25 January 2017

Thomas Sinclair
Environmental Regulatory Compliance Manager
City of Modesto, Utilities Department
1221 Sutter Avenue
Modesto, CA 95351

CERTIFIED MAIL
91 7199 9991 7035 8363 4920

via email: tsinclair@modestogov.com

OFFER TO SETTLE ADMINISTRATIVE CIVIL LIABILITY, CITY OF MODESTO COLLECTION SYSTEM SEWAGE OVERFLOWS, MODESTO, STANISLAUS COUNTY

This letter contains an offer from the Central Valley Regional Water Quality Control Board (Central Valley Water Board) Prosecution Team to settle potential claims for administrative civil liability arising out of alleged violations by the City of Modesto of the *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order 2006-0003-DWQ* (SSS WDRs) for sanitary sewer overflows which occurred on 24 December 2015 and 28 October 2016. As the owner and operator of the City of Modesto collection system, the City of Modesto (Discharger) is responsible for complying with all elements of the SSS WDRs and is strictly liable for penalties associated with non-compliance. Hereafter, this letter will be referred to as the "Settlement Offer."

This Settlement Offer provides the Discharger with an opportunity to resolve the alleged violations through payment of $185,186 (one hundred eighty five thousand one hundred eighty six dollars). Please read this letter carefully and respond no later than 24 February 2017.

Description of Violations

On 24 December 2015, a sanitary sewer overflow occurred at 2609 Surrey Avenue in Modesto. Approximately 3,058 gallons reached a surface water drainage channel for the one-day event. According to the Discharger, the spill occurred during a storm event and therefore only 200 gallons of the sewage were recovered. See Attachment A, the Discharger's certified CIWQS SSO Report, for additional information.

On 28 October 2016, the Discharger reported that a sanitary sewer overflow occurred at the Beard Brook Park and a few hours later at the River City Trunk Line at 7th Street. The spills were the result of rainfall, and entered both Dry Creek and the Tuolumne River. The total release was estimated to be 499,300 gallons for the one-day event. See Attachment B, the Discharger's 4 November 2016 spill report, for additional information.

Statutory Liability

Pursuant to Section 13385 of the California Water Code, the Discharger is liable for administrative civil liabilities of up to $10,000 per violation for each day in which the violation occurs and $10 per gallon discharged in excess of the first 1,000 gallons. The statutory minimum civil liability is the economic benefit resulting from the violations. The State Water Resources Control Board's *Water Quality Enforcement Policy* (Enforcement Policy) states that the minimum penalty is to be the economic benefit plus 10%. For the violations described in the attachments, the maximum potential liability for the violations is $5,021,580 and the minimum liability is estimated to be $7,054.

Proposed Settlement Offer

The Central Valley Water Board's Prosecution Team proposes to resolve the violation(s) with this Settlement Offer of $185,186. This Settlement Offer was determined based on an assessment of the factors set forth in Water Code section 13385(e) using the penalty methodology set forth in the Enforcement Policy. The enclosed "Penalty Calculation Methodology" describes in detail how the penalty amount was calculated. The Prosecution Team believes that the proposed resolution of the alleged violation(s) is fair and reasonable, fulfills the Central Valley Water Board's enforcement objectives, and is in the best interest of the public.

Should the Discharger choose *not* to accept this Settlement Offer, please be advised that the Central Valley Water Board Prosecution Team reserves the right to seek a higher liability amount, up to the maximum allowed by statute, either through issuance of a formal administrative civil liability complaint or by referring the matter to the Attorney General's Office. The Central Valley Water Board Prosecution Team also reserves the right to conduct additional investigation, including issuance of investigation orders and/or subpoenas to determine the number of gallons discharged and whether additional violations occurred. Any additional violations and gallons of discharge subjecting the Discharger to liability may be included in a formal enforcement action. The Discharger can avoid the risks inherent in a formal enforcement action and settle the alleged violation(s) by accepting this Settlement Offer. Please note that the Settlement Offer does not address liability for any violation that is not specifically identified in the attached inspection reports.

Options for Responding to the Settlement Offer

Option A: **Accept the Offer**
If the Discharger chooses to accept this Settlement Offer, then the enclosed *Acceptance of Settlement Offer and Waiver of Right to Hearing* (*Acceptance and Waiver*) shall be completed and submitted no later than **24 February 2017** to the following address:

Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite A
Rancho Cordova, CA 95670
Attention: Wendy Wyels, Supervisor, Enforcement Section

Important! - Upon receipt of the *Acceptance and Waiver*, this settlement will be publically noticed for a 30-day comment period as required by federal regulations. If no substantive

comments are received within the 30 days, the Prosecution Team will ask the Central Valley Water Board's Executive Officer to formally endorse the *Acceptance and Waiver* as an order of the Central Valley Water Board. An invoice will then be mailed to the Discharger requiring payment of the $185,186 administrative civil liability within 30 days of the date of the invoice.

If, however, substantive comments are received in opposition to this settlement and/or the Executive Officer declines to accept the settlement, then the Settlement Offer may be withdrawn. In this case, the Discharger will be notified and the Discharger's waiver pursuant to the *Acceptance and Waiver* will also be treated as withdrawn. The unresolved violation(s) will be addressed in a formal enforcement action. An administrative civil liability complaint may be issued and the matter may be set for a hearing.

Option B: Contest the Alleged Violations
If the Discharger wishes to contests the violation(s) or the methodology used to calculate the proposed liability, it must submit a written response identifying the basis for the challenge, including any evidence to support its claims. The Discharger's response must be received by the Central Valley Water Board no later than **24 February 2017**. The Central Valley Water Board Prosecution Team will evaluate the Discharger's basis for a challenge and may seek clarifying information or schedule an in-person meeting. The Prosecution Team will inform the Discharger whether a reduction in the settlement amount is warranted, or whether the original settlement amount is appropriate. The Discharger will be provided a final opportunity to accept the revised/original settlement amount before proceeding to formal enforcement.

Option C: Reject Offer
If the Discharger chooses to reject this Settlement Offer and/or does not complete and return the *Acceptance and Waiver*, the Discharger should expect that the Prosecution Team will conduct further investigation of the violation(s), issue an administrative civil liability complaint, and schedule a hearing. The Discharger will receive notice of any deadlines associated with that action. As previously stated, in such an action, the liability amount sought and/or imposed may exceed the liability amount set forth in this Settlement Offer.

If you have any questions about this settlement offer, please contact Wendy Wyels at (916) 464-4835 or at wwyels@waterboards.ca.gov.

ANDREW ALTEVOGT
Assistant Executive Officer

Enclosures:
- Acceptance of Conditional Resolution and Waiver of Right to a Hearing
- A: City of Modesto CIWQS SSO Report for spill at 2609 Surrey Ave.
- B: City of Modesto letter dated 4 November 2016
- Penalty Calculation Methodology

cc: David Boyers, Assistant Chief Counsel, State Water Board Office of Enforcement
Pamela Creedon, Executive Officer, Central Valley Water Board, Rancho Cordova
Andrew Deeringer, Office of Chief Counsel, State Water Board, Sacramento

ORDER NO. R5-[ ][1]
ACCEPTANCE OF SETTLEMENT OFFER AND WAIVER OF RIGHT TO A HEARING
FOR
CITY OF MODESTO
COLLECTION SYSTEM SEWAGE OVERFLOWS
STANISLAUS COUNTY

By signing below and returning this *Acceptance of Settlement Offer and Waiver of Right to Hearing* (*Acceptance and Waiver*) to the Central Valley Water Board, the City of Modesto (Discharger) hereby accepts the Settlement Offer described in the letter dated 25 January 2017 and titled *Offer to Settle Administrative Civil Liability, City of Modesto Sewage Overflows, Modesto, Stanislaus County* and waives the right to a hearing before the Central Valley Water Board to dispute the alleged violations described in the Settlement Offer and its enclosures.

The Discharger agrees that the Settlement Offer shall serve as a complaint pursuant to Article 2.5 of the Water Code and that no separate complaint is required for the Central Valley Water Board to assert jurisdiction over the alleged violations. The Discharger agrees to perform the following:

- Pay an administrative civil liability in the sum of $**185,186 (one hundred eighty five thousand one hundred eighty six dollars)** by cashier's check or certified check made payable to the "*State Water Resources Control Board Cleanup and Abatement Account*". This payment shall be deemed payment in full of any civil liability pursuant to Water Code section 13385 that might otherwise be assessed for violations described in the Settlement Offer and its enclosures.

The Discharger understands that by signing this *Acceptance and Waiver*, the Discharger has waived its right to contest the allegations in the Settlement Offer and the civil liability amount for the alleged violation(s). The Discharger understands that this *Acceptance and Waiver* does not address or resolve any liability for any violation not specifically identified in the Settlement Offer and its enclosures.

Upon execution by the Discharger, the *Acceptance and Waiver* shall be returned to the following address:

Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite A
Rancho Cordova, CA 95670
Attention: Wendy Wyels, Supervisor, Enforcement Section

The Discharger understands that this *Acceptance and Waiver*, prior to being formally endorsed by the Central Valley Water Board Executive Officer (acting as head of the Advisory Team), will be published for a 30-day public comment period.

If no comments are received within the notice period that cause the Prosecution Team to reconsider the Settlement Offer, then the Prosecution Team will present this *Acceptance and Waiver* to the Central Valley Water Board's Executive Officer for formal endorsement on behalf of the Central Valley Water Board.

[1] *Order number to be added after endorsement*

The Discharger understands that if significant comments are received in opposition to the settlement, then the offer may be withdrawn by the Prosecution Team. If the Settlement Offer is withdrawn, then the Discharger will be notified and the Discharger's waiver pursuant to the *Acceptance and Waiver* will also be treated as withdrawn. The unresolved violation(s) will be addressed in a formal enforcement action. An administrative civil liability complaint may be issued and the matter may be set for a hearing.

The Discharger understands that once this *Acceptance and Waiver* is formally endorsed and an Order Number is inserted, then the full payment is a condition of this *Acceptance and Waiver*. An invoice will be sent upon endorsement, and full payment will be due within 30 days of the date of the invoice.

I hereby affirm that I am duly authorized to act on behalf of and to bind the Discharger in the making and giving of this *Acceptance and Waiver*.

City of Modesto

By: _____

Title: _____

Date: _____

IT IS SO ORDERED, pursuant to California Water Code section 13385.

By: _____
Pamela Creedon, Executive Officer

Date: _____

PENALTY CALCULATION METHODOLOGY
FOR
CITY OF MODESTO COLLECTION SYSTEM
SANITARY SEWER OVERFLOWS
STANISLAUS COUNTY

The State Water Board's *Water Quality Enforcement Policy* (Enforcement Policy) establishes a methodology for determining administrative civil liability by addressing the factors that are required to be considered under California Water Code section 13385(e). Each factor of the nine-step approach is discussed below, as is the basis for assessing the corresponding score. The Enforcement Policy can be found at:
http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf.

Violation 1 – Discharge of Raw Sewage to Surface Waters

The Discharger is regulated by the *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order 2006-0003-DWQ* (SSS WDRs). This permit prohibits the discharge of untreated wastewater to waters of the U.S. From 2013 through 2016, the Discharger reported two spills of raw sewage to waters of the U.S. On 24 December 2015, an estimated 2,858 gallons of raw sewage flowed into a storm drainage and entered surface waters, while on 28 October 2016, an estimated 499,300 gallons of raw sewage flowed into Dry Creek and the Tuolumne River. For purposes of settlement, Board staff has not included penalties for discharges of the 72 discharges of raw sewage to land between 1 January 2013 and 31 December 2016. However, if this matter goes to hearing, these additional sewage spills will be considered. In addition, the penalty factors below will be reevaluated.

PENALTY FACTOR	**VALUE**	**DISCUSSION**
Harm or potential for harm to beneficial uses	2	The raw sewage entered a tributary to the Tuolumne River and into the River itself, during storm events. The beneficial uses of the Tuolumne River include water supply, aquatic freshwater habitat, spawning, and migration. The discharge was reasonably expected to have a below moderate impact to beneficial uses. If this matter goes to hearing, staff will further evaluate this factor.
Physical, chemical, biological, or thermal characteristics of the discharge	3	Untreated sewage contains elevated concentrations of coliform organisms and other substances which are known to cause disease to humans. Because the discharged material possessed "an above moderate risk or a direct threat to potential receptors", a score of 3 was assigned for this factor.
Susceptibility to cleanup or abatement	1	Only 200 gallons of over 500,000 gallons was recovered because the spills entered surface waters during rain events. Less than 50% of the discharge was susceptible to cleanup or abatement, so a factor of 1 is used.
Per gallon and per day factor for discharge violations	0.15	The "Deviation from Requirement" is moderate because the Discharger's response to the SSO appeared appropriate. It is noted that staff has not reviewed the other aspects of the Discharger's compliance with the SSS WDRs, including implementation of the Sanitary Sewer Management Plan.
Volume discharged minus 1,000 gallons per event	500,158 gallons	According to the Discharger, 2,858 gallons was discharged to surface water and not recovered on 24 December 2015, and 499,300 gallons was discharged to surface water and not recovered on 28 October 2016. The total volume, minus 1,000 gallons per event, is used in the calculation.

PENALTY FACTOR	VALUE	DISCUSSION
Adjustment for high volume discharges	Yes, $2/gallon	For large volume spills, the Enforcement Policy allows a reduction from the statutory maximum of $10/gallon, and suggests $2/gallon for sewage spills.
Per gallon penalty	$150,047	The liability is calculated as per day factor multiplied by the number of gallons multiplied by $2/gallon
Days of discharge	2 days	Sewage was discharged on 24 December 2015 and 28 October 2016.
Per day penalty	$3,000	The liability is calculated as per day factor multiplied by the number of days multiplied by the statutory maximum per day ($10,000).
Initial Liability for Violation #1	$153,047	Sum of the per-gallon and per-day penalties
Adjustments for Discharger Conduct		
Culpability	1.1	The Discharger has been enrolled under the SSS WDRs since 2006, and is responsible for ensuring that its collection system is inspected and maintained to prevent spills. The SSS WDRs also require that the Discharger evaluate "hydraulic deficiencies" and make improvements to prevent spills due to rainfall. Staff has not yet reviewed the Discharger's Sanitary Sewer Management Plan to determine if the Discharger is identifying and mitigating hydraulic deficiencies. With respect to the October spill, the Discharger's initial report stated that Gallo Glass had bypassed its pre-treatment system and implied that this caused the overflow. However, the final report does not mention Gallo Glass. The Discharger is responsible for complying with NPDES pre-treatment regulations and regulating industrial dischargers into its sewer system.
Cleanup and Cooperation	1.0	The Discharger appears to have adequately responded to the two spill events. However, it is unclear as to the actions that the Discharger will take to improve its sewer collection system to prevent similar spills, in particular at the Beard Park location.
History of Violations	1.1	The Discharger has reported a large number of SSOs that went to land (i.e., 72 spills between January 2013 and December 2016). Four Notices of Violation were issued for the Discharger's SSOs in 2011, 2012, and twice in 2013. In addition, in 2005, the Board issued Administrative Civil Liability Complaint R5-2005-0529 to the City of Modesto in the amount of $152,000 for a sanitary sewer overflow to Dry Creek. The Discharger paid the liability.
Total Base Liability for Violation #1	$185,186	The base liability is calculated as the initial liability multiplied by each of the above three factors.

The Enforcement Policy states that five other factors must be considered before obtaining the final liability amount.

Total Base Liability for all violations: $185,186		
Other Factor Considerations		
Ability to pay and continue in business	No adjustment	The City of Modesto is a public entity with the ability to raise funds.

Economic benefit	$6,413	The 2007 Wastewater Master Plan and 2016 Condition Assessment report reccomended both inspection and rehabilitation of sections of the River Trunk sewer line. Previous attempts to conduct CCTV were not possible due to high velocities and surcharging conditions in the vicinity of the SSO. In fact, the 2016 Condition Assessment Report identified potential capacity issues within the trunk line at upstream manholes to the spill location. Based on the Discharger's technical report identfying capacity and structural issues as contributing factors to the October 2016 SSO, siginificant assessment and improvement costs were delayed and/or avoided. It is estimated that at a minimum, the Discharger should have allowed for CCTV inspection of the River Trunk sewer line for the segment identified in the 2007 Master Plan, and the segment between the manholes where the SSO was observed. This total pipe length is equal to approxmately 3,500 linear feet. The US EPA BEN model was used to calculate the economic benefit of inspection. A table summarizing the model inputs and assumptions is attached.
Other factors as justice may require	No adjustment	The costs of investigation and enforcement are "other factors as justice may require", and could be added to the liability amount. The Central Valley Water Board has incurred over $5,000 in staff costs associated with the investigation and enforcement of the alleged violations. While this amount could be added to the penalty, it is not added at this time.
Maximum liability	$5,021,580	Based on California Water Code section 13385: $10,000 per day per spill and $10 per gallon, minus the first 1,000 gallons per spill event.
Minimum liability	Minimal, and less than the proposed liability	Based on California Water Code section 13385, civil liability must be at least the economic benefit of non-compliance. Per the Enforcement Policy, the minimum liability is to be the economic benefit plus 10%.
Final Liability	**$185,186**	The final liability amount is the total base liability plus any adjustment for the ability to pay, economic benefit, and other factors. The final liability must be more than the minimum liability and less than the maximum liability.

Attachment: USEPA BEN Model results

Economic Benefit Analysis

City of Modesto

Compliance Action		One-Time Non-Depreciable Expenditure				Non-Compliance Date	Compliance Date	Penalty Payment Date	Discount Rate	Benefit of Non-Compliance
		Amount	Basis	Date	Delayed?					
River Trunk Inspection		$ 6,159	ECI	1/1/2015	N	10/28/2016	4/30/2017	4/30/2017	3.40%	$ 6,413

Income Tax Schedule: Municipality **Analyst:** Bryan Elder **Total Benefit:** **$ 6,413**

USEPA BEN Model Version: Version 5.6.0 (April 2016) **Date/Time of Analysis:** 1/24/2017 15:33

Assumptions:

1 River Trunk inspection is based on CCTV cost of $1.64 per linear foot (RSMeans 2015 33-01-30.16-9060) using a location factor of 107.4 (RSMeans 2015, "Modesto", Pg. 607). Pipe segment is approximately 2,700 linear feet between manholes where SSO occurred. Additional 800 feet identified in 2007 Master Plan as area of concern.

2 Inspection costs are comprised mainly of labor expenses and are therefore indexed using the Employment Cost Index (ECI).

3 Non-compliance date is assumed to be date of SSO.

4 Compliance date is irrelevent as no inspection activity has occurred to date.

5 Penalty payment date is assumed to be April 30, 2017.

6 The Discharger is a municipality.

CIWQS

You are logged-in as: PUBLIC.

SSO - General Information

SSO Event ID:	820435	**Regional Water Board:**	5S
Spill Location Name:	2609 Surrey Ave	**Agency:**	Modesto City
WDID:	5SSO11001	**Sanitary Sewer System:**	Modesto CS

File Name	File Description	Date/Time Uploaded	Status
820435_Version_1.2.pdf	Certified spill pdf : 820435_Version_1.2.pdf	01/11/2016 - 16:47:17	OK

General Info

Glossary of Terms

Locate the spill on map

Certified by Robert Englent on 2016-01-11 00:00:00.0

1 - Spill Type:	Category 1
2 - Estimate Spill Volumes	
a) Estimated spill volume that reached a separate storm drain that flows to a surface water body?	0
b) Estimated spill volume recovered from the separate storm drain that flows to a surface water body? (Do not include water used for clean-up)	0
c) Estimated spill volume that reached a drainage channel that flows to a surface water body?	3058
d) Estimated spill volume recovered from a drainage channel that flows to a surface water body?	200
e) Estimated spill volume discharged directly to a surface water body?	0
f) Estimated spill volume recovered from surface water body?	0
g) Estimated spill volume discharged to land? (Includes discharges directly to land, and discharges to a storm drain system or drainage channel that flows to a storm water infiltration/retention structure, field, or other non-surface water location.)	0
h) Estimated spill volume recovered from the discharge to land? (Do not include water used for clean-up)	0

Estimated Total spill volume Reach Surface Water (a-b+c+e)	Estimated Total spill volume Reach Land (g)	Estimated Total spill volume Recovered (b+d+f+h)	Estimated Total spill volume (a+c+e+g)
3058	0	200	3058

3 - Did the spill discharge to a drainage channel and/or surface water?	Yes
4 - Did the spill reach a separate (i.e.,not combined) storm drainpipe?	No
5 - If spill reached to a separate storm drainpipe, was all of the wastewater fully captured from the separate storm drain and returned to the sanitary sewer system?	Not Applicable - Spill did not reach a separate storm drainpipe

Physical Location Details

6 - Spill location name:	2609 Surrey Ave
7 - Latitude of spill location:	37.65648
8 - Longitude of spill location:	-120.94752
9 - County:	Stanislaus
10 - Regional Water Quality Control Board:	5S
11 - Spill location description:	Flat residential area

Spill Details

12 - Number Of appearance points:	2
13 - Spill appearance point:	Manhole;Other sewer system structure
14 - Spill appearance point explanation:	two (2) manhole structures
15 - Final spill destination:	Drainage Channel;Street/Curb and Gutter;Surface Water
16 - Explanation of final spill destination:	Spill occurred during storm event which prevented containment
17 - Estimated spill start date/time:	2015-12-24 11:00:00.0
18 - Date and time sanitary sewer system agency was notified of or discovered spill:	2015-12-24 12:36:00.0
19 - Estimated Operator arrival date/time:	2015-12-24 12:55:00.0
20 - Estimated spill end date/time:	2015-12-24 13:48:00.0
21 - Spill cause:	Grease Deposition (FOG)
22 - Spill cause explanation:	
23 - Where did failure occur?	Gravity Mainline
24 - Explanation of Where failure occured:	
25 - Was this spill associcated with a storm event?	No
26 - Diameter of sewer pipe at the point of blockage or failure:	6
27 - Material of sewer pipe at the point of blockage or failure:	VCP
28 - Estimated age of sewer asset at the point of blockage or failure:	0
29 - Spill response activities:	Cleaned-Up;Contained all or portion of spill;Restored flow;Returned Portion of Spill to Sanitary Sewer System
30 - Explanation of spill response activities:	
31 - Spill response completion date:	2015-12-24 15:15:00.0
32 - Spill corrective action taken:	Adjusted schedule/method of preventive maintenance;Inspected Sewer Using CCTV to Determine Cause
33 - Explanation of spill corrective action taken:	NA
34a - Is there an ongoing investigation?	No
34b - Reason for ongoing investigation?	
35 - Visual inspection results from impacted receiving water:	None
36 - Health warnings posted?	No

37 - Did the spill result in a beach closure (If YES, answer questions 38)?	No
38 - Name of impacted beach(es) (enter NA if not applicable):	
39 - Name of impacted surface water(s) (enter NA if not applicable):	Dry Creek
40 - Water quality samples analyzed for:	No water quality samples taken;Not applicable to this spill
41 - Explanation of water quality samples analyzed for:	
42 - Water quality sample results reported to:	No water quality samples taken;Not applicable to this spill
43 - Explanation of water quality sample results reported to:	
44 - Explanation of volume estimation method used:	Number of connections upstream times hours

Notification Details

45 - Cal OES Control Number	157540
46 - Cal OES Called Date/Time	2015-12-24 15:45:00.0
47(a) - Name and Tittle (Contact person who can answer specific questions about this SSO)	Bob Eusebio
47(b) - Contact Person Phone Numner	2095776239

City of Modesto
Utilities Department
Environmental Compliance
1221 Sutter Avenue
Modesto, CA 95351

November 4, 2016

Mr. Mohammed Farhad
NPDES Compliance and Enforcement Unit
Central Valley Regional Water Quality Control Board
11020 Sun Center Dr., Suite 200
Rancho Cordova, CA 95670-6114

Subject: City of Modesto Sanitary Sewer Overflow (SSO) October 28, 2016

Dear Mr. Farhad:

Attached is the initial SSO Investigation Report developed from field staff, of an SSO discharge of wastewater that occurred on October 28, 2016 at Beard Brook Park and a secondary location at 7th Street at the Tuolumne River Park Gateway Construction Site, as shown in the attached plot plan.

1. **Cause**
   The primary discharge emanated from a manhole just below the south parking lot entrance to Beard Brook Park and at a secondary location from the manhole to the west of the 7th Street Bridge, as listed on the attached plot plan. The primary discharge at Beard Brook Park was first observed at approximately 10:30 on October 28, 2016 and secondary discharge at 7th Street was noted at about 13:00.

   The SSO was the result of rainwater infiltration into the sanitary system, which overwhelmed the collection system when 1.2 inches of rain inundated the City from 08:00 to 11:00. This equated to ten percent of Modesto's average annual rainfall in a 3 hour period, overwhelming the storm drainage system leading to permeation into the sanitary system. This resulted in increased flows to the Beard Brook siphon in the River Sewer Trunk Line, causing the line to be over capacity ending in a sanitary sewer overflow to Dry Creek, a tributary of the Tuolumne River. Around 13:00 a secondary SSO occurred at the manhole on the River Sewer Trunk Line at 7th Street. The second location was a result of the City's pipe structure failing near the man hole, allowing sewage to be released from the pipe through the ground and onto a construction site with a backwater structure draining into the Tuolumne River.

2. **Response**
   Field staff was on scene at Beard Brook Park around 11:50 and observed active flow emanating out of the manhole at a height of approximately18 inches, eroding cover soil as it flowed down gradient into Dry Creek. Flows had reduced by approximately half near 12:30 and had ceased to actively overflow by 13:24. The City's Collections crew set up a portable pump to divert flows from the River Sewer Trunk Line to the Cannery Segregation Trunk Line to alleviate the increased flows from the storm

around 13:20. The second SSO at the 7th Street manhole, located on the north bank of Tuolumne River flood plain, was observed coming out of the bottom of the manhole cover as a result of failure in the line just below the surface between 13:00 and 13:30. This spill was observed by a construction worker checking the condition of the site during the storm. The SSO was no longer active when the City response team arrived on site at approximately 15:45.

3. Notification

The following agencies were notified of the SSOs at both locations:

Agency	Date and Time of Notification	Control Number/Name
Cal OES	1:30 PM 10/28/2016	16-6564
Cal Fish and Wildlife	2:50 PM 10/28/2016	NA
Stanislaus Country Environmental Resources	2:13 PM 10/28/2016	NA

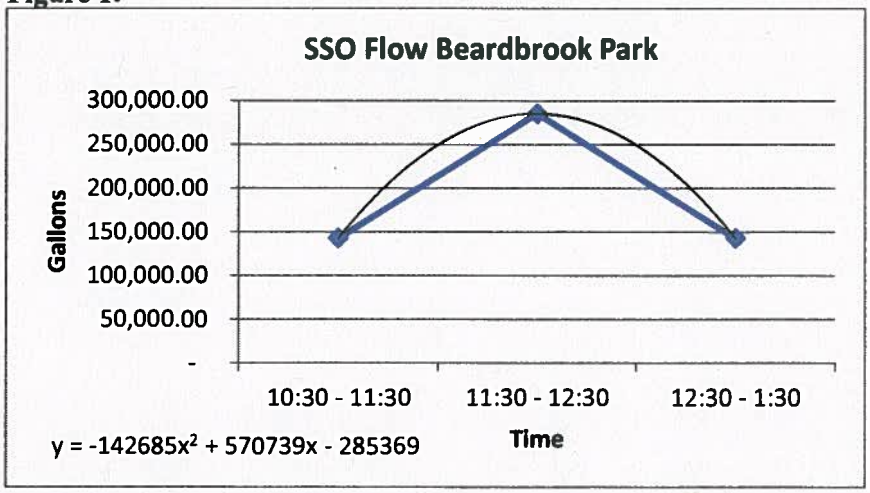
Posting was established at the Dry Creek area and trailhead advising the public of the SSO as shown in the Public Notification attachment.

4. Analysis

Water quality samples were taken immediately following the SSO events at both locations. Sampling locations of the Dry Creek SSO were at the origin of the release, as well as 50 feet upstream, 50 feet downstream plus 160 feet downstream of the origin. Locations of samples of the Tuolumne River were at the origin as well as 75 feet upstream and 200 feet downstream due to accessibility of the river. The preliminary results are attached.

Based on visual observations, flow was determined as function of height above manhole multiplied by the cross section area per second (see Figure 1). Integrating the flow over the three hour period yielded a total flow at Beard Brook Park of 428,000 gallons. The flow at the 7th Street was estimated at half the initial flow at Beard Brook Park for an hour which equated to a total flow of 71,300 gallons. The total release to the Tuolumne River from the manhole at Beard Brook Park (via Dry Creek) and the 7th Street manhole was approximately 499,300 gallons. The average flow, in gallons per minute, for the full SSO event, was calculated to be 2,774 gpm.

Figure 1:



5. **Mitigation**
   At the time of the event, field crews removed several inches of contaminated soil at both sites and secured the sites with caution tape and signs. At the 7th Street location, the backwater channel on the construction site has been disconnected from the Tuolumne River by means of an earthen dam and will be replaced with a super sack dam by the construction crews.

6. **Follow-up**
   A California Department of Fish and Wildlife emergency plan has been put into place for the Beard Brook location consisting of two feet of topsoil removal, replacement of clean topsoil, and hydro-seeding to restore this location. An emergency pipeline repair has been established to address the failed lines at the 7th Street location. In addition to the water quality sampling on the day of the event, continued monitoring has taken place at all 7 locations on October 31, and November 3, 2016. These results will be submitted as an addendum to the report.

If you have any question regarding this report, please call me at (209) 577-6240.

Sincerely,

Thomas Sinclair
Environmental Regulatory Compliance Manager
City of Modesto, Utilities, Wastewater Division

cc: Larry Parlin, City of Modesto
Laura Anhalt, City of Modesto
Robert Englent, City of Modesto
Duane Becker, City of Modesto
Janis Mein, Stanislaus County Department of Health and Environmental Resources
Phillip McKay, California Department of Fish and Wildlife

Attachments:
- SSO Investigation Report
- Plot Plan
- Laboratory Analysis
- Public Notice posting

SSO INVESTIGATION REPORT

Date: 10/28/2016 Time: 10:24 Hours Worked: 2 After Hours: ☒Yes ☐No Investigation Closed: ☐

Investigator: PRIMARY: Christina Robinson Investigator 2: Gayle Ziegler Investigator 3: Adrian Garibay

Incident Address:**400 S. Morton Blvd** Zipcode:95354

Site Type: Construction Site Drainage System: Receiving Water Type of Call: Stormwater

SSO TYPE: Multiple Manholes Other:

Initial Complainant: Citizen Received Call From: Citizen

Complainants Name: Chris Savage Telephone: 209-341-7402

Pollutant Found: Raw Sewage Pollutant Identified By: ECS Staff

Circumstance: Accidental Disposition of Waste: Not Recoverable

DETAILS and ACTION TAKEN ON SCENE: Jack Cooke of Collections was notified by Larry Parlin about a sanitary sewage overlfow happeneing at the Beardbrook park at 11:30 am on October 28,2016. ECS and Collections responded to the scene to find man hole number 12439 to be overflowing of sewage at a rapid rate, into receiving waters known as Dry Creek which is a tributary of Tuolumne River. The innitial observation of the Collections department was that the downstream manholes were flowing and there did not appear to be a blockage of the sewage line. Upon arrival around 11:50 the head of the flow coming out of the manhole was about a foot and a half above the man hole. By 12:45 the flow through the manhole had reduced by half and had stopped actively overflowing out of man hole 12439 by 13:24. OES was notified at this time with an initial report of the Category 1 SSO of approximately 166,000 gallons raw untreated sewage to receiving waters. With further investigation, it was learned that a Gallo Winery employee witnesse the overflow from the east bank of Dry Creek between 10 and 10:24 am. The employee contacted Chris Savage who then contacted Larry Parlin at 10:24 am. The sewage from the manhole flowed downhil on the west bank of Dry Creek just upstream of the confluence with the Tuolumne river. There appeared to be significant errosion of the bank from the overflow with a variety of pollutants on the ground in the path of the sewage leading to the receiving water.

The second location of the SSO was located on Tuolumne Blvd near the intersection with South 7th street at the Troulumne River Regional Park Gateway Parcel construction site at manhole 02454. A contractor noticed the overflow between 13:00 and 13:30 then contacted his boss who contacted Chad Adams. When Chad arrived onsite around 14:15 the overflow was no longer active. The manhole is located on the bank of the Tuolumne River on the floodplain. As part of the construction plans, a backwater had been created from the Tuolumne River onto the site which was located near the overflowing manhole and was inundated with sewage. The increased flow from storm water and raw untreated sewage caused erosion of bank leading to

the raw sewage reaching the Tuolumne River. The overflow was caused by a failure of the pipeline and came out of the bottom of the man hole covering.

Cal OES Control # 16-6564

CLEAN UP and MITIGATION: Signs were posted at both locations stating "Raw Sewage, Avoid Contact" with the City of Modesto contact information. The top section of the contaminated soil was removed at both locations with a backhoe.

INTERVIEWED: Chris Savage was contacted to clarify the timeline of events leading up to notification of Collections and ECS for Beard Brook Park. Chad Adams was contacted for more information on the Tuolumne River Park SSO.

GALLONS DISCHARGED: Initial Estimation of 166,000 GALLONS RECOVERED: 0

SSO CAUSE: SURCHARGED LINE AND PIPE FAILURE CAUSED BY CITY: ☒Yes ☐No

FIRST RESPONDER WAS? Christina Robinson and multiple Collections employees

FIRST ACTIONS TAKEN ON SCENE? Stopped access to any non-essential personnel to site.

CATEGORY 1 SSO:

OVER 1000 GALLONS DISCHARGED? Yes IF YES: CALLED CalOES? DATE:10/28/2016 TIME:13:24

ANY AMOUNT INTO RECEIVING WATER? Yes IF YES: CALLED CalOES? DATE:10/28/2016 TIME:13:24

CalOES PHONE NUMBER: 916-845-8768 CONTROL NUMBER THEY GIVE YOU:

CITY OF MODESTO ADDRESS TO GIVE IF ASKED: P.O.BOX 642, MODESTO, CA 95353

DER Date/Time: 10/28/16 14:13 Phone Day (209) 525-6700 / Night (209) 558-4357

RWQCB Date/Time: Phone Day or Night (916) 464-3291

Indicate if you notified other personnel or agencies:

ECS SUPERVISOR ☒ WATER DEPT (MANUEL MARTINEZ) ☐ MFD ☐ MPD ☐

STREETS ☐ BLDG ☐ NPU ☐ FISH AND WILDLIFE ☒

IF other agencies were called, list who called them, when they were called, what action did the other agency take:

Investigation Referred to: Date:

Resources Utilized: ☒ Public ☐ Private ☐ Both

Manhole Locations:

Location 1 :12439 º º TIME STARTED: TIME STOPPED: GPM:

Location 2 02454: º º TIME STARTED: TIME STOPPED: GPM:

Location 3 : º º TIME STARTED: TIME STOPPED: GPM:

Location 1 total minutes: X gpm =

Location 2 total minutes: X gpm =

Location 3 total minutes: X gpm =

Catch Basins Affected:

Location 1 How protected:

Location 2 How protected:

Location 3 How protected:

Investigator Signature: Date:11/4/2016

ENFORCEMENT ACTIONS (IF ANY)
SSO DATE SSO ADDRESS

Response: ---------- Cost Recovery: ----------

Responsible Parties

Party 1: ---------- Send Letter/Written Warning: ---------- Brochure Provided on Site: ----------

Name: Phone

Address:

Company: Company Address:

Response: ---------- Cost Recovery: ----------

Party 2: ---------- Send Letter/Written Warning: ---------- Brochure Provided on Site: ----------

Name: Phone:

Address:

Company: Company Address:

Response: ---------- Cost Recovery: ----------

Party 3: ---------- Send Letter/Written Warning: ---------- Brochure Provided on Site: ----------

Name: Phone:

Address:

Company: Company Address:

Beard Brook SSO

November 3, 2016

1:2,000

0 0.015 0.03 0.06 mi

0 0.0275 0.055 0.11 km

Web AppBuilder for ArcGIS

7th Street SSO

November 3, 2016

1:2,000

0 0.015 0.03 0.06 mi

0 0.0275 0.055 0.11 km

Web AppBuilder for ArcGIS

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - 50' UP
Matrix:
Collected: 10/28/2016 2:20:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07640

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Dissolved Oxygen (Field)	7.89 mg/L		0.1	SM4500-O-G	10/28/2016 14:20	CR
pH (Field)	6.62 SU		0	SM4500-HB	10/28/2016 14:20	CR
Temperature (Field) deg C	18.7 C		0	SM2550-B1	10/28/2016 14:20	CR
Conductivity (Field)	47.94 uhmos/cm		1	SM2510B	10/28/2016 14:20	CR

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - 50' Up
Matrix:
Collected: 10/28/2016 2:20:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07645

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	170000 MPN/100mL		1.8	SM9221B	10/28/2016 15:24	MG
Fecal Coliform	35000 MPN/100mL		1.8	SM9221E	10/28/2016 15:24	MG
E. coli	35000 MPN/100mL		0	SM9221F	10/28/2016 15:24	MG
Ammonia as N	0.34 mg/L	0.2	0.03	SM4500-NH3-D	11/01/2016 14:52	JA
Turbidity	30.2 NTU	0.1	0.1	SM2130B	10/29/2016 09:25	MG
Biochemical Oxygen Demand	7.6 mg/L	2	2	SM5210B	10/29/2016 15:23	LCC

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - 50' Up Dup
Matrix:
Collected: 10/28/2016 2:20:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07646

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	240000 MPN/100mL		1.8	SM9221B	10/28/2016 15:24	MG
Fecal Coliform	160000 MPN/100mL		1.8	SM9221E	10/28/2016 15:24	MG
E. coli	16000 MPN/100mL		0	SM9221F	10/28/2016 15:24	MG

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beardbrook SSO - Origin
Matrix:
Collected: 10/28/2016 2:10:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07642

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Dissolved Oxygen (Field)	7.87 mg/L		0.1	SM4500-O-G	10/28/2016 14:10	CR
pH (Field)	6.19 SU		0	SM4500-HB	10/28/2016 14:10	CR
Temperature (Field) deg C	18.3 C		0	SM2550-B1	10/28/2016 14:10	CR
Conductivity (Field)	47.64 uhmos/cm		1	SM2510B	10/28/2016 14:10	CR

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - Origin
Matrix:
Collected: 10/28/2016 2:10:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07647

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	170000 MPN/100mL		1.8	SM9221B	10/28/2016 15:24	MG
Fecal Coliform	33000 MPN/100mL		1.8	SM9221E	10/28/2016 15:24	MG
E. coli	33000 MPN/100mL		0	SM9221F	10/28/2016 15:24	MG
Ammonia as N	0.46 mg/L	0.2	0.03	SM4500-NH3-D	11/01/2016 14:52	JA
Turbidity	34.2 NTU	0.1	0.1	SM2130B	10/29/2016 09:25	MG
Biochemical Oxygen Demand	8.0 mg/L	2	2	SM5210B	10/29/2016 15:23	LCC

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - 50' Down
Matrix:
Collected: 10/28/2016 2:00:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07641

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Dissolved Oxygen (Field)	7.74 mg/L		0.1	SM4500-O-G	10/28/2016 14:00	CR
pH (Field)	6.16 SU		0	SM4500-HB	10/28/2016 14:00	CR
Temperature (Field) deg C	18.1 C		0	SM2550-B1	10/28/2016 14:00	CR
Conductivity (Field)	62.10 uhmos/cm		1	SM2510B	10/28/2016 14:00	CR

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - 50' Down
Matrix:
Collected: 10/28/2016 2:00:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07648

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	160000 MPN/100mL		1.8	SM9221B	10/28/2016 15:24	MG
Fecal Coliform	28000 MPN/100mL		1.8	SM9221E	10/28/2016 15:24	MG
E. coli	22000 MPN/100mL		0	SM9221F	10/28/2016 15:24	MG
Ammonia as N	0.38 mg/L	0.2	0.03	SM4500-NH3-D	11/01/2016 14:52	JA
Turbidity	28.6 NTU	0.1	0.1	SM2130B	10/29/2016 09:25	MG
Biochemical Oxygen Demand	7.5 mg/L	2	2	SM5210B	10/29/2016 15:23	LCC

Authorized By : _____ 11/4/2016
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - 160' Down
Matrix:
Collected: 10/28/2016 3:00:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07639

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Dissolved Oxygen (Field)	7.75 mg/L		0.1	SM4500-O-G	10/28/2016 15:00	CR
pH (Field)	6.78 SU		0	SM4500-HB	10/28/2016 15:00	CR
Temperature (Field) deg C	18.1 C		0	SM2550-B1	10/28/2016 15:00	CR
Conductivity (Field)	47.12 uhmos/cm		1	SM2510B	10/28/2016 15:00	CR

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: Beard Brook SSO - 160' Down
Matrix:
Collected: 10/28/2016 3:00:00PM
Received: 10/28/2016 4:20:00PM

Report Date : 11/4/2016
Lab ID: BC07649

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	220000 MPN/100mL		1.8	SM9221B	10/28/2016 15:24	MG
Fecal Coliform	49000 MPN/100mL		1.8	SM9221E	10/28/2016 15:24	MG
E. coli	17000 MPN/100mL		0	SM9221F	10/28/2016 15:24	MG
Ammonia as N	0.34 mg/L	0.2	0.03	SM4500-NH3-D	11/01/2016 14:52	JA
Turbidity	31.3 NTU	0.1	0.1	SM2130B	10/29/2016 09:25	MG
Biochemical Oxygen Demand	7.3 mg/L	2	2	SM5210B	10/29/2016 15:23	LCC

Authorized By : _____ 11/4/2016
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: 7th St. Overflow 75' UP
Matrix:
Collected: 10/28/2016 5:35:00PM
Received: 10/28/2016 6:00:00PM

Report Date : 11/4/2016
Lab ID: BC07651

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	110000 MPN/100mL		1.8	SM9221B	10/28/2016 18:37	MG
Fecal Coliform	9200 MPN/100mL		1.8	SM9221E	10/28/2016 18:37	MG
E. coli	5400 MPN/100mL		0	SM9221F	10/28/2016 18:37	MG
Ammonia as N	0.08 mg/L	0.2	0.03	SM4500-NH3-D	11/01/2016 14:52	JA
Dissolved Oxygen (Field)	8.71 mg/L		0.1	SM4500-O-G	10/28/2016 17:35	CR
pH (Field)	6.79 SU		0	SM4500-HB	10/28/2016 17:35	CR
Temperature (Field) deg C	16.3 C		0	SM2550-B1	10/28/2016 17:35	CR
Conductivity (Field)	45.6 uhmos/cm		1	SM2510B	10/28/2016 17:35	CR
Turbidity	10.6 NTU	0.1	0.1	SM2130B	10/29/2016 09:25	MG
Biochemical Oxygen Demand	<4.9 mg/L	2	2	SM5210B	10/29/2016 15:23	LCC

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: 7th St Overflow - Origin
Matrix:
Collected: 10/28/2016 4:55:00PM
Received: 10/28/2016 6:00:00PM

Report Date : 11/4/2016
Lab ID: BC07650

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	3500000 MPN/100mL		1.8	SM9221B	10/28/2016 18:37	MG
Fecal Coliform	1700000 MPN/100mL		1.8	SM9221E	10/28/2016 18:37	MG
E. coli	1700000 MPN/100mL		0	SM9221F	10/28/2016 18:37	MG
Ammonia as N	4.63 mg/L	0.2	0.03	SM4500-NH3-D	11/01/2016 14:52	JA
Dissolved Oxygen (Field)	6.08 mg/L		0.1	SM4500-O-G	10/28/2016 16:55	CR
pH (Field)	6.61 SU		0	SM4500-HB	10/28/2016 16:55	CR
Temperature (Field) deg C	20.8 C		0	SM2550-B1	10/28/2016 16:55	CR
Conductivity (Field)	604.7 uhmos/cm		1	SM2510B	10/28/2016 16:55	CR
Turbidity	84.8 NTU	0.1	0.1	SM2130B	10/29/2016 09:25	MG
Biochemical Oxygen Demand	62 mg/L	2	2	SM5210B	10/29/2016 15:23	LCC

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

City of Modesto
Water Quality Control Laboratory
1221 Sutter Ave., Modesto, CA 95351

Description: 7th St. Overflow 200' Down
Matrix:
Collected: 10/28/2016 5:10:00PM
Received: 10/28/2016 6:00:00PM

Report Date : 11/4/2016
Lab ID: BC07653

Constituent	Result	Minimum Level	MDL	Method Reference	Analysis Start Date/Time	Analyst
Total Coliform	240000 MPN/100mL		1.8	SM9221B	10/28/2016 18:37	MG
Fecal Coliform	17000 MPN/100mL		1.8	SM9221E	10/28/2016 18:37	MG
E. coli	4600 MPN/100mL		0	SM9221F	10/28/2016 18:37	MG
Ammonia as N	0.08 mg/L	0.2	0.03	SM4500-NH3-D	11/01/2016 14:52	JA
Dissolved Oxygen (Field)	8.62 mg/L		0.1	SM4500-O-G	10/28/2016 17:10	CR
pH (Field)	6.38 SU		0	SM4500-HB	10/28/2016 17:10	CR
Temperature (Field) deg C	15.9 C		0	SM2550-B1	10/28/2016 17:10	CR
Conductivity (Field)	47.7 uhmos/cm		1	SM2510B	10/28/2016 17:10	CR
Turbidity	10.8 NTU	0.1	0.1	SM2130B	10/29/2016 09:25	MG
Biochemical Oxygen Demand	<5.0 mg/L	2	2	SM5210B	10/29/2016 15:23	LCC

Authorized By : _____ **11/4/2016**
Angie Smigelski, Laboratory Supervisor

*** See attached report**

SSO Posting

Location: Beard Brook Park, Modesto, CA

Date of Posting: October 28, 2016