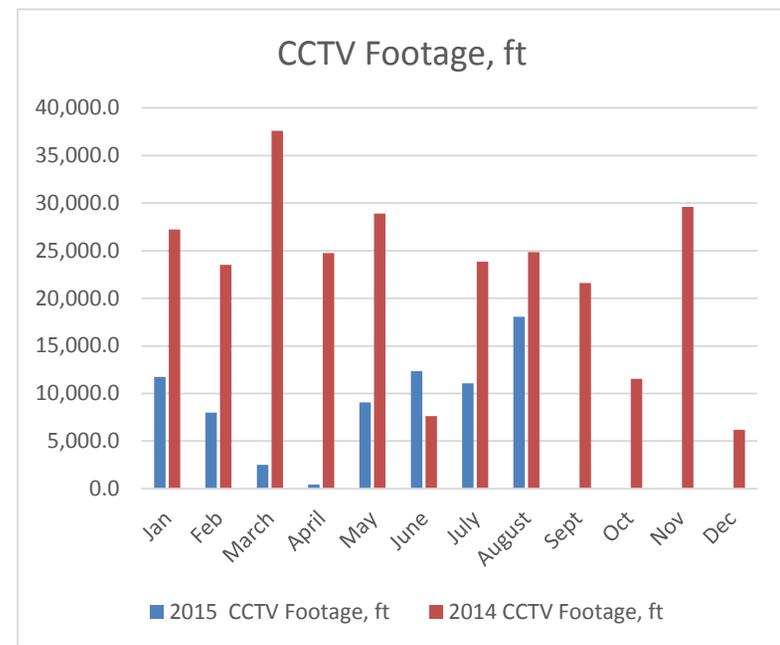
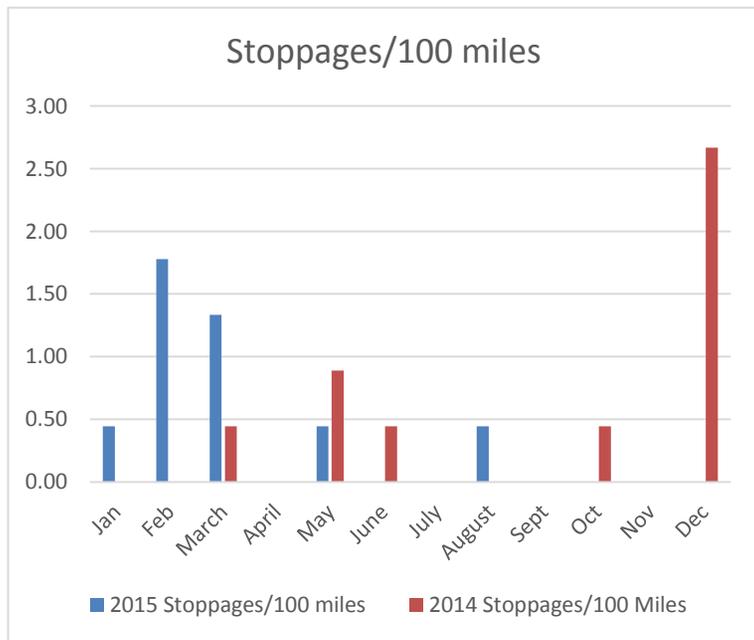
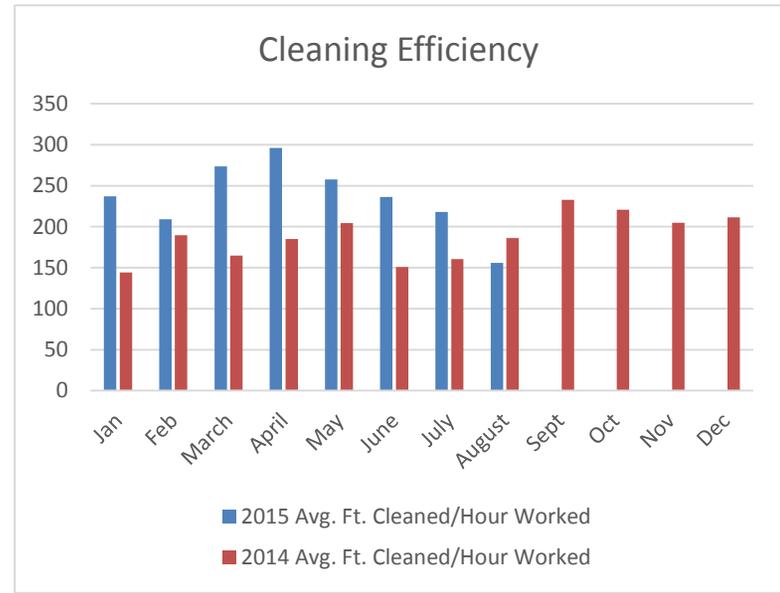
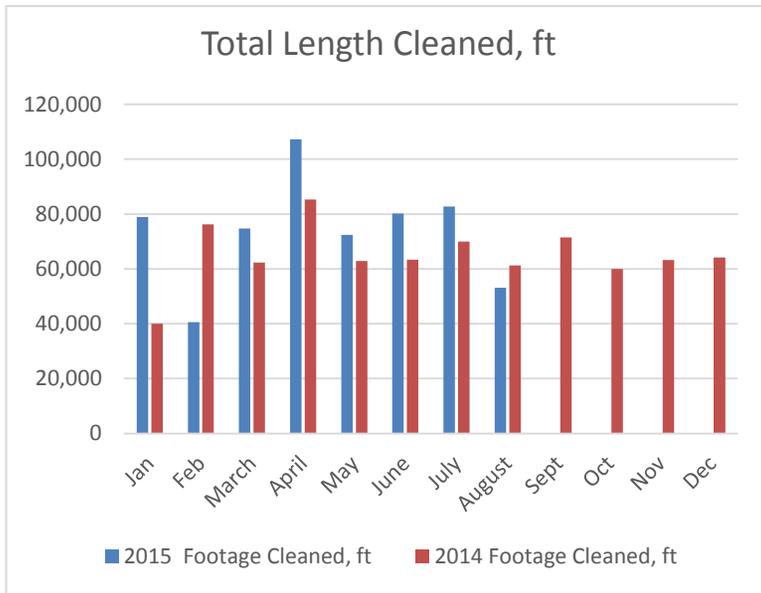
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Year to Date	Average Year to Date
A. Employee Hours Worked														
Number of FTEs (main line cleaning), hrs.	1.9	1.2	1.5	2.2	1.7	1.9	2.1	2.0	0.0	0.0	0.0	0.0	NA	1.2
Number of FTEs (other)	1.6	2.1	1.8	2.0	1.9	2.1	2.4	2.3	0.0	0.0	0.0	0.0	NA	1.4
Number of FTEs (CCTV)	0.1	0.2	0.0	0.0	0.4	0.4	0.2	0.4	0.0	0.0	0.0	0.0	NA	0.2
Total, FTEs	3.6	3.5	3.4	4.2	4.0	4.5	4.7	4.7	0.0	0.0	0.0	0.0	NA	2.7
Regular Time Worked, (main line cleaning), hrs	333	194	273	363	281	339	380	341						
Regular Time Worked on Other, hrs (1)	281	329	320	341	312	382	433	392						
Regular Time Worked on CCTV (2)	15	36	4	0	71	72	45	67						
Total Regular time, worked, hrs	628	559	597	703	663	793	857	800	0	0	0	0	5,598	466
Total Vacation/Sick Leave/Holiday, hrs	403	356	271	277	307	239	181	180					2,211	276
Vacation/Sick Leave/Holiday, FTEs	2.3	2.2	1.5	1.6	1.8	1.3	1.0	1.1	0.0	0.0	0.0	0.0	12.9	1.1
Overtime Worked on Coll. Sys., hrs	3	0	16	3	7	4	6	9					47	6
Overtime Worked on Other, hrs (1)	14	45	31	19	15	29	39	31					222	28
Overtime Worked on CCTV (2)	0	0	0	0	4	0	0	3					7	1
Total Overtime, hrs	17	45	46	22	25	33	45	43	NA	NA	NA	NA	275	34
B. Productivity														
1. Line Cleaning														
Rodder Work Orders generated	90	31	42	23	11	46	69	43					355	44
Rodder 3208 ft. cleaned	15,611	6,776	7,657	3,885	2,857	8,033	12,373	7,451					64,643	8,080
Rodder - outside services, ft cleaned	0	0	0	0	0	0	0	0					0	0
Flusher Work Orders generated	340	183	388	543	455	396	351	324					2,980	373
Truck 3205V ft. cleaned	107	4,165	2,352	22,584	18,806	1,100	4,618	0					53,732	6,717
Truck 3206V ft. cleaned	63,145	29,612	64,665	80,792	50,753	70,998	65,731	45,661					471,357	58,920
Flusher - outside services, ft. cleaned	1,349	553	0	127	0	0	0	8,990					11,019	
Total Footage cleaned(3)	78,863	40,553	74,674	107,261	72,416	80,131	82,722	53,112	NA	NA	NA	NA	589,732	73,717
Work Orders completed	416	198	397	551	449	413	405	367					3,196	400
Work Orders backlog	14	16	33	15	17	29	15	0	NA	NA	NA	NA	139	17
2. Closed Circuit Television (CCTV)														
Camera Work Orders generated	0	0	0	0	0	0	0	0					0	
CCTV Truck 3126T, ft. videoed	3,998	6,622	1,795	303	7,211	7,037	6,793	3,396					37,155	4,644
CCTV (hand cam), ft. videoed	6,378	806	706	0	1,842	5,303	4,279	5,161					24,475	
CCTV Inspection - outside services, ft. videoed	1,349	553	0	127	0	0	0	9,496					11,525	
Total CCTV footage(3)	11,725	7,981	2,501	430	9,053	12,340	11,072	18,053	NA	NA	NA	NA	73,155	
C. Sanitary Sewer Overflows (SSOs)														
Minor (Category III)	1	4	3	0	1	0	0	1					10	NA
Major (Category II)	0	0	0	0	0	0	0	0					5	NA
Major (Category I)	0	3	2	0	0	0	0	0					0	NA
Overflow Gallons	126	2,419	1,603	0	5	0	0	15					4,168	NA
Volume Recovered	0	0	98	0	0	0	0	0					98	NA
Percent Recovered	0%	0%	6%	NA	0%	NA	NA	0%	NA	NA	NA	NA	2%	NA
D. Service Calls (non-SSO related)														
Service calls, normal hours, #	10	11	7	2	5	6	6	4					51	6
Normal hours S.C. response time, mins (avg.)	22	20	15	10	25	45	24	30					191	24
Service Callouts, after hours, #	1	1	1	1	1	1	0	1					7	1
After Hours S.C. response time, mins (avg.)	33	35	40	7	40	45	0	45					245	31
E. Benchmarks														
Average Ft. Cleaned/Hour Worked	237	209	274	296	258	236	218	156	NA	NA	NA	NA	NA	235
Total Stoppages/100 Miles	0.4	1.8	1.3	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.0	0.0	4.3	NA
Average spill response time (mins)	28	5	22	0	55	0	0	0					NA	14
Callouts/100 Miles	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.0	0.0	0.0	0.0	3.0	0.3
Overtime hours/100 Miles	1	0	7	1	3	2	3	4	0	0	0	0	20.67	2
Overflow Gallons/100 Miles	55	1052	697	0	2	0	0	7	0	0	0	-	1,812	151

(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.

(2) This category separates time spent on CCTV from other Collection System maintenance activities.

(3) Does not include outside services (tracked separately)

Collection System 2014-15 Graphs



**COLLECTION SYSTEM (Pump Stations)
WORK ORDER STATISTICS
August 1, 2015 - August 31, 2015**

	Open Work Orders Due Prior to 8/1/2015	Open Work Orders 8/1/2015 - 8/31/2015	Total Open Work Orders
Preventive	2	156	158
Corrective	7	0	7
Total	9	156	165

	Closed Work Orders 8/1/2015 - 8/31/2015
Preventive	150
Corrective	0
Total	150

Total Outstanding Work Orders as of 7/31/2015	15
--	-----------

**NOVATO SANITARY DISTRICT
Wastewater Operations Committee Meeting
Reclamation Facilities Report
August 2015**

1.0 Summary:

The rancher tended to his cattle this month as well as working on weed management and sprinkler repairs in the irrigated parcels. Parcels were irrigated on all Sites without any reportable issues. Work began to clean out the Sludge Lagoons.

2.0 Ranch Operations:

The rancher spent most of his time tending to the cattle, weed management and sprinkler head repair & replacement.

3.0 Irrigation Parcels:

District staff continued to check the control system at each site to make sure they are functioning as expected.

Staff requested and received proposals to replace 70 feet of 24" culvert beneath the Pond 1 Access Road near the entry to Site 2 at Highway 37. This culvert failed last winter and caused the drainage ditch to back up and flood across another access road and onto Parcel 21 (Photo at right). This work is expected to be completed in September.



4.0 Irrigation Pump Station:

Approximately 62.45 MG of treated water was used for irrigation this month.

5.0 Sludge Handling & Disposal:

An Agreement was executed between the District and Custom Tractor Service (CTS) of Petaluma to pump sludge out of the sludge lagoons and into the Dedicated Land Disposal (DLD) area, in addition to dredging the lagoons. Approximately 0.48 MG of sludge was pumped out of Lagoon 1 by the end of the month.



NOVATO SANITARY DISTRICT
Reclamation Facility - Monthly Statistics for Calendar Year 2015, as of August, 2015

	January	February	March	April	May	June	July	August	September	October	November	December	Total Year to Date	Annualized Monthly Average
Irrigation Pump Station														
Plant flow to ponds (MG)		0	0	0	0	90.64	88.64	80.12					259.4	21.62
Irrigation (MG)		0	0	0.0	0.09	7.86	59.2	91.59	62.45				221.2	18.43
Irrigation Pump 1 Hours				0.3	17.2	100.2	125.6	88.6					331.9	27.66
Irrigation Pump 2 Hours				0.1	16.7	102.4	121.1	96.7					337.0	28.08
Irrigation Pump 3 Hours				0.1	15.2	99.6	127.9	88.5					331.3	27.61
Washdown Water Pump Hours				0	0	0	0						-	0.00
Wildlife Feed Pump Hours			331.5	51.6	0	626.8	740.5	743.4					2,493.8	207.82
Water Circulated through Wildlife Pond (MG)	0	0	20.88	3.25	0	39	47	47	0	0	0	0	157.1	13.09
Strainer No. 1 Hours				0.2	6.3	38	45.9	33.7					124.1	10.34
Strainer No. 2 Hours				0	6.3	39.8	45.9	33.7					125.7	10.48
Pond 1 Gauge @ Beginning of Month	5.4	5.4	5.6	5.4	5.4	4.9	5.3	3.6						
Pond 1 Gauge @ End of Month	5.4	5.6	5.4	5.4	4.9	5.3	3.6	3.8						
Pond 1 Gallons Stored @ End of Month(MG)	39.2	41	39.2	39.2	35.2	38.4	24.8	26.4						
Pond 2 Gauge @ Beginning of Month	5.5	5.5	5.7	5.5	5.5	5	5.5	3.7						
Pond 2 Gauge @ End of Month	5.5	5.7	5.5	5.5	5	5.5	3.7	3.9						
Pond 2 Gallons Stored @ End of Month(MG)	52	54	52	52	47	52	33	35						
Total Irrigation Water Stored	91.2	95	91.2	91.2	82.2	90.4	57.8	61.4	0	0	0	0		
Drainage Pump Station No. 3														
Drainage Pump No. 1 Hours	0	133.1	2.4	1.2	0	0	0	0						
Drainage Pump No. 2 Hours	0	0	2.1	0.1	0	0	0	0						
Drainage Pump No. 3 Hours	100.3	127.1	0.6	2.7	0	0	0	0						
Total Gallons Stormwater Pumped (MG)	30.09	78.06	1.53	1.2	0	0	0	0	0	0	0	0	110.88	9.24
Drainage Pump Station No. 7														
Drainage Pump No. 1 Hours	331.6	46.2	13.3	0.2	0.1	0	0	0						
Drainage Pump No. 2 Hours	0	0	0	0	0	0	0	0						
Drainage Pump No. 3 Hours	0	1.5	2.7	7.5	0.1	0	0	0						
Total Gallons Stormwater Pumped (MG)	149.22	21	7	3.47	0.09	0	0	0	0	0	0	0	181.44	15.12

NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

TITLE: Operations – Collections, Outside Services, Account No. 60153; Siphon CCTV Work	MEETING DATE: September 28, 2014 AGENDA ITEM NO.: 6.b.
RECOMMENDED ACTION: Authorize the General Manager-Chief Engineer to execute a project work order with Roto-Rooter Plumbers to provide siphon inspection related CCTV services, in the amount of \$32,000.00.	
SUMMARY AND DISCUSSION: <p>As part of its continuing effort to inspect the collection system using closed circuit television (CCTV) equipment, the District needs to CCTV the inverted siphons throughout its collection system. These siphons are generally located at creek crossings or other features where the gravity sewer would be in conflict with the feature if laid at a straight grade, and constructed to avoid such conflict (i.e. by going under the feature). Siphons require specialized equipment that the District does not have in order to complete the CCTV work. Therefore, the District utilizes outside contractors to CCTV the siphons.</p> <p>Staff previously provided a verbal informational report on this item to the Board’s Wastewater Operations Committee at its September 21, 2015 meeting under the “Other Items” agenda item. In summary, using the informal bid provisions of the Uniform Public Construction Cost Accounting Act (UPCCAA), as adopted by the Board of Directors, District staff requested proposals from two local CCTV contractors to clean and inspect by video camera nine (9) inverted siphons that are 12” in diameter or smaller. Both of these companies have recently performed similar work for the District on smaller contracts (less than \$30,000.00) and both are on the District’s Informal Contracts’ Contractor List.</p> <p>Only one bid was received. This bid was from Roto-Rooter, in the amount of \$31,747.50. Roy’s Sewer Service did not submit a bid due to their current workload and did not have the confidence to complete the work before wet weather potentially sets in. Staff has discussed with Roto-Rooter their bid and their bid is based on an average of completing one siphon per day due to the variability in conditions between the different siphons. Upon further discussion, they have agreed to complete this work on a time and materials basis not to exceed \$32,000.</p> <p>The FY15-16 budget includes a budget amount of \$225,000 in Account No. 60153 (Outside Services), for this type of work, none of which has been expended to date this fiscal year.</p> <p>Accordingly, it is recommended that the Board approve the award and authorize the General Manager-Chief Engineer to execute a Work Order with Roto-Rooter Plumbers in the amount of \$32,000.00.</p>	
BUDGET INFORMATION: The FY 14-15 Preliminary Budget includes a budget amount of \$225,000 for Account No. 60153, Collections - Outside Services, none of which has been expended as of August 31, 2015.	
DEPT. MGR.: srk	GENERAL MANAGER: SSK

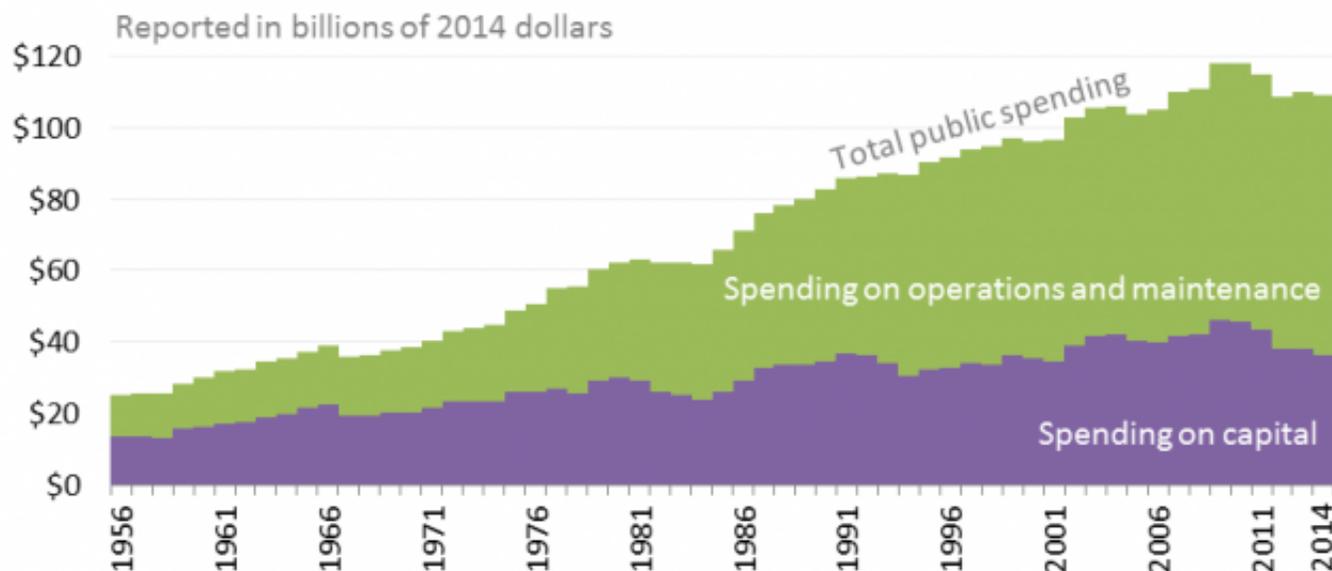
NOVATO SANITARY DISTRICT BOARD AGENDA ITEM SUMMARY

TITLE: Capital Projects: Collection System Improvements (Hamilton Trunk Sewer Rehabilitation Project), Account no. 72706	MEETING DATE: September 28, 2015 AGENDA ITEM NO.: 7.a.
RECOMMENDED ACTION: Approve a contract with Nute Engineering for construction phase consulting services on a time and materials basis in the not-to-exceed amount of \$46,000, and authorize the General Manager-Chief Engineer to execute it.	
SUMMARY AND DISCUSSION: At its September 14, 2015 meeting, the District Board reviewed the bids received for construction of this Project, approved contract award to Michael Paul Company, and authorized the General Manager-Chief Engineer to execute the contract. Staff has also identified that the District will require engineering services during construction, as well as construction observation, management, and administration services as the Michael Paul Company constructs this project. Therefore, staff requested a proposal from Nute Engineering (Nute) to provide these services. Nute provided similar services on the Olive Pump Station Force Main Project last year. Nute has submitted a construction phase consulting services proposal that comprehensively packages engineering services during construction, construction observation, management, and administration services on this project, for \$45,900. Staff has reviewed their proposal and believes it is reasonable. Therefore, staff recommends that the Board approve a contract with Nute Engineering for these construction phase consulting services (including engineering, construction observation, management, and administration) on a time and materials basis in the not-to-exceed amount of \$46,000, and authorize the General Manager-Chief Engineer to execute it.	
BUDGET INFORMATION: The FY 15-16 Budget includes a budget amount of \$1,050,000 for Collection System Improvements, Account No. 72706, and has a balance of \$1,041,370 as of August 31, 2015.	
DEPT. MGR.: srk	GENERAL MANAGER: SSK

Four Trends in Government Spending on Water and Wastewater Utilities Since 1956

Shadi Eskaf

Federal, state and local government spending on water and wastewater utilities, 1956 - 2014



Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.

Source: Congressional Budget Office supplemental data for the *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.

According to data collected and published by the Congressional Budget Office (CBO), federal, state and local governments in the United States spent more than \$2.2 trillion in the last 59 years on operations, maintenance and capital infrastructure of water and wastewater utilities. That equates to more than \$4,131,000,000,000 in 2014 dollars, adjusting for inflation of infrastructure-specific costs. Following our [earlier blog post demonstrating that federal spending on water and wastewater utilities decreased since the 1980s](#), we analyzed the data and identified 4 more trends in how government spending on utilities changed between 1956 and 2014.

Data on government spending

In March 2015, CBO published a report on the annual government expenditures on infrastructure, titled [Public Spending on Transportation and Water Infrastructure, 1956 to 2014](#). CBO collected data on federal expenditures from the Office of Management and Budget (OMB) and data on state and local government expenditures from the Census Bureau (private investment was not included, focusing entirely on public spending). CBO published the data in a file supplementing the report. Expenditures data were displayed for seven categories of infrastructure, including one for water and wastewater utilities described as expenditures on

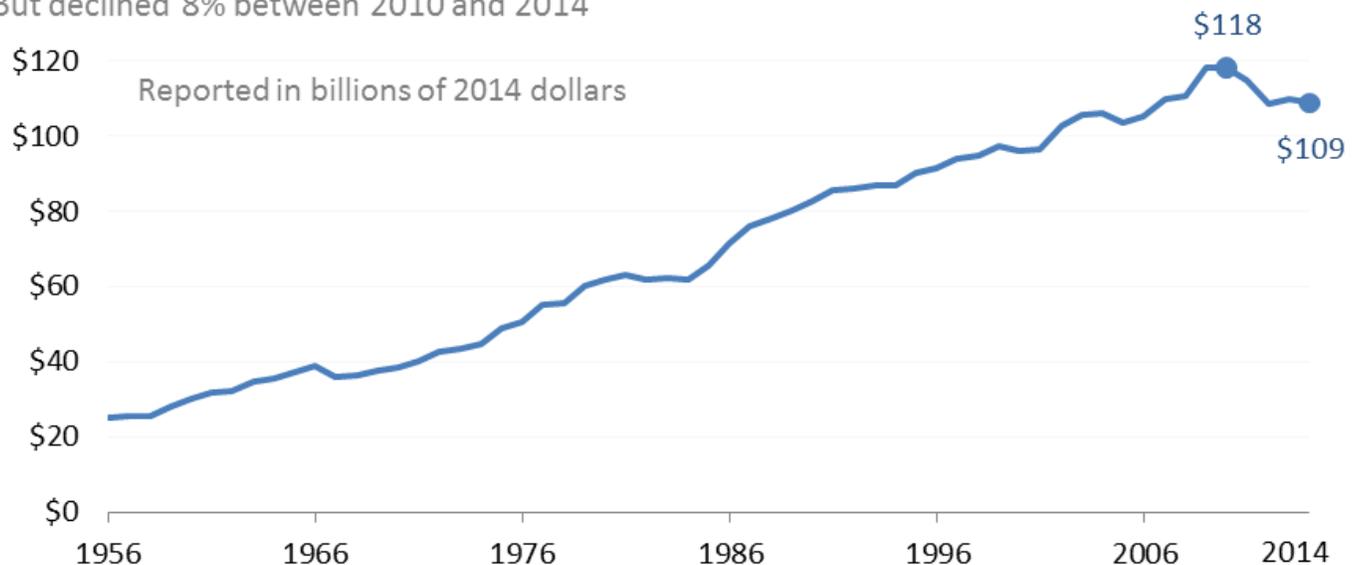
“supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants.” This category excludes expenditures on water resources (dams, reservoirs, watersheds, water sources) and water transportation, which are two separate categories. CBO further split expenditures by type of government (federal versus state and local government), and category of expenditures (capital versus operation and maintenance), and by federal fiscal years. All expenditures were inflated to 2014 dollars, using [price indices related to infrastructure-specific costs](#).

For this blog post, we analyzed the data specific to public spending on water and wastewater utilities, always using the 2014-inflated dollars to reveal the following four trends in real spending between 1956 and 2014:

1. Government spending on water and wastewater utilities grew nearly every year (but declined recently)

Total federal, state and local government spending on water and wastewater utilities grew steadily over time

But declined 8% between 2010 and 2014



Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.

Source: Congressional Budget Office supplemental data for the *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.

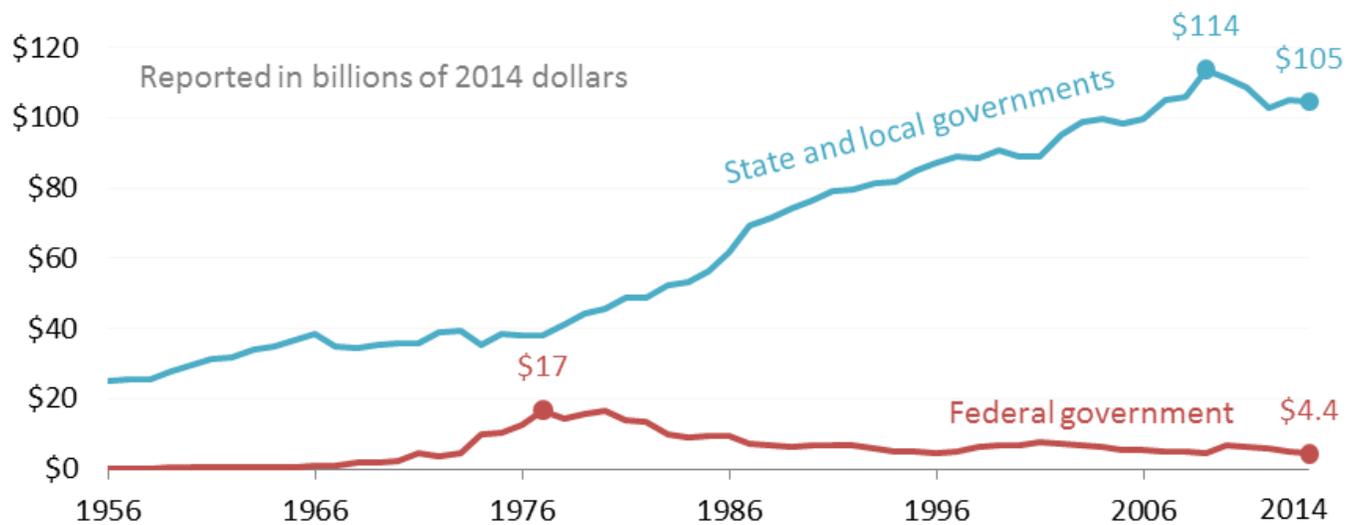
In real dollars, total government spending – including federal, state and local government – on capital and operations and maintenance of the utilities grew on average 3%-4% per year through the 1980s, and then at about 1%-2%/year since the 1990s. The steady increase was likely influenced by a growing number of utilities across the country, increasing regulations, and rising costs for labor and materials, among other factors.

Total public spending peaked in 2010, and has decreased 8% between 2010 and 2014. This is the most significant four-year decline in real expenditures since 1956. The main reason for this late decline has been a significant decrease in capital expenditures, particularly among state and local governments.

2. The increase in public spending was largely paid for by state and local governments, which now pay significantly more than the federal government

State and local government spending on water and wastewater utilities continued to grow while federal spending declined since the 1980s

State and local governments spent 24 times as much as the federal government in 2014



Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.

Source: Congressional Budget Office supplemental data for the *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.

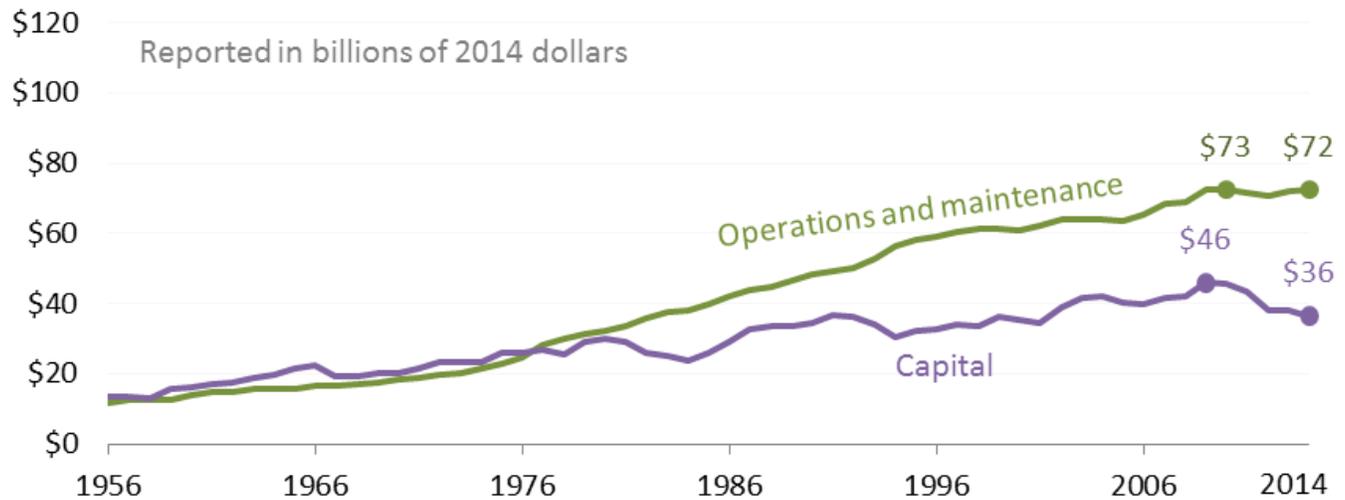
For a period of 10-15 years in the 1970s and 1980s, the federal government provided substantial amounts of subsidized funding (largely in the form of grants) to water and wastewater utilities across the country. Since the mid-1980s, the federal government reduced subsidized funding, and switched from providing mostly grants to providing mostly subsidized loans. While the federal funding programs have been maintained at relatively steady levels in nominal dollars, the real purchase power of these programs have diminished over time.

In contrast, state and local governments have increased real spending on water and wastewater utilities nearly every year until 2009. This may have occurred as local and state governments took on the costs that were no longer being funded by the federal government, or perhaps because more utilities were now in operation (or expanded) as a result of the federal government spending a few years earlier, or both. The gap between state and local government spending and federal government spending on the utility sector widened over time; by 2014, state and local governments accounted for 96% of all public spending on water and wastewater utilities. Although CBO did not differentiate between state spending and local government spending, it is likely that the majority of the state and local government spending nationally were actually spent by local governments.

3. Operations and maintenance expenditures are higher (and growing faster) than capital expenditures

Public spending on operations and maintenance rose at a faster rate than public spending on capital infrastructure for water and wastewater utilities

Between 1980 and 2014, real spending on O&M grew 126% while real spending on capital grew 22%, including a decline of 21% between 2009 and 2014



Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.

Source: Congressional Budget Office supplemental data for the *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.

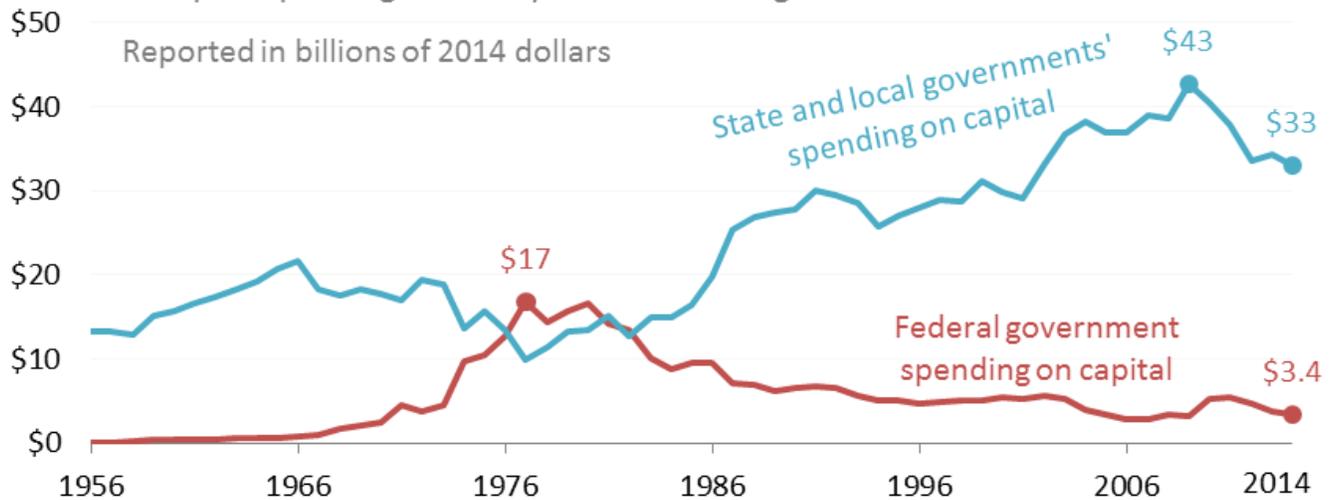
For several years until 1980, public spending was split almost evenly between capital expenditures (to build or replace water and wastewater systems) and operations and maintenance of the systems. Since then, however, O&M spending continued to grow at 4%-6%/year to the mid-1990s, and afterwards at 1%-3%/year. Between the years 2009 and 2014, real spending in O&M remained steady at about \$72 billion/year in 2014 dollars. By comparison, capital spending grew at about 1%-2%/year since 1980, and declined by an average of 4%/year since 2009. Currently, governments spend twice as much on operations and maintenance of their existing systems than on capital expenditures to rehabilitate, replace or expand existing assets or install new infrastructure.

Nearly all of the O&M expenditures are borne by state and local governments, which also account for 91% of all capital expenditures in 2014. As state and local governments' budgets are spread thinner by paying for rising operations and maintenance, their ability to also pay for capital expenses decreases.

4. State and local governments are increasingly picking up the tab for capital expenditures (but reduced sharply in recent years)

Spending on capital infrastructure for water and wastewater utilities has increasingly been provided by state and local governments while federal spending on capital infrastructure declined since the 1980s

Over 90% of capital spending occurs by state and local governments



Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.

Source: Congressional Budget Office supplemental data for the *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.

Focusing only on capital expenditures reveals the inverse relationship between federal capital spending and state and local government capital spending. As the federal programs increased capital funding for utilities, state and local governments spent less of their own money on capital projects. For four years, the federal government outspent all of the state and local governments combined on capital projects for water and wastewater utilities. Since the mid 1980s, though, as the federal funding programs decreased, state and local governments increased their capital spending significantly for a few years and then on average at 1%-3%/year until 2009. Between 2009 and 2014, state and local governments decreased capital spending by 22%; at the same time, federal capital spending did not change significantly.

By and large, the onus of public funding water and wastewater capital projects has been on state and local governments for the past couple of decades. In 2014, even after five years of decline, state and local governments still accounted for more than 90% of all public spending on capital projects. The recent decrease in local and state government capital expenditures may thus be of particular concern if it continues for a few more years. Capital needs to rehabilitate or replace aging infrastructure for water and wastewater utilities have been estimated in the hundreds of billions of dollars (even **more than a trillion dollars** to maintain government-owned and investor-owned water utilities' pipes and buried assets at the current level of service and expand water service to growing populations in the next 25 years, not counting the wastewater capital needs). If state and local governments' budgets are increasingly being devoted to covering operations and maintenance costs, it will be difficult for these governments to spend such large sums on capital expenditures in the future without some help, either in the form of federal spending and/or private sector investment in the infrastructure. If the current total public spending of \$36.4 billion on capital is maintained annually, it would take 28 years to fund \$1 trillion of infrastructure costs for government-owned utilities – it is difficult to tell whether that is sufficient to fund the public sector's total water and wastewater needs to maintain current levels of service and provide for growth and new regulations in the those years.

What does this mean for the future?

Analyzing the historic trends of public spending is insightful, but cannot accurately project what will happen in the future, especially without information on private sector investments. We have demonstrated with the CBO published data how much state and local governments have been and are currently investing in water and wastewater utilities, with some help from the federal funding programs. The recent data also show that it will be difficult to fund the sector's capital needs along with growing operations and maintenance costs on current trends alone. However, there have already been some changes in priorities and programs in recent years. [WRRDA created the new Water Infrastructure Finance and Innovation Authority and updated the Clean Water State Revolving Fund program](#), providing new avenues to fund water and wastewater utilities. Private-public partnerships are also gaining traction ([read about the EFC's partnership with EPA's new Water Infrastructure and Resiliency Finance Center to study P3 models for the water sector](#)). These shifts in federal public spending and increasing private sector investment may help alleviate some of the pressure on state and local governments in the long run. In the next few years, though, it is likely that state and, especially, local governments will continue to foot the majority of the bill for government-owned water and wastewater utilities.