City of Omaha
Combined Sewer Overflow
Annual Report
NPDES Permit No. NE0133680
October 1, 2016 through September 30, 2017

CSO!
Clean Solutions for Omaha

Report of Certification:

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

Signature of Authorized Representative or Cognizant Official

12/28/17
Date

Mike Arends
Printed Name

Plant Manager, Missouri River WWTP and Elkhorn WWTF
Title

Table of Contents

I. Introduction I-5
II. Executive Summary II-7

A. Nine Minimum Controls (NMC) II-7
B. LTCP Documentation II-10
C. Compliance Schedule II-13
D. CSO Outfall Monitoring II-14
E. In-stream Monitoring II-14
F. Performance Report II-14
G. Other Information II-15

III. Nine Minimum Controls III-17

A. Proper Operation and Maintenance (O&M) III-18
B. Maximize use of the Collection System for Storage III-19
C. Review and Modification of Pretreatment Programs III-20
D. Maximization of Flow to the POTWs for Treatment III-21
E. Prohibition of CSOs during Dry Weather III-22
F. Control of Solid and Floatable Materials in CSOs III-24
G. Pollution Prevention III-25
H. Public Notification III-26
I. Monitoring to Characterize CSO Impacts and the Efficacy of CSO Controls III-27

IV. LTCP Documentation IV-29

A. Characterization and Modeling of the CSO System IV-29
B. Public Participation Plan IV-34
C. Consideration of Sensitive Areas IV-35
D. Evaluation of Alternatives IV-36
E. Cost/Performance Considerations IV-37
F. Operational Plan IV-38
G. Maximizing Treatment at the Existing POTW Treatment Facilities IV-39
H. Implementation Schedule IV-40
I. Post-Construction Compliance Monitoring Program IV-40

V. Compliance Schedule V-41

J. Implementation Requirements V-41
A. Major CSO Control Projects V-43
B. Sewer Separation Projects V-46

C. LTCP Overall V-50

VI. CSO Outfall 102 and 205 Monitoring Data VI-55

A. Missouri River Wastewater Treatment Plant (MRWWTP) – Outfall 102 ..... VI-55

B. 64th and Dupont Retention Treatment Basin - Outfall 205 ..... VI-55

VII. In-Stream Monitoring Data VII-57

A. City In-Stream Monitoring VII-57

B. USGS Sampling and Analysis VII-59

VIII. Performance Report VII-63

A. CSO Occurrence Inspections VIII-63

B. Evaluation of Completed Controls VIII-65

C. Wet Weather CSO Occurrences VIII-66

D. Percent by Volume Captured VIII-67

IX. Other Information IX-69

A. MRWWTP Bank Stabilization Project IX-69

B. EPA Coordination Efforts IX-69

C. Reduction in the Number of Overflow Events IX-70

D. Reduction in the Number of CSO Outfalls IX-70

E. Receiving Water Quality IX-70

F. City of Omaha RNC Program IX-71

G. Rate Information IX-72

H. Material Management IX-72

Attachment 1 – O & M Procedure Updates and Revisions Summary 1

Attachment 2 – Dry Weather Overflow Media Release 1

Attachment 3 – Public Participation Report 1

Attachment 4 – LTCP Annual Project Progress Reports (APPR) 1

Attachment 5 –CSO Program: Change Notification and Request (CNR) 1

Attachment 6 – Wet Weather CSO Occurrences Report 1

Attachment 7 – USGS Missouri River Monitoring Provisional Data 1

Tables and Figures

FIGURE 1- 1: CSO OUTFALL LOCATIONS I-6
FIGURE ES 2- 1: MRWWTP OPERATIONAL PLAN II-12
FIGURE ES 2- 2: COMPLIANCE STATUS OF THE 38 LISTED PROJECTS IN THE PERMIT II-13
FIGURE ES 2- 3:E.COLI REDUCTION OVER LTCP IMPLEMENTATION II-16
TABLE 3- 1: NPP INDUSTRIES IN CSS III-21
TABLE 3- 2: BASEMENT BACKUPS OR CONTAINED DRY WEATHER OVERFLOWS III-23
TABLE 3- 3: DRY WEATHER OVERFLOWS REACHED W.O.S. III-24
TABLE 3- 4: STORM EVENTS THAT CAUSED BASEMENT FLOODING III-27
TABLE 3- 5 REPORTED EVENTS DURING CSOS III-28
TABLE 4- 1: RAIN GAUGES IV-31
TABLE 4- 2: PERMANENT FLOW MONITORING SITES IV-31
TABLE 4- 3: TEMPORARY SITES FOR CSO AND LITTLE PAPIO INTERCEPTOR STUDIES IV-32
FIGURE 4 -1 FLOW AND RAIN MONITORING LOCATIONS IV-33
TABLE 5 -1: PHASE 1 MAJOR CSO PROJECT STATUS AND COMPLIANCE V-44
TABLE 5-2: PHASE 2 MAJOR CSO CONTROL PROJECT STATUS AND COMPLIANCE V-44
TABLE 5-3: SYSTEM RELIABILITY PROJECTS - ACTIVITY DURING 10/1/2016 TO 9/30/2017 ..... V-45
TABLE 5-4: PHASE 2 SEWER SEPARATION PROJECTS STATUS AND SCHEDULE COMPLIANCE V-46
TABLE 5-5: PHASE 3 SEWER SEPARATION PROJECTS STATUS AND SCHEDULE COMPLIANCE V-47
TABLE 5-6: PHASE 4 SEWER SEPARATION PROJECTS STATUS AND SCHEDULE COMPLIANCE V-47
TABLE 5-7: PHASE 5 SEWER SEPARATION PROJECTS STATUS AND SCHEDULE COMPLIANCE V-48
TABLE 5-8: PHASE 6 SEWER SEPARATION PROJECTS STATUS AND SCHEDULE COMPLIANCE V-49
FIGURE 5- 1: TOTAL LTCP PROJECTS GRAPH V-50
FIGURE 5-1 LTCP PROJECTS GRAPH BY REMAINING AND COMPLETED V-50
FIGURE 5-2 LTCP PROJECTS GRAPH BY GENERAL STATUS V-51
FIGURE 5-3- SUMMARY OF COMPLIANCE STATUS V-52
TABLE 5- 9:PHASE MILESTONES 5 YEAR LOOK AHEAD V-52
FIGURE - 2: CSO PROGRAM ALLOCATION V-54
FIGURE 7-1: IN-STREAM AND CSO MONITORING VII-58
TABLE 7-1: 2017 IN-STREAM MONITORING RESULTS VII-59
TABLE 8- 1: WET WEATHER CSO OCCURRENCES VIII-65
FIGURE 9- 1: E. COLI REDUCTION OVER LTCP IMPLEMENTATION IX-71
TABLE 9- 1: VOLUME OF WASTE DISPOSED DURING LTCP PROJECTS IX-72

I. Introduction

A National Pollutant Discharge Elimination System (NPDES) Permit for City of Omaha Combined Sewer Overflows (NE0133680) issued by the Nebraska Department of Environmental Quality (NDEQ) was reissued in 2015 and is effective from October 1, 2015 thru September, 30 2020. A modification to the Permit was accepted by NDEQ this report year.

This Annual Report is for the period of October 1, 2016 through September 30, 2017 and is submitted in accordance with the CSO Permit in effect for that period. The report meets the requirements of the permit, which is to submit a report within 90 days following each yearly (Oct 1–Sept. 30) anniversary. Throughout the report, the permit will be referred to as the "CSO NPDES Permit" or "CSO Permit." All references to the CSO Permit are to that permit which was in effect from October 1, 2015 to September 30, 2020.

The CSO NPDES Permit contains the following language:

> "This permit specifically authorizes wet weather discharges from the City of Omaha's combined sewer system (CSS) through CSO outfalls according to the requirements, conditions, and limitations set forth in the permit. CSO outfalls are defined as designated overflow points in the combined sewer system (CSS) designed for the purpose of allowing the discharge of wet weather flows to receiving waters prior to receiving complete treatment in the City's Wastewater Treatment Plants."

Under the CSO Permit the City has 26 permitted CSO outfalls; 16 of these are associated with the Missouri River Wastewater Treatment Plant (MRWWTP) collection system, the other 10 are associated with the Papillion Creek Wastewater Treatment Plant (PCWWTP) collection system. At this time only CSO 102 at the MRWWTP undergoes treatment prior to discharge.[1]

This Annual Report includes actions, activities, and measures taken by the City of Omaha with regard to the Nine Minimum Controls (NMC), the Long Term Control Plan (LTCP) and its compliance schedule, CSO outfall monitoring, in-stream monitoring and Performance Report for CSO counts and if controls achieving their intent. The last section is reserved for other information and includes narrative on reduction of overflows and deactivated CSO outfalls as well as any other information that benefits measuring the success of achieving improved water quality.

The City of Omaha Public Works Department, Environmental Services oversees the administration of the CSO NPDES Permit and ensures that the City is in compliance with the permit requirements. The information provided in this report is a result of the cooperation among the Sewer Maintenance Division, Environmental Quality Control Division, PCWWTP and MRWWTP, and consultant engineers and City staff that formulate the CSO Program Management Team.

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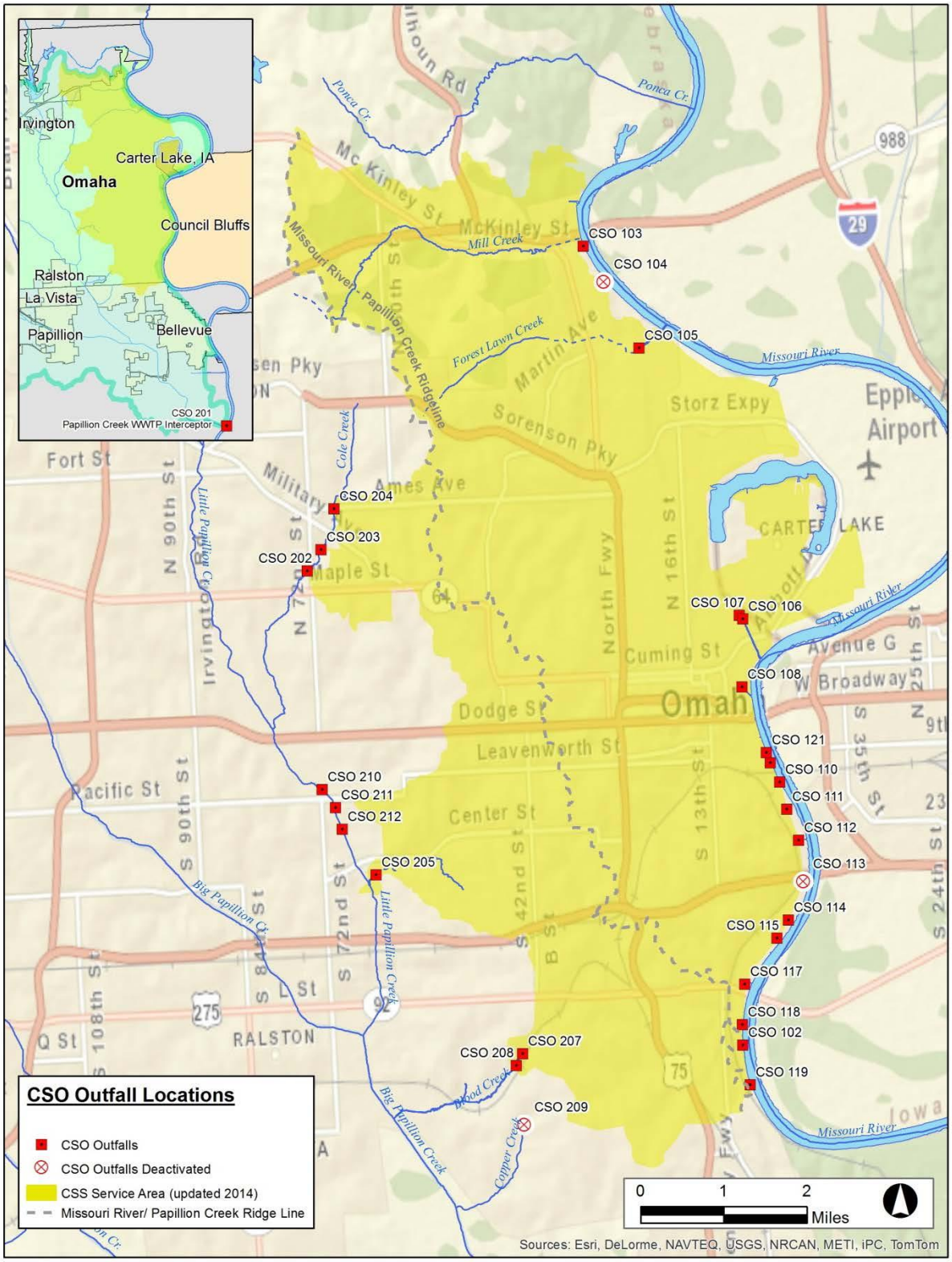
[1] The MRWWTP manages CSO Outfall 102 which, under approved conditions, discharges combined wastewater that has received primary treatment but not secondary treatment

Figure 1- 1: CSO Outfall Locations



II. Executive Summary

The 2017 CSO Permit Annual Report summarizes information on activities, actions, and measures taken by the City of Omaha and the CSO Program Management Team (PMT) to comply with the CSO NPDES Permit. The required topics are:

- Nine Minimum Controls (NMC)
- LTCP Documentation
- Compliance Schedule
- CSO Outfall Monitoring
- In-Stream Monitoring
- Other Information

Other information includes measures of success and other requested information that demonstrates the effective management of the wastewater collection and treatment systems in the Combined Sewer Service Area.

A. Nine Minimum Controls (NMC)

The CSO NPDES Permit defines Nine Minimum Controls as "…operations and procedures that will reduce combined sewer overflows and their effects in receiving water quality that do not require significant engineering studies or major construction and are consistent with the complete LTCP." The City continues to implement the NMC plan with the goal of reducing CSOs and improving water quality. Following is a brief review of each NMC and any advancements or modifications:

1. **Proper Operation and Maintenance (O&M):** As required, revisions or additions to the operation and maintenance procedures for the combined sewer treatment and collection systems are included here in:

    - The City continued to review standard operating procedures and modify when necessary.
    - The Levee Group previously managed under the Quality Control Division is now part of the Sewer Maintenance Division.
    - Updates for this year include a revised Organization chart, CSO Station Check Procedures, Overflow Emergency Response Plan articles for Sewer Maintenance Call-out Procedure and the Notification of Bypass. Updates provided in Attachment 1.

2. **Maximizing the Use of the Collection System for Storage**: As required, the City shall continue to implement the programs to maximize the use of the collection system. A brief update on the programs is as follows:
    - City continued sewer maintenance programs: 5 year cycle jetting of 15 inch and smaller pipe and more frequent preventive maintenance on pipelines in the combined sewer system; inlet cleaning; inspection and corrective repairs.
    - Several projects for cleaning and inspection of large diameter pipe and interceptors for the combined systems were defined and achieved.
    - CSO outfalls and gates continued to be inspected and maintained.

- Installation and adjustment of regulators is infrequent but the City has found cause to do so in at least 2 scenarios in the last 2 years: building a weir at CSO 211 and removing a non-functioning, half-opened gate at CSO 207 that was causing dry weather overflow due to debris.
- City tracks, evaluates and monitors wet weather effects on the system, and determines where reducing inflow and infiltration is warranted. Sewer separation, rehabilitation, and removal of private I/I sources are among the efforts.
- Inflow sources were identified in the South Omaha Industrial Area Packing house express line, affecting the SOIA Lift Station, and most have been addressed by in-house construction crews, with a major source requiring an engineered solution. The project is slated for 2018.
- Upgrade and adjustment of pumps continues and is in conjunction with projects in the LTCP.
- Real-time monitoring is currently being evaluated by the City and CSO Program.

3. **Review and Modification of Pretreatment Programs:** As required, City must continue to minimize impacts of industrial facilities and report any new significant industries.

    - This program is administered through the Quality Control Division (QCD). A total of 12 NPP permitted facilities are located in the CSS area and were operating during this permit year.

4. **Maximization of Flow to the POTWs for Treatment:** As required, the City shall evaluate and implement simple modifications to the CSS and procedures at treatment plants, as appropriate, to achieve this.

    - Existing policies to maximize flow to the Missouri River Wastewater Treatment Plant and Papillion Creek Wastewater Treatment Plant are in place.
    - During this reporting year, the new Municipal Headworks Facility increased plant hydraulic capacity to a peak sustained hour flow of 150 MGD and ran concurrently with North Inlet Headworks. The transition to use of only the Municipal Headworks Facility and decommissioning of the North Inlet Headworks is anticipated in 2018. Until that time, both facilities will receive influent flow along with the South Omaha Industrial Area Headworks.
    - Additional modifications in conjunction with LTCP, over the next several years will increase wet weather flow to the plant even further. As mentioned in NMC 2, continued efforts in Large Diameter pipe cleaning, and monitoring weir at CSO 211, will aid in maximizing flows to the treatment plant. No other additional simple modifications have been implemented that would further maximize flow to the treatment facilities.

5. **Prohibition of CSOs during Dry Weather:** As required, City shall document any overflows that occur during dry weather and respective corrective actions.

    - City adhered to the immediate reporting policies for all discovered dry weather overflows.
    - Nine (9) overflows in the system were contained or re-entered the system and continued to treatment.

- Eight (8) overflows were reported during dry weather that reached waters of the State: 3 due to debris at the diversions; 2 due to malfunctions of gates at diversion structures; 2 due to operations miscommunication between internal City entities; 1 due to a leaking force main. Long term action plans are in place to prevent similar occurrences.

6. **Control of Solid and Floatable Materials in CSOs:** As required, City shall implement site specific controls, in relatively simple measures and as appropriate. Any reassessment or implementation of new controls reported here:

   - During the 2006 evaluation for this NMC, a conclusion of more complex solutions were warranted for evaluation and would be carried out in the LTCP efforts. No additional simple measures have been implemented to the system this year with regard to control of solid and floatable materials.

7. **Pollution Prevention:** As required, City shall document any new pollution prevention methods here:

   - The management of this item is shared between several Divisions and work groups within the City: Sewer Maintenance, Quality Control, and Streets Divisions.
   - The City of Omaha municipal separate storm sewer system (MS4), details much of the efforts in that annual report, including inlet cleaning and grit removal.
   - Efforts continue with Papillion Creek Watershed Partnership and *Keep Omaha Beautiful* for storm water pollution prevention and outreach.
   - With the exception of continuous improvement in web-based information sharing, no additional pollution prevention measures have been implemented during this report period.

8. **Public Notification:** As required, the City shall document any revisions or updates to public notification procedures and provide any public announcement in Annual Report:

   - The *Standard Operating Procedure (SOP) for Reporting and Public Notification of Dry Weather Sewer Overflows and Bypasses* was followed for the year and had periodic updates.
   - CSO signs posted at each outfall continue to be maintained per standard procedure by staff at Sewer Maintenance.
   - Public notifications were issued on June 17th and June 20th, 2017 regarding wastewater discharge from the Papillion Creek Wastewater Treatment Plant (reported as Wastewater Resource Recovery Facility) due to loss of power caused by storm damage to the facility's electrical infrastructure.

9. **Monitoring to characterize CSO impacts and the efficacy of CSO controls:** As required, City shall document any new CSOs discovered during routine inspections.

   - Routine inspection of CSO diversions and outfalls continued this year. No new CSO locations were discovered this year, however two illicit connections where private services were connected to Storm sewer were found in the combined sewer area. NMC 5 and Section III. E. describes details and mitigation.
   - Two rain events in June 2017 resulted in three (3) system backups into properties or establishments; 2 capacity related, and 1 due to illicit dumping of grass clippings.

B. LTCP Documentation

Part V. of the CSO NPDES Permit requires the City to document and submit reports showing compliance with the conditions and requirements of this section. Included is a list of the required reporting elements under LTCP Documentation along with a brief description any items of significance for each element.

1. **Characterization and Modeling of the CSO System.** As required, the City shall continue to characterize, monitor and model the CSS.

    - The combined sewer system (CSS) is sufficiently mapped in GIS with regular updates occurring as field differences are discovered or per as-built record drawings. Information from design consultants is incorporated into the City's GIS and Infoworks CSS model as final designs become available.
    - Other characterization efforts of the CSS include water quality monitoring of select outfalls (CSO 102 at this time, with future plans at CSO 205), gathering of field data in project areas, and overflow occurrence monitoring at CSO points through the CSO Block program.
    - The City continued flow monitoring of the Papio Interceptors. For the reporting year, there were 23 permanent flow monitoring sites along the Interceptor Systems and South Interceptor force main; 24 temporary sites for the CSO model, study upstream of South Omaha Industrial Area Lift Station, and Little Papio Interceptor and select sub-basins.
    - Additionally, the City gathered precipitation data using 10 permanent city-managed and 1 temporary consultant-managed rain gauges.

2. **Public Participation Plan.** As required, the City shall continue a public participation process and document activities in Annual Report:

    - Lovgren Marketing Group was maintained as the Public Participation Coordinator during CSO implementation. This group coordinates many activities with the media, public officials, stakeholders, and other opportunities for public outreach.
    - The focus is centered on two major efforts: (1) continued involvement, education and acceptance by the public about the need for the CSO Program and (2) the progress on the specific projects, in particular during construction.
    - A detailed summary in Attachment 3.

3. **Consideration of Sensitive Areas.** As required, the City shall include any changes to the status of previously identified sensitive areas in the Annual Report:

    - No changes were made to the sensitive areas however, in January 2016, the northern long-eared bat (NLEB) was added to the endangered species list. As a result, during 2017 the CSO Program reached out to the Nebraska Games and Park Commission to determine if there are known "hibernacula" in the area of the CSO program. (Hibernacula are defined as locations where one or more northern long-eared bats have been detected during hibernation or at the entrance during fall swarming or spring emergence.) At this point in time, there are no known hibernacula in the area where CSO projects are occurring.

4. **Evaluation of Alternatives.** As required, the City shall submit any significant changes or revisions to the LTCP by October 1, 2019 for review and approval according to the Part IX (F) of the CSO Permit, *Revisions to the Long Term Control Plan*. The following is provided as an update:

    - During the Annual Report year, the City evaluated options to address overflows at CSO 205, and is performing evaluations of controls that could affect the Minne Lusa Basin and the overall Missouri River Watershed. These are the Deep Tunnel System (DTS) Project Definition Task and the Technical Assessment for Cost Savings (TACS) task. As a result of the TACS work an alternative project list that achieves the regulatory requirement of 85% volume capture with a savings to the overall program of 20% has been developed.
    - The City and PMT are refining the schedule and as required in the permit will provide the list of projects in the Minne Lusa basin by June 30, 2018.
    - The City is also implementing an ongoing process that will review the business case for current and future projects to ensure that the projects are appropriate and cost effective to meet the 85% volume capture requirement.

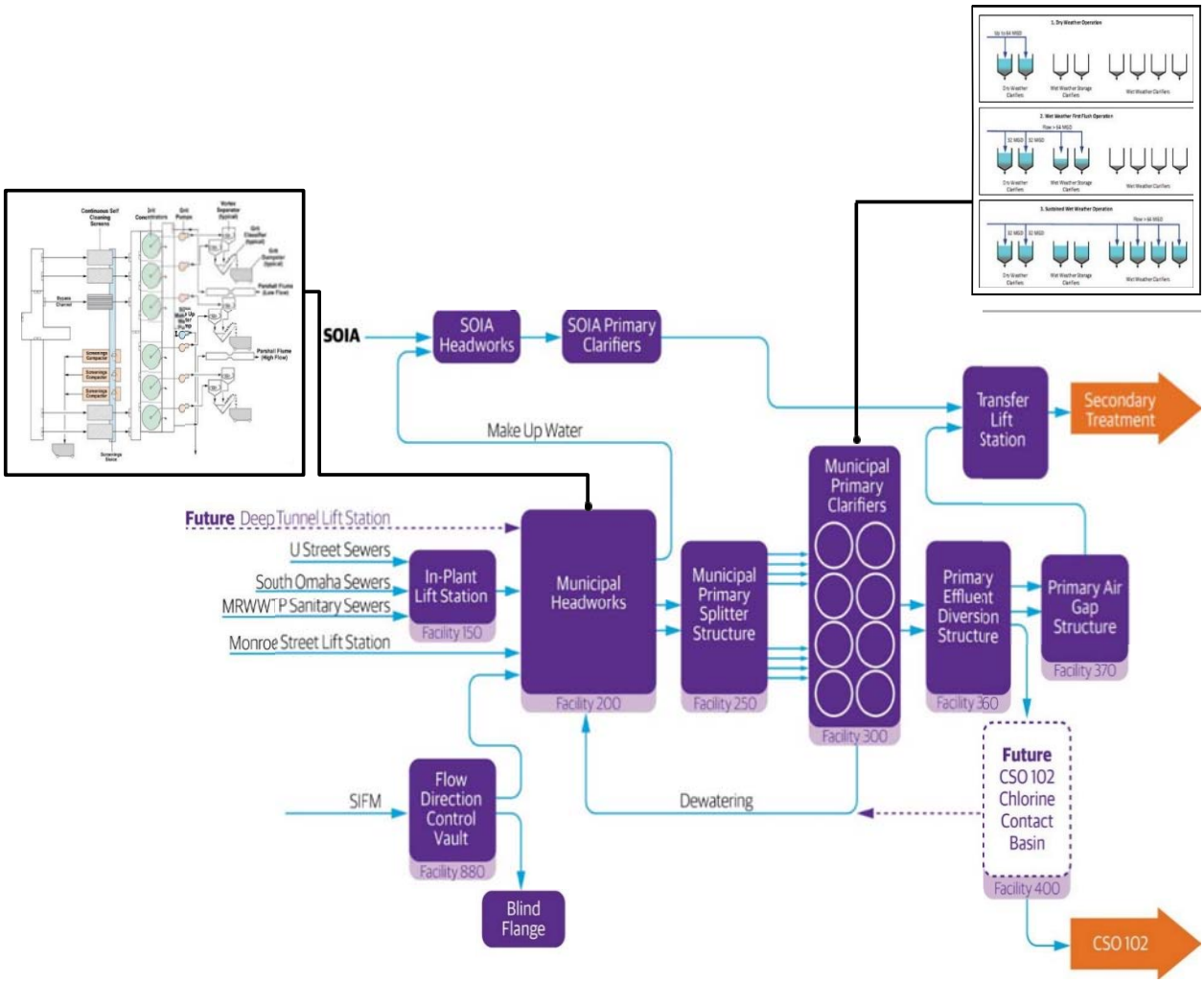
5. **Cost/Performance Considerations.** As required, the City shall submit a financial report by October 1, 2019, that sets forth strategy to obtain sufficient revenue to fund the CSO Program through at least 2024. The following is provided as an update:

    - On July 15, 2014, the City Council adopted an updated ordinance that established sewer rates for the period 2015—2018.
    - In 2016, Omaha contracted with a consultant to update the City's Rate Model that was originally developed in 2006, and to perform a Financial Capability Assessment (FCA) to prepare for the next rate ordinance in 2018. The Rate Model Update was completed in 2017, and the FCA report is planned to be finalized by the end of 2017. The preliminary results of the FCA are discussed in Section IV. E.
    - In the next Annual Report cycle, beginning in the 4th Quarter of 2017, the City will work with their rate consultant to develop the next Rate Ordinance, which will establish sewer rates for 2019 through 2022. The most current estimate on the overall cost of the program is slightly over $2.0 billion.

6. **Operational Plan.** As required, the City shall report updates to the wet weather operational strategy plan. This plan shall be updated as major CSO projects are constructed and are operationally complete**.**

    - On November 13, 2015 a wet weather operations protocol was submitted to NDEQ. The Plan included a summary of the anticipated operation of the Plant once the construction is complete and operational until 2019. Figure 4-2 includes the process flow during wet weather.
    - Leavenworth Lift Station was started up June of 2017 and the City is working on learning its operations and will modify if needed in the future.
    - SOIA Lift Station wet weather operations are under City review due to having to divert flow to Monroe Lift station during a 5-year rain event; an indication of not operating as designed.

Figure ES 2- 1: MRWWTP Operational Plan



7. **Maximizing Treatment at the Existing POTW Treatment Facilities.** As required, the City must continue to evaluate opportunities to maximize treatment and a summary of any new processes shall be included in Annual Report. The following is summary of that effort:

   - Major projects are planned during the next 5 years to maximize treatment of combined wastewater at the MRWWP.
   - No new approaches have been identified since the last Annual Report; however, the City is moving forward with a contract with a specialty consultant to help identify opportunities to optimize the collection system in the Missouri River Watershed using methods such as in-line storage and real-time controls.
   - Ongoing efforts to update and increase the detail in the City's InfoWorks collection system model will support this and other efforts, which should all result in more flow being treated at the WWTP. Projects related to current strategy are discussed in more detail in the relative progress report in Attachment 4.

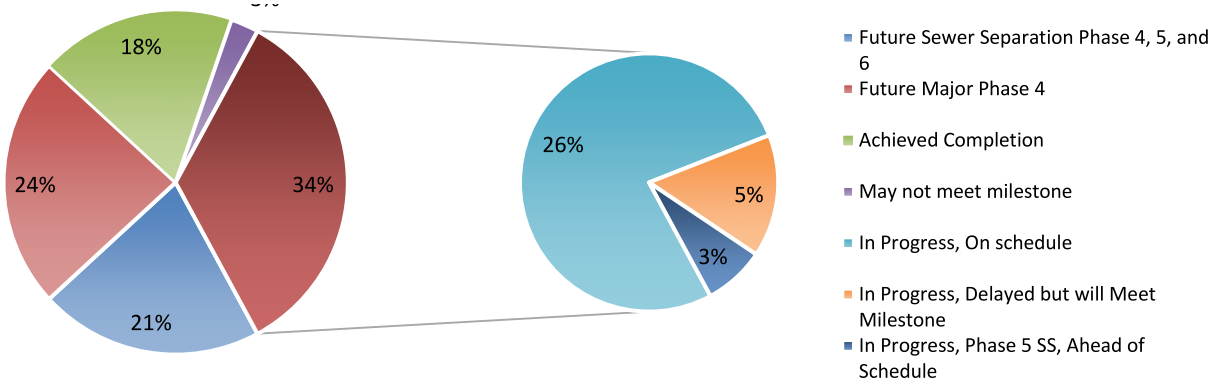
8. **Implementation Schedule.** As required, the City shall include progress reports on implementation of the CSO Projects as set forth in the compliance schedule:
    - During this permit reporting period, the City continued to implement projects and to work toward a schedule compliant with the 2027 deadline.
    - Project specific progress reports on implementation of the CSO major projects and sewer separation projects are included in Attachment 4.
9. **Post-Construction Compliance Monitoring Program.** As required, the data for instream monitoring, and the results of the studies performed to verify eliminating a CSO point are included in Annual report.
    - The City's Post Construction Monitoring Program includes Outfall monitoring at designated CSO points, in-stream monitoring, and verification of sewer separation projects. See *In-Stream Monitoring* and *Performance Report* sections for results.

C. Compliance Schedule

As required, a summary of construction activities, actions, and other measures completed according to the Compliance Schedule for Implementation of CSO Control Projects set forth in Part VI of the permit are included in this annual report.

- Annual Project Progress Reports are submitted in Attachment 4 for projects that had activity to report.
- A permit modification and corresponding LTCP modifications were submitted to NDEQ on February 2 and February 28, 2017 respectively. These were approved by NDEQ on June 12 and July 19, 2017 respectively.
- As a result of the modifications to the projects in the permit and the LTCP Update, the number of projects dropped from 74 to 61. This included 12 projects in the Minne Lusa Basin and 1 project in the Burt Izard basin which were removed from the LTCP. Out of 38 projects listed in the current CSO NPDES Permit, 7 are complete and 15 are in progress, with the remaining being future projects.
- Three projects are delayed of which two are anticipated to still achieve the milestone. The third project has not yet started and is being re-evaluated to determine if the project is necessary to achieve the LTCP goals.

Figure ES 2- 2: Compliance Status of the 38 listed Projects in the Permit



D. CSO Outfall Monitoring

As required a summary of monitoring data from outfall CSO 202 is included. The Interim Requirements for CSO Outfall 102, as defined in Table 3, Part II of the NPDES Permit, are in effect for this Permit year:

- The conditions for approved bypass of combined sewer complied with these requirements. CSO 102 had 41 overflow events from October 1, 2016 through September 30, 2017. Results from the monitoring are reported on quarterly discharge monitoring reports.
- Interim Requirements for the monitoring of CSO Outfall 205 were not in effect this year. Due to an approved Permit Modification, these requirements are not set to begin until the next permit cycle, with anticipated monitoring to begin in 2024.

E. In-stream Monitoring

As required, a summary of instream monitoring data consistent with the Implementation Monitoring Plan objectives is included.

- Sewer Maintenance Division staff monitored ten (10) sites in all: seven (7) sites along the Papillion Creek system and three (3) sites along the Missouri River for water quality parameters. USGS continued water quality sampling for the City at four sites along the Missouri River. There are five Missouri River sites altogether counting City and USGS in-stream sampling. Data provided by USGS for 2016 is approved. Data for 2017 is considered provisional.

F. Performance Report

As required, a performance report is submitted here to demonstrate that each CSO overflow occurrence was the result of wet weather, report the number of CSO discharges, and whether controls are achieving design intent. The following is a summary:

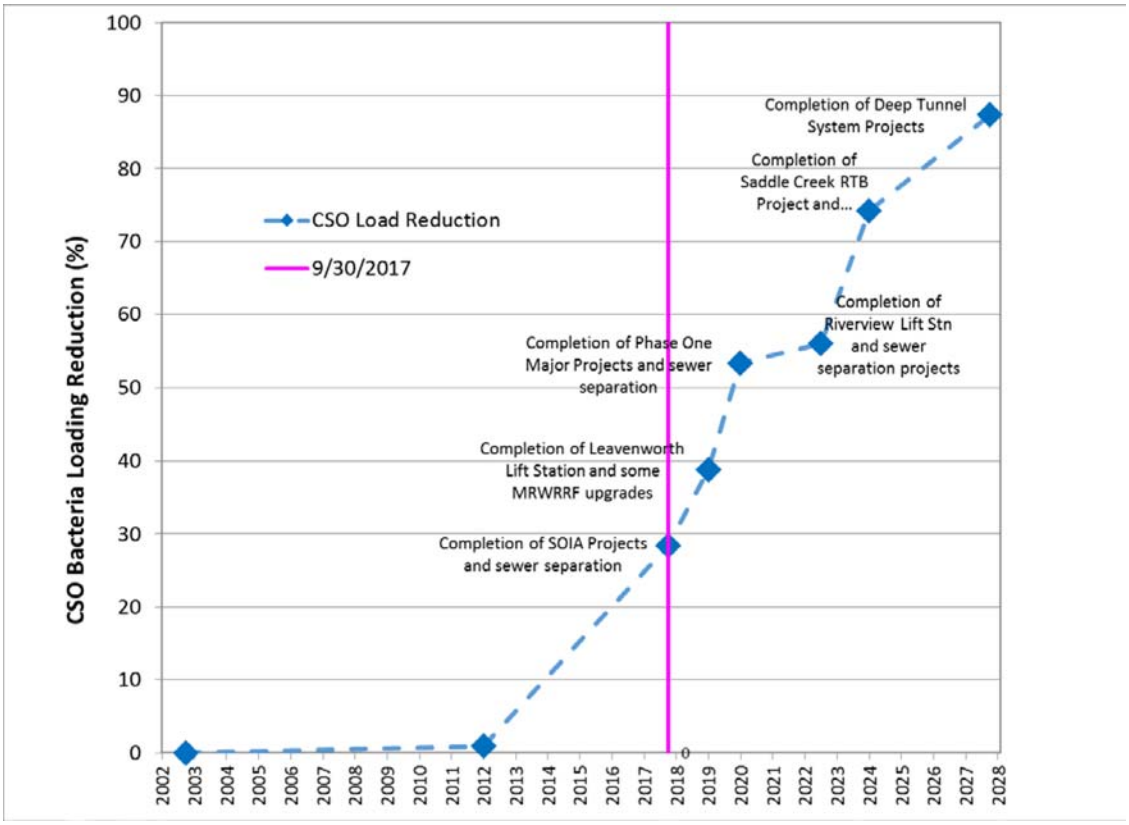
- 55 CSO occurrences at CSO 117, Missouri Avenue Lift station, highest at CSOs along Missouri River. Zero occurrences at CSO 103 Bridge Street, lowest in Missouri River basins.
- 57 CSO occurrences at CSO 205, 64th and Dupont, highest in Little Papio. 15 at CSO 211, 69th and Pierce, lowest count in Papio basins.
- The LTCP Projects are complete for CSO 211 and CSO 103, however these systems still have a few outlying storm inlets to disconnect. For CSO 211, these will be removed when CSO 212 separation project occurs. Further separation and inflow and infiltration removal in the Bridge street basin is under review.
- 25 inches rainfall vs average of 31 inches, with highest peak intensity storm on June 16th at 1 inch/15 minutes, or approximately a 5-year recurrence interval.
- Eppley Airport rain data registered 145 days with precipitation, this includes days with only trace amounts. Of that, 60 of the recorded rain events were 0.09 inches or greater.
- See attachment 6 for report on CSO occurrence for each rain or snow melt event. Six (6) dry weather occurrences are reported in *Prohibition of CSOs during Dry Weather.*

G. Other Information

The CSO NPDES Permit, Part VII.F, requires a section of the Annual Report be for other information. The City typically includes information in this section of the report that highlights factors relevant to the CSO Program not reported elsewhere. This section contains "measures of success" as well as discussion on affordability and other beneficial programs or efforts impacting the success of the CSO Program. Following is a list along with a brief description for each item discussed in this year's report:

1. Missouri River Bank Stabilization: A Project was kicked off this year to provide bank stabilization improvements at the Missouri River Wastewater Treatment Plant (MRWWTP). These improvements are needed in order to protect a portion of the existing MRWWTP and facilitate construction of additional improvements (OPW 52648, Missouri River Wastewater Treatment Plant Improvements – Schedule B2: Chlorine Contact Basin and Primary Clarifier Odor Control) which are being bid and constructed separately. The City awarded a construction contract in early 2016, substantial complete on April 17, 2017. Final completion was achieved on June 22, 2017
2. EPA Coordination Efforts: The City of Omaha continued its partnerships with the EPA Office of Research and Development office in Cincinnati, OH (EPA ORD) and various officials from EPA Region 7. A demonstration project at Sewer Maintenance Division, completed in 2014, includes pervious pavers and bio-retention and was being monitored by the USGS to measure the effectiveness through September 2017 when the USGS-EPA agreement expired. The City is considering to contract with the USGS to continue the monitoring.
3. Reduction in the Number of Overflow Events and CSO Outfalls: CSO 211 diversion structure near 66th and Pacific had a weir built on the outfall pipe and reduced occurrences and volume significantly. CSO 103 has also shown a significant reduction in the occurrences per rain event. More reduction will happen as the LTCP is implemented.
4. Receiving Water Quality: A significant reduction in E. coli load to the Missouri River occurred with the implementation of the SOIA Lift Station and Schedule A project at the Missouri River WWTP. Another major reduction will occur when the South Interceptor Force Main and Missouri River Wastewater Treatment Plant projects currently under construction are completed. Figure ES 2-3 indicates a prediction in the reduction of E. coli loading over time due to the implementation of the LTCP.

Figure ES 2- 3:E.Coli Reduction over LTCP Implementation



5. City of Omaha RNC Program: a program to separate localized combined sewer areas to primarily address basement backups. The projects this year include 49th & Caldwell Area Sewer Separation completed January of 2017. The 18th and Fort Street Sewer Separation design continued. Some of the program resources are being redirected to pipeline assessment and rehabilitation planning in the combined sewer.

6. Material Management: During the 2017 reporting year, waste material including building demolition materials, concrete and soil were taken to landfills in the area from construction of capital projects associated with the CSO Program. Several projects commenced or continued construction in 2017, but only a few generated excess soil or waste material that required disposal in a landfill. Approximately 7,412 tons of the waste material from construction of capital projects associated with the CSO Program, mainly contaminated soil, were taken to the Waste Management Pheasant Point Landfill in report year. Approximately 588 tons of C&D waste was disposed of locally in a C&D landfill. No hazardous waste was disposed of in 2017. The City monitors and tracks contaminated soils and other waste material and uses this report to update the NDEQ Waste Management Division.

III. Nine Minimum Controls

As defined in the CSO NPDES Permit, Nine Minimum Controls (NMCs) are operations and procedures that will reduce combined sewer overflows and their effects in receiving water quality that do not require significant engineering studies or major construction and are consistent with the complete LTCP. The City and the NDEQ have worked together toward implementing NMC's per the EPA Guidance Document 832-B-95-003, Combined Sewer Overflows- Guidance for Nine Minimum Controls, which states:

- "The NPDES Permitting authority should … develop and issue Phase I NPDES Permits requiring CSO communities to implement the NMCs."

- "The NPDES Permitting authority should… develop and issue Phase II NPDES Permits requiring continued implementation of the NMCs and implementation of an LTCP."

- "Minimum Controls are not temporary measures; they should be part of long term efforts to control CSO's".

On October 1, 2002, the NDEQ issued a CSO Phase I Permit to the City of Omaha. The Phase I Permit contained a series of required submittals and reporting requirements that demonstrated the development and initial implementation of the NMCs. Summaries of the NMC objectives and required submittals can be found on record in the *City of Omaha 2007 Combined Sewer Overflow Permit Annual Report NPDES Permit No. NE0133680*. On October 1, 2007, the NDEQ issued to the City a Phase II CSO Permit. The Phase II CSO Permit continued the documentation and reporting requirements to assure the NMCs would be met in accordance with:

- the initial NMC submittals that were a part of the Phase I Permit, as documented in the 2007 CSO Annual Report; and any modifications or updates to those initial submittals

- the EPA NMC Guidance

- the *Environmental Protection Agency CSO Control Policy* (April 19, 1994, at 59 Fed. Reg. 18688)

The City has continued to implement the NMCs in accordance with the submittals on record with the NDEQ, and in accordance with EPA Guidance and Policy. The NMC documentation that follows is written according to the conditions and requirements of Part IV of the CSO NPDES Permit. Additional information is included to annually document measures of success, or identify a focal area of improvement.

A. Proper Operation and Maintenance (O&M)

Per the requirements of the CSO NPDES Permit, proper operation and maintenance of the CSS and CSO outfalls should include periodic reviews of O&M procedures, updates to the procedures as needed, and proper documentation of the procedures. A major emphasis is on the elimination of dry weather overflows. Revisions and additions to the O & M procedures are to be included in this Annual Report. When a significant procedure is changed, updated, or added, the City will provide the required documentation to NDEQ.

The City continues to follow a schedule of annual or semi-annual review of procedures that are a part of properly operating and maintaining the combined sewer system. The procedures involved are carried out across several Divisions of City of Omaha Environmental Services. A significant change in organization occurred this report year. The Levee Group previously managed under the Quality Control Division is now part of the Sewer Maintenance Division.

The collection system operation and maintenance consist of three branches or groups: 1) Sewer Maintenance O&M Group maintain the gravity systems for combination, sanitary and storm sewer, which includes cleaning, inspection, and minor repairs; 2) The Levee Group maintain CSO regulators, Lift Stations, Flood Control systems, and share the responsibilities of maintaining force mains with Sewer O&M; 3) System Engineering and Planning Group provide oversight and guidance to processes and procedures relative to responding to and minimizing SSOs and CSO impacts along with Sewer System Evaluation Surveys to assist Collection System Management Programs. The Missouri and Papio Wastewater Treatment Plants contribute in wet-weather operations to maximize treatment and minimize CSO impacts.

The SSOMM, *Sewer System Operation and Maintenance Manual for Sewer Maintenance Division* (Brown & Caldwell, 2006), is reviewed semi-annually. The following items were addressed as a part of the review process during this report year:

- Refinement of the procedures that make up the Overflow Emergency Response Plan was under way this year. As a result, several procedures were updated. The final Overflow Emergency Response Plan (OERP) document is due winter of 2017/2018.
- Appendix H "Call-Out Procedure" was updated. Four changes: Language clean up; Sampling; Email Summary - added requirement for Foremen to send sewer backups summaries to Supervisors by email; added language about SSO documentation and contact of NDEQ. (This cross references the Notification of Bypass SOP, Appx D in the SSOMM)
- Sewer Maintenance Work Management processes were improved with implementation of field tablets that integrate with GIS based asset management software.
- A new organization chart added Levee Group, supervised by a City Maintenance Superintendent, to Sewer Maintenance Division. This group still holds the responsibility to operate and maintain pump stations for wastewater, storm water, and combined sewage pumping, and for local flood protection for the City's east side neighborhoods.
- Appendix F, "Combined Sewer Overflow Station Procedure Manual" and Appendix B, (page 2 in this procedure manual) have had updates. CSO 109, Leavenworth Lift Station, is a new station under the Long Term Control Plan. The procedure for CSO 109 station overflow checks is provided.

Attachment 1 includes the updated procedures and organization chart. The City will continue to adhere to this NMC to properly operate and maintain the CSS and the CSO outfalls by utilizing current procedures and implementing new procedures as necessary.

B. Maximize use of the Collection System for Storage

The CSO NPDES Permit requires the City to continue to implement their program to maximize the use of the collection system for storage as well as review the CSS, as appropriate, to identify any locations where minor modifications can be made to increase in-system storage. The permit requires that any modifications shall be implemented as soon as practicably possible and documented in this Annual Report.

The City of Omaha NMC Plan outlines the EPA's CSO Technology Fact Sheet, Maximization of In-Line Storage (EPA 832-F-99-036) which lists the following list of 'typical' control measures for increasing in-system storage:

- Inspection of the collection system and removal of obstructions;
- Maintenance, repair and replacement of tide and control gates;
- Installation and adjustment of regulators;
- Reduction/retardation of inflows and infiltration;
- Upgrade/adjustment of pumps;
- Real-time monitoring.

The City has standard practices and procedures in place that correspond to these measures. No modifications were made to the NMC plan during this report period. As identified in past years, and as part of goal of eliminating dry weather discharges through combined sewer outfalls, the City is increasing efforts of cleaning the larger diameter sewers. The following is a brief summary of practices within the City to contribute to maximizing the use of collection system. This year is added detail on specific achievements.

Inspection of the collection system and removal of obstructions: Sewer Maintenance Division is the primary organization involved with maintenance of the collection system. Environmental Quality Control Division inspects and maintains lift stations. Procedures are in place to identify and provide corrective maintenance which includes inspection, cleaning, and removing blockages. Corrective repairs to inlet, manholes, and pipelines are also performed. A five-year cycle jetting program for 15"and smaller pipes, and a reactive preventative maintenance program are among the practices to meet this control. The City contracts services to clean a small percentage of large diameter pipelines. For the report year, the City accomplishments include:

- Inspected 111,746 LF in the CSS, of that 33,146 LF was focused on pipes larger than 15" diameter.
- Cleaned 250,881 LF unique pipeline footage, with another 180,867 LF for repeat cleaning in the year, as part of Preventive Maintenance Program.
- 5 year cycled jetting for 15 inch and smaller and occurred in these Sewer Management Areas: MR-4.1; LP-6.17 and LP-6.9. Nearly 70,000 LF is included in the unique pipeline footage noted above. Majority of CSO sub-basins cleaned in prior years with MR-6, MR-7, MR-8 and MR-10 sub-basins were completed in the calendar year of 2016.

Maintenance, repair, and replacement of tide (river) and control gates: In the Missouri River Watershed, gate inspections occur once every year, at a minimum, with appropriate actions to follow.

Installation and adjustment of regulators: Previous studies have indicated that there is very little in-line storage in the Missouri River Watershed. However, the Papillion Creek Watershed does utilize regulators to maximize in-line storage in the interceptor, and maximize the amount of wet-weather that goes to the PCWWTP. The use of the sewer model and other technologies to "optimize" the system that go beyond the NMC requirements may be pursued in the future as a part of the City's Adaptive Management strategy as part of the LTCP. The City will evaluate the addition and modification of regulators on a case-by-case basis.

- CSO 211 at 66th and Pacific had a significant sewer separation project completed, yet was still experiencing overflows due to a few inlets upstream, scheduled for removal as part of a future CSO 212 separation project. A decision was made to raise the elevation of the overflow by building a 10" weir in the 30"outfall pipe. This was completed by City crews and has aided to contain more of the wet weather in the Interceptor and convey to treatment. Flow monitoring was completed this year and data will be used to adjust the weir further.

Reduction and retardation of inflows and infiltration: Inspections of sewer structures, removal of inflow sources, and rehabilitation projects continue. Reduction efforts include vented manhole cover replacement, sewer lining, localized sewer separation, and enforcing private property defect repairs and illicit connections. In addition, stormwater management practices, such as detention ponds, are in place. The City continues to include and evaluate these methods of inflow reduction in management of the CSS.

Upgrade/adjustment of pumps: The Levee Group maintains the pumps stations associated with the CSO system. Personnel are responsible for maintaining pumps as necessary to ensure that the stations perform as designed. Upgrades to Variable Frequency Devices (VFDs) have occurred at lift stations as needed since 2004 as continuation of this nine minimum control.

Real-time monitoring: The Operators at the MRWWTP are responsible for monitoring the SCADA system 24 hours/day. Most remote stations are on the SCADA system, the remainder have auto dialers. The system includes gates that are controlled remotely to maximize flows into the plant.

C. Review and Modification of Pretreatment Programs

The NPDES Permit requires the City to minimize the impacts of discharges into the CSS from non-domestic sources. When new significant industrial users are added to the CSS, the City is required to determine what impact the dischargers would have on the quality and quantity of CSO discharges during wet weather events. A summary of new significant industrial users and measures taken by the City to address any discharges during wet weather are documented in this Annual Report.

The City of Omaha Quality Control Division is responsible for the review and modification of the Pretreatment Program. The facilities with Nebraska Pretreatment Program permitted

discharges, either through voluntary agreements or through the NPP permit, are requested, whenever possible, to restrict or prohibit discharges during rain events.

A total of 12 NPP permitted facilities are located in the CSS area and were operating during this permit year. These facilities are listed in Table 3-1.

Table 3- 1: NPP Industries in CSS

Name	Address	CSO area	Regulated Batch Discharges
E. A. Pederson	3900 Dahlman Avenue	118	No
G&G Mfg	4432 McKinley St.	103	Yes
Industrial Plating	1149 Florence Blvd.	108	Yes
Koleys	2951 Harney St.	108	Yes
Lozier Corp.	6316 John Pershing Dr.	107	Yes
ABS Corp.	7031 No. 16th St.	107	Yes
Lozier Corp.	4224 No. 22nd St.	106	Yes
Modern Equipment Company, Inc.	6161 Abbot Drive	107	Yes
Roberts Dairy	2901 Cuming St.	108	*
Armour Eckrich Meats LLC	5015 So. 33rd St.	119	*
Silverstone Inc.	4350 McKinley St	103	Yes
Syngenta Crop Protection, Inc.	4111 Gibson Road	115	Yes

* Roberts Dairy and Armour Eckrich Meats LLC are included as NPP industries in the CSS however these industries are not batch dischargers and therefore the City does not regulate their discharges during wet weather.

D. Maximization of Flow to the POTWs for Treatment

Maximization of flow to the POTWs involves simple modifications to the CSS and treatment plant to enable as much wet weather flow as possible to reach the treatment plant. The CSO NPDES Permit requires, as appropriate, the City of Omaha to evaluate and implement simple modifications to the CSS and procedures at the treatment plants to maximize flow to the POTWs. Modifications are documented in this Annual Report.

In 2005 and 2006 as a part of the City's initial NMC development, the City evaluated various methods for maximizing flow to the WWTPs. Much of the evaluation supported the decisions that resulted in the LTCP; however some operational changes were made immediately to allow for better wet weather management and improved water quality. As a goal for this NMC, the City continues to consider ways for maximizing treatment of wet weather flows. The City also understands that more complex modifications are required at the WWTPs to receive additional flow and will pursue these goals more fully under the LTCP.

During this reporting year, The City of Omaha utilized the North Inlet Headworks concurrent with the recently completed Municipal Headworks Facility. This facility increases plant hydraulic capacity to a peak sustained hour flow of 150 MGD. The transition to use of only the Municipal Headworks Facility and decommissioning of the North Inlet Headworks is anticipated to take place in 2018. Until that time, both facilities will receive influent flow along with the South Omaha Industrial Area Headworks. Additional modifications to the pump stations in the system and the completion of a new force main to the facility will allow the plant

to increase wet weather flow to the plant during wet periods. These modifications will take place over the next several years.

The interim project to increase pumping capacity at the Transfer Lift Station was recently completed and is undergoing testing. This project will allow the facility to pump >64 MGD through secondary treatment during wet weather events. Initial tests have shown favorable results.

Some Large Diameter pipe cleaning took place this year and may aid in maximizing flows to the treatment plant. No other additional simple modifications have been implemented that would further maximize flow to the treatment facilities.

E. Prohibition of CSOs during Dry Weather

As stated in the CSO NPDES Permit, "Dry weather overflows from the City of Omaha combined sewer system are prohibited." The CSO NPDES Permit requires the City of Omaha to document all dry weather overflows related to the CSS and the measures taken to correct the cause of the overflow and report in this Annual Report.

The City of Omaha continues to work to comply with meeting the control of prohibition of dry weather overflows. The City exercises careful procedures for response, documentation, and reporting of dry weather overflows in an effort to prevent, where possible subsequent events. Reported in Table 3-2 and Table 3-3 are summaries of the dry-weather overflows discovered during the report period. The additional information for each event was submitted to NDEQ, in accordance with reporting requirements in the CSO NPDES Permit.

- Overflows that reached waters of the State (W.O.S.) either directly through the permitted CSO discharge point, or by a waterway or nearby separate Storm Sewer were eight (8) total:
    - 3 due to debris at the diversions for CSO 207 and CSO 210, both of which are part of upcoming LTCP Sewer Separation Projects. A non-functioning gate at a diversion structure (CSO 207) was removed to aid better hydraulics and reduce debris hang-ups.
    - 2 due to malfunctions of gates at diversion structures: one power failure and one faulty hydraulic pressure switch.
    - 2 due to operations miscommunication between internal City entities: startup of new Leavenworth Lift Station; Parks Department pool draining
    - 1 due to a leaking force main
- Overflows that were contained and did not reach a water body were nine (9) total:
    - 1 due to a line that was improperly abandoned
    - 1 due to a private tap causing a blockage in the main
    - 3 due to grease or roots
    - 4 due to rocks/bricks/tile and debris, 1 noted sag

In addition, 2 due to illicit sanitary lateral connections were discovered in the combined sewer service area, however were determined as reportable incidents under the City of Omaha municipal separate storm sewer system (MS4, NPDES Permit #0133698). Details are included here as they are related to the combined sewer system management, but not listed among the reportable dry weather CSOs in Tables 3-2 and 3-3. One lateral connection at 3122 N 65th (65th and Spencer) was found on a sewer main that was inadvertently left connected to combined sewer reconstructed as storm sewer in 1999 Sewer Separation Project. A second illicit connection near 52nd and Dodge, found during an emergency manhole rebuild, had a private sanitary lateral connection connected to the parallel storm system instead of the sanitary system. This was remedied during the manhole reconstruction. The separate storm system drains to Elmwood Creek that drains to the same outfall pipe for CSO 211, near 6th and Pierce, and into Little Papillion Creek.

The City has investigated both these instances and believes them to be anomalies. However the City is making sure sewer investigation and design review efforts are thorough to support successful sewer separation projects. In addition City processes have improved over the decades with mapping in GIS and a better understanding of pipe type: sanitary, combined, and separate storm. This information is shared with the Permits and Inspections Division so that the possibility of illicit connections is minimized during the building permit process.

Table 3- 2: Basement Backups or Contained Dry Weather Overflows

Start (Discovery) Date	Location of Overflow	Cause	Mitigation Steps	Long Term Corrective Action
10/11/2016	4524 Farnam St	Line Defect /Construction error	Repaired	Repair / Replace
10/20/2016	3802 Redick Ave	Grease	Jet Line	Scheduled Inspection
12/6/2016	5967 S 14th St	Rags, Line Defect (protruding tap)	Saw Line	Repair / Replace
1/15/2017	5803 Northwest Drive	Debris, Construction Debris	Jet Line, Remove Debris	Scheduled Inspection
2/19/2017	6065 Maple St	Line Defect / Grease	Jet Line, Vacuumed	Repair / Replace, Inspection
5/3/2017	21st St & K St	Debris	Jet Line	Area Jetting Program
6/7/2017	6947 N 40th St	Roots	Jet Line	Scheduled Inspection
8/23/2017	5014 N 55th St	Line Defect	Jet Line	Preventative Maintenance, To Engineering
9/16/2017	7002 Minne Lusa Blvd	Vandalism	Jet Line, Saw Line	(None) Unavoidable

Table 3- 3: Dry Weather Overflows Reached W.O.S.

Start (Discovery) Date	Location of Overflow	Duration	Estimated Quantity or Rate	Cause	Mitigation Steps	Long Term Corrective Action
3/2/2017	N 16th St & JJ Pershing Dr	Unknown	0.5 gpm	Line Defect	Vacuumed	Repair/Replace
3/3/2017	43rd St & R St (CSO 207)	Unknown	5 gpm	Other	Vacuumed	Other, Preventative Maintenance
3/7/2017	6139 Pratt Street (CSO 204)	Unknown	10 gpm	Mechanical Malfunction	Repaired	Repair / Replace
3/25/2017	69th & Evans St (CSO 203)	Unknown	20 gpm	Power Failure	Other	Coordination
5/4/2017	6606 Blondo St (CSO 210)	Unknown	20 gpm	Rags	Jet Line	Scheduled Inspection
5/10/2017	6606 Blondo St (CSO 210)	Unknown	20 gpm	Vandalism	Jet Line	LTCP Project, Preventative Maintenance
8/21/2017	1st St & Leavenworth St	Unknown	Unknown	Other	Other	Modify Procedure
9/15/2017	43rd St & R St (CSO 207)	Unknown	200 gpm	Entity Overloaded	Notified Other Entity	Coordination, Modify Procedure, Other

F. Control of Solid and Floatable Materials in CSOs

CSO NPDES Permit restates the objective of this nine minimum control as, "control of solid and floatable materials in CSOs is intended to reduce visible floatables and solids using relatively simple measures." The permit requires the City to, as appropriate, reassess and implement site-specific processes to control solids and floatables in CSOs using relatively simple measures. Any reassessment and the conclusions and implementation of control measures are documented in this Annual Report.

Based on previous evaluations, many of the CSO points are not conducive to the implementation of floatable controls without significant modification. Mechanical bar screens are at CSO 106/107 North Interceptor/Grace Street and CSO 108 – Burt-Izard Lift Station. These sites continue to be maintained by the Levee Group that is now under the Sewer Maintenance Division.

Reassessment of Burt Izard Lift Station

The existing Burt-Izard Lift Station was originally constructed in the 1960s as part of the South Interceptor Sewer Project. The station has three equal sized pumps with a "firm" capacity of 50 mgd. However, the station currently operates at only 25 mgd or less due to the condition of the

existing South Interceptor Force Main (SIFM) and the lack of redundancy on the drives in the lift station. The diversion structure, one grit basin, screens, and the lift station were designed to pump into the existing 48-inch SIFM. In 1978, improvements were made to the grit system to add two additional grit basins. In 2000 improvements were made to the grit handling methods.

As described in the City of Omaha Long Term Control Plan for the Omaha Combined Sewer Overflow Control Program (CSO LTCP) dated October 1, 2009, a number of improvements are planned for the Burt-Izard Lift Station. These improvements will ensure reliable delivery of 50 mgd to the SIFM during wet weather. This pumping capacity already exists at the station, but modifications are needed to put the changed operation reliably into effect, as well as to keep the station performing well. The final design will expand upon the improvements identified in the CSO LTCP.

Final Design of the Burt Lift Station was under way for the report year and includes replacement of the existing mechanically cleaned bar screen with a new bar screen, addition of a gate for channel isolation, a new bar rack, and concrete modifications to the screen channel to accommodate the new bar screen and gate in the Bar Screen Room. This work will include updating the Bar Screen room plans and sections for addition of a second screen, new gates, and installation of new screenings handling.

No additional processes or controls have been implemented this year with regard to solids and floatables control for combined sewer overflow. Floatable controls were included with the design of new Leavenworth lift station with primary purpose to protect the pumps. The CSO LTCP is intended to provide for adequate control of solids and floatables throughout the system, with improvements being implemented over time as projects in the LTCP take place. Further information may be found in Section IV, LTCP Documentation.

G. Pollution Prevention

As stated in the CSO NPDES Permit, "Pollution prevention is intended to keep contaminants from entering the CSS and accordingly the receiving waters by way of the CSOs." The CSO NPDES Permit requires the City of Omaha to document any **new** pollution prevention measures enacted by the City in this Annual Report.

Pollution prevention efforts are shared between several Divisions and work groups within the Public Works Department. Most records for pollution prevention are compiled and included in an annual report as required by the City of Omaha municipal separate storm sewer system (MS4), NPDES Permit NE0133698. Specifically, the MS4 annual report contains a section on *Pollution Prevention/Good Housekeeping* and includes a summary of storm sewer cleaning and other sewer maintenance records as well as street sweeping efforts. It was discovered during preparation of this annual report that 152 preventive maintenance work orders on cleaning structures related to storm and green infrastructure best management practices (BMPs) were inadvertently left out of the MS4 2016 Annual Report. Approximately ¾ of these work orders are within the Combined Sewer Service Area. Many are on storm only conveyance systems, however the maintenance efforts impact the adjacent combined and sanitary systems.

Additional measures for pollution prevention in the sewer collection system are shared duties between the Sewer Maintenance Division O&M Group and the Levee Group for sewer system grit removal. In general, the Levee Group is responsible for the maintenance of structures

associated with the CSO lift stations, the CSO screens located at CSO 106/107 and CSO 108, and aerated and non-aerated grit facilities associated with some of the larger CSO points. Sewer Maintenance O&M Group is responsible for maintenance of small grit pits located throughout the collection system, with some of these being associated with diversion structures and pits located near the smaller CSO overflow points. Each Maintenance Group is responsible for recording and documenting their own activities. Levee Group maintains these records in a log located at the MRWWTP. The Sewer Maintenance O&M group tracks work in an asset management system.

The City's Environmental Quality Control Division also continues its outreach through the Papillion Creek Watershed Partnership and through a contract with "Keep Omaha Beautiful" to implement a storm water pollution prevention and public education program that also provides benefits to the CSO program. No additional pollution prevention measures have been implemented during this report period.

H. Public Notification

As stated in the CSO NPDES Permit, "Public notification is intended to inform the public of location of CSO outfalls, occurrences of CSOs, plus health and environmental effects of CSOs." The CSO NPDES Permit requires the City of Omaha to document any revision or updates to public notification procedures in the Annual Report plus include any public announcements related to CSO discharges.

Locations of CSOs have been identified for the public through specific signage posted near the outfalls, as well as along marina locations and public trails that parallel receiving streams. Per standard procedure, signs at the CSO outfalls are inspected twice per year for visibility and condition. Procedure responsibilities continue to be carried out by Sewer Maintenance Division staff. All CSO signs were inspected by the Sewer Technical Services Group at Sewer Maintenance and completed on 12/07/2016 and 04/07/2017. Signs were replaced or repaired where necessary and all required signs are in place.

The Public is not directly notified of each individual occurrence of a rain induced CSO. Rather the public is informed and educated through several means of media and public outreach, reminding the public of the nature of combined sewer overflows and the impacts or effects to receiving streams. The signs posted at each outfall follow this template:

COMBINED SEWER OUTFALL CSO ###

DISCHARGE MAY INCLUDE UNTREATED SEWAGE
UNDER WET-WEATHER CONDITIONS

FOR INFORMATION OR TO REPORT PROBLEMS
CALL CITY OF OMAHA QUALITY CONTROL DIVISION
402-444-3908

For occurrences of dry weather overflows, overflows that continue after the effects of wet weather have subsided, or any other instance of a non-permitted overflow or bypass, the City follows reporting requirements outlined in the *Standard Operating Procedure (SOP) for Reporting and Public Notification of Dry Weather Sewer Overflows and Bypasses*. This SOP has been reviewed

and modified this year. No other policies or procedures for Public Notification have been revised or updated.

Public notifications were issued on June 17th and June 20th, 2017 regarding wastewater discharge from the Papillion Creek Wastewater Treatment Plant (reported as Water Resource Recovery Facility) due to loss of power caused by storm damage to the facility's electrical infrastructure. All public notifications related to significant dry weather overflows for the report year are included in Attachment 2 of this report. Under LTCP Documentation for Public Participation and in Attachment 3 of this report, a summary is provided that documents methods of informing the public with regarding to understanding CSO s and the CSO program.

I. Monitoring to Characterize CSO Impacts and the Efficacy of CSO Controls

As stated in the CSO NPDES Permit, "Monitoring to Characterize CSO impacts involves inspections and other simple methods to determine the occurrence and apparent impact of CSOs." The CSO NPDES Permit requires the City of Omaha to document any additional CSOs discovered by the City during routine inspections in this Annual Report.

Information on efforts made during implementation of the LTCP to characterize the CSS system can be found in *Section IV. A. Characterization and Modeling of the CSO System*. No additional CSO outfalls were identified during this reporting year. However, two sanitary service connections were discovered connected to the storm sewer system as previously mentioned in *III. D Prohibition of Dry Weather.*

Monitoring of CSO impacts is reported in this section as per previous years reporting. The efficacy of CSO Controls is now detailed in a new section, *Section VIII-Performance Report.*

Monitoring of CSO Impacts

During the implementation of this NMC, in early 2000s, under requirements of a preceding NPDES Permit, a report to record beach closings, wash-up of floatables, fish kills, hazards to navigation, and basement flooding caused by CSO events was established. The following is provided to meet this requirement:

In the period of October 1, 2016 to September 30, 2017, there were no known beach closings or fish kills. There are no records of any wash-up of floatables.

The City recorded a total of three (3) known occurrences where combined sewage escaped the system, not at a permitted CSO point. These occurrences were rain related backups into a property. These occurred during the storm events outlined in Table 3-4. The reported events are listed in Table 3-5.

Table 3- 4***: Storm Events that caused Basement Flooding***

Date	Duration (Hrs)	Total Rainfall (Inches)	Reoccurrence Interval (NOAA)
June 2, 2017	0.58	1.34	>2 year
Summary: Peak intensity of 0.37 inches per hour			
June 16, 2017	0.67	1.61	5 year
Summary: 0.5 inch to over 1.5 inch throughout Omaha area. 1.61 inch max reading at OMA-RG-3 near 51st and Maple had the largest peak at 1.56 inches in 30 minutes, which NOAA has it between a 5 to 10 year recurrence interval; Stormwater Design Manual IDF curve has it at less than a 5 year event.			

Table 3- 5 Reported Events During CSOs

Date	Category	Location of Overflow	Receiving Stream
6/2/2017	CSO - Excursion (Confined to Basement or Private Property)	5102 S 39 St	None
6/16/2017	CSO - Excursion (Confined to Basement or Private Property)	5104 N 17 St	None
6/16/2017	CSO - Excursion (Confined to Basement or Private Property)	1814 Fort St	None

CSS excursions that have impacts on private properties are evaluated for actual cause or conditions. Engineering group at Sewer Maintenance Division will make recommendations for back-water valves or the need for a sewer system evaluation survey to identify defect and inflow and infiltration sources. The City utilizes all gathered information to determine if a capital project may be required, or if modifications to O&M procedures are needed. A goal is to identify and address persistent or chronic impacts into private properties.

The long term corrective action for 5102 S 39th Street is to add this area to a watch list. This is a first time occurrence and previous rain events of a heavier nature have never caused an incident at this address. The watch list consists of placing a data point on a GIS layer used for future analysis. In addition, it will be well-documented in the work order and retrievable through work history searches. This particular residence is connected to a manhole at the top of a sanitary system that drains to a 10 inch combined sewer pipe. There were no other complaint records during this event to indicate a surcharge event.

The long term corrective action for the address near 18th and Fort is to complete the scheduled sewer separation project.

IV. LTCP Documentation

The City of Omaha submitted the original LTCP to the NDEQ on Sept. 25, 2009, in fulfillment of NPDES Permit requirements and the EPA CSO Control Policy. The LTCP was approved by the NDEQ on February 10, 2010. An Update to the Long Term Control Plan was submitted to the NDEQ on Sept. 29, 2014, which was approved by the NDEQ on Jan. 23, 2015. A minor modification to the Update to the Long Term Control Plan was approved by the NDEQ on April 3, 2015. On February 28, 2017, the City requested another update to the LTCP Update which was approved on July 19, 2017. A permit modification was also requested to address the complementary changes in the permit on February 2, 2017 and approved on June 12, 2017. The purpose of these requests was to modify dates. This is described in greater detail in Section II. A.

The City of Omaha is required, through the Permit and Consent Order to submit documentation and reports applicable to the LTCP in the Annual Report according to the conditions and requirements specified in each document. The following nine sections in this Annual report address those requirements and are presented in the order found in the outline in Part V of the Permit..

A. Characterization and Modeling of the CSO System

As stated in the CSO NPDES Permit, protocols for characterization, monitoring, and modeling of the CSS are included in Section 2 of the 2009 LTCP *Baseline Conditions/Study Basins Descriptions*. This section of the LTCP addressed the response of the CSS to various precipitation events, identified the number, location, frequency, and characteristics of CSOs, and identified water quality impacts that resulted from CSOs. The LTCP Update provided new information on these items. The permit requires that the City of Omaha continue to characterize, monitor, and model the CSS. A narrative summary of changes over the last 12 months to the characterization, monitoring, and modeling of the CSS as construction projects and sewer separation projects if implemented are to be included in each Annual Report.

Currently, the CSS is almost completely mapped in GIS with regular updates occurring as field differences are discovered or per as-built record drawings. The CSO system characterization continues to be updated as projects that make up the LTCP are designed and implemented. Consultants are asked to review existing system data and to gather additional information to form the basis of their designs. The data and designs are then included in the City's sanitary and combined sewer system computer model to ensure that the level of control specified in the LTCP is ultimately achieved. The following is a summary of the City's activity during this report period.

Characterization Efforts

Characterization efforts of the CSS can be broken down into several areas. These include:

1. **Water quality monitoring of select outfalls:** During the NPDES Permit renewal in 2015 it was demonstrated that most of the CSO outfall samplings were erratic and inconclusive over the long term due to the nature of the various rain events. It did not provide meaningful data to determine the impacts of the projects and was discontinued. No monitoring is required of the combined overflows. There are two outfalls that have regular monitoring requirements in the permit to determine compliance with current or

future effluent limitations, not for characterization. CSO 102 at the MRWWTP is required to be sampled during all wet weather events and upon completion of the construction of the MRWWTP Improvements Project will be required to meet effluent limits. CSO 205 currently is not being monitored, however, upon completion of the Saddle Creek Retention Treatment Basin construction, CSO 205 will have required sampling of its discharge and will be required to meet effluent limits.

2. **Documentation and recording of additional collection system information:** As part of the study phase for sewer separation projects, field data is gathered on the conditions of the CSS. Such field data includes smoke testing, closed circuit televising of sewer lines, dye testing and manhole evaluation and lamping. In addition, the City conducts its own Sewer System Evaluation Studies (SSES) either with City staff or through managed Field Services contracts. The findings of the studies are incorporated back into the City GIS and result in updated sewer mapping. Improvements to the collection system which result from the completion of CSO and other projects on the system are then uploaded back into the City's GIS.
3. **CSO Block Program:** The City maintains a block program also commonly referred to as CSO device checks. Under this program a "block" or some type of device is placed to indicate if there is an overflow. Section VII - Performance Report will report further on the results of this Program.
4. **Flow monitoring:** Temporary and permanent flow monitoring continues in both the CSS and Sanitary collection system to support long term planning and individual projects. Rainfall monitoring is included in this effort.

Monitoring Efforts

The City has been performing flow monitoring of its combined sewer system, specifically related to the characterization of the system, since 2004. The City continued city-wide flow monitoring of the Papillion Interceptors, adding 3 permanent meters to the Cole Creek Interceptor system. For the reporting year, there were 23 permanent flow monitoring sites, 24 temporary sites to support the studies of Little Papillion Interceptor, upstream of CSO 205, CSO Projects, and the CSO Model. Additionally, the City gathered precipitation data using 10 permanent city-managed and 1 temporary consultant-managed rain gauge. Sewer Maintenance Division coordinates with the CSO Program Management Team and other City Divisions to plan the flow and rain monitoring program and meets the needs of the CSO Program.

Figure 4-1 provides a location map for the flow monitors and rain gauges including locations of gauges within the Papillion NRD Alert Rain gauge system, which is used to supplement the City's rain gauge network.

Table 4- 1: Rain Gauges

City Rain Gauge Title	Longevity	Purpose
RG 1 - 10205 U Street (Oak Hts Pool)	Permanent	Sanitary
RG 2 - 32&Ed Creighton(Hanscom Park)	Permanent	CSS
RG 3 - 5120 Maple Street (Benson HS)	Permanent	CSS
RG 4 - 4845 Curtis Avenue (Wakonda)	Permanent	CSS
RG 5 - 1313 No 156th Street (Grace Abbott Elementary School)	Permanent	Sanitary
RG 6 - 5304 So 172nd Street (Russell Middle School)	Permanent	Sanitary
RG 7 - 7198 JJ Pershing Drive (Minne Lusa)	Permanent	CSS
RG 8 - 43rd & T Street (Roth)	Permanent	CSS
RG-9 (1st and Martha)	Temporary	CSS
RG-10 19615 Old Lincoln Highway (Elkhorn WWTP)	Temporary	Sanitary
GBA RG - 66th Street and Glenwood (Phoenix Academy)	Temporary	CSS

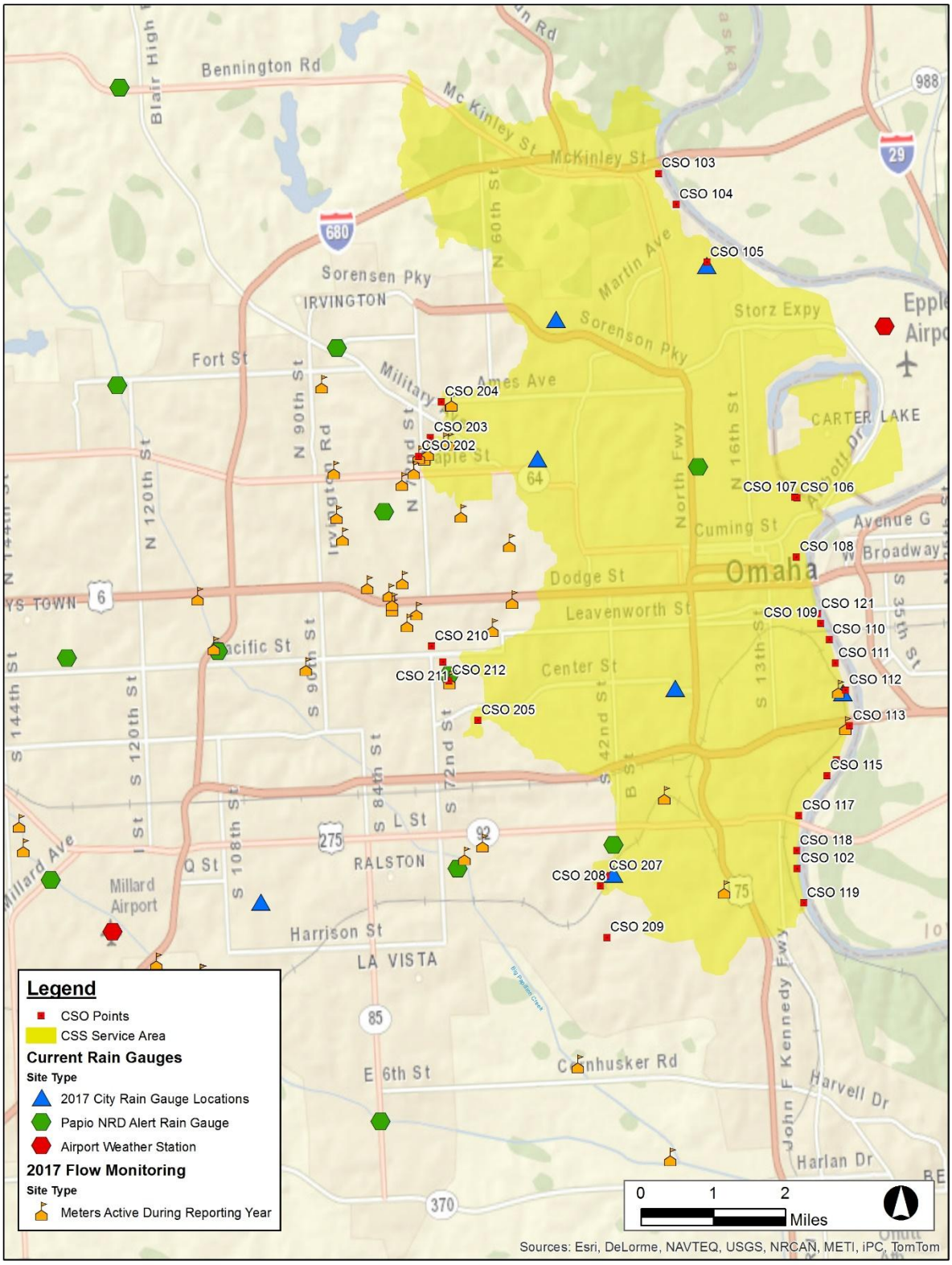
Table 4- 2: Permanent Flow Monitoring Sites

Location	Pipe Size	Longevity	Purpose
0225352 6900 Ames Avenue	30" circular	Permanent	Sanitary
0225354 6900 Ames Avenue North	12" circular	Permanent	Sanitary
0225354 6900 Ames Avenue Southwest	21" circular	Permanent	Sanitary
0265004 8301 Cass Street	42" circular	Permanent	Sanitary
0295010 8431 Blondo Street	42" circular	Permanent	Sanitary
0293022 1501 N 85th Street	36” circular	Permanent	Sanitary
0297005 3020 Keystone Drive	24" circular	Permanent	Sanitary
0302017 8769 Browne Street	30" circular	Permanent	Sanitary
0390004 10875 West Dodge Road	30" circular	Permanent	Sanitary
0546653 4516 S 12th Street	18" circular	Permanent	Sanitary
0699028 6303 L Street	66" circular	Permanent	Sanitary
0719008 4949 South 66th Plaza	72" circular	Permanent	Sanitary
0839020 10800 Leavenworth Street	54" circular	Permanent	Sanitary
0941005 4131 S 143rd Circle	48" circular	Permanent	Sanitary
0942004 4526 S 140th Street	30" circular	Permanent	Sanitary
4001001 15705 Harlan Lewis Road	9'x9' Box	Permanent	Sanitary/CSS
4051002 11820 Harry Andersen Avenue	60" circular	Permanent	Sanitary
4052005 10808 Olive Street	18" circular	Permanent	Sanitary
4052015 10900 Harry Andersen Avenue	72" circular	Permanent	Sanitary
4052051 11435 S 36th Street	78" circular	Permanent	Sanitary
4052060 10808 Olive Street	30" circular	Permanent	Sanitary
4062002 8970 S 48th Street	90" circular	Permanent	Sanitary/CSS
MRWWTP-South Interceptor Force Main	48” Force Main	Permanent	WWTP

Table 4- 3: Temporary Sites for CSO and Little Papio Interceptor Studies

Location	Pipe Size	Longevity	Purpose
0509036 – 101 Martha Street	15” circular	Temp	CSO
0511046 - 45510 I-80 E	8” circular	Temp	CSO
0223029-67th and Evans	15"	Temp	CSO 202/203 pre-separation
0223058-7123 Bedford	15"	Temp	CSO 202/203 pre-separation
0223085-7123 Bedford	18"	Temp	CSO 202/203 pre-separation
0223058-7123 Bedford	48"	Temp	CSO 202/203 pre-separation
0223028-6777 Evans	66"	Temp	CSO 202/203 pre-separation
0194012-66th and Parker	15"	Temp	CSO 210 Pre-Separation
0724009-7447 Harney	21"	Temp	CSO 210 Pre-Separation
0743030-260 S 77 St	18"	Temp	LP 14 I/I Study
0167021-5644 Western and JE George	15"	Temp	LP 9 I/I Study (Supports CSO 211)
0667041-303 Happy Hollow	15"	Temp	LP 9 I/I Study (Supports CSO 211)
0667041-303 Happy Hollow	18"	Temp	LP 9 I/I Study (Supports CSO 211)
0687001-6232 Pacific St Elmwood Park	18"	Temp	LP 9 I/I Study (Supports CSO 211)
0709023-Aksarben and Pine	24"	Temp	LP 9 I/I Study (Supports CSO 212)
0241006-521 N 76th St	24"	Semi-Perm	LP Interceptor Study
0240013-7720 Dodge St	42"	Semi-Perm	LP Interceptor Study
0725051-402 Rose Blumkin	60"	Temp	LP Interceptor Study
0246042 - 7601 Corby Circle	24”	Temp	LP-Cole Creek Interceptor study
0247046 - 7306 Maple Street	18”	Temp	LP--Cole Creek Interceptor study
0248019-3330 N 72nd	24"	Temp	LP--Cole Creek Interceptor study
0265113-7777 Cass St	24"	Temp	LP--Cole Creek Interceptor study
0588065 – 2505 Edward Babe Gomez Av	21”	Temp	SOIA I & I Study
0602058 – 3301 G Street	12”	Temp	SOIA I & I Study

Figure 4 -1 Flow and Rain Monitoring Locations



Modeling Efforts

The City is continuing to utilize and upgrade its sanitary and combined sewer system model (SCSS model) during the implementation phase of the CSO Program. Updates to the model are made on an ongoing basis. The updates occur as additional information on the system is discovered and as the system is modified as the CSO controls are implemented.

Additional to these upgrades, the City continues to work toward a goal to provide more detailed information on the CSS in the upstream areas of the watersheds/sewersheds. This added detail will better allow for the evaluation of the effectiveness of Green Infrastructure and/or stormwater control measures at specific locations up in the system. The model, when originally built, focused on detailed information and calibration at the CSO outfalls, and included information on pipes with diameters of 24" and larger. As upgrades are made over time, the model will provide coupled modeling of the surface and subsurface flows, including inlets and smaller pipes (diameters of 12 inches and greater). The model will better support decisions on CSO controls, and will provide more reliable information on the impacts in the CSO basins where combined and storm sewer systems are operating side-by-side. Upgrades to the level of detail in the Burt-Izard, Minne Lusa, Leavenworth, South Interceptor, Ohern/Monroe, Cole Creek, and Saddle Creek Basins have been completed. Flow monitoring at 51 temporary meter locations was conducted April through August of 2016. Rainfall data were also acquired, and radar processing of the rainfall data was conducted during the fall of 2016. The flow and rain data are currently being used to check and adjust the updated model's calibration.

This year, a flow analysis was conducted using post-sewer-separation flow monitoring data gathered in 2016 which was compared to pre-sewer-separation data obtained in 2010. The analysis found significant decreases in inflow for all of the meter data evaluated. Further evaluation of the success of these projects compared to LTCP goals will be made through the ongoing model calibration of the model with 2016 meter data.

In addition to the Program level work, models of smaller areas are created as part of many of the design efforts for individual projects under the CSO Program. A *Hydrologic and Hydraulic Modeling Approach* technical memorandum is developed by the design consultant to ensure consistency with CSO Program goals. The details added to these models are included where deemed appropriate in the City's SCSS model.

B. Public Participation Plan

The CSO NPDES Permit requires the City of Omaha to employ a public participation process throughout LTCP implementation and document public participation activities in this Annual Report.

Lovgren Marketing Group serves as the Public Participation Coordinator. Public participation continues to focus on engaging and educating the public about Clean Solutions for Omaha (CSO!) Program. The public participation program is concentrated on providing accurate and timely information, insights about the Program and Projects, as well as engaging and being responsive to stakeholders. There are two areas of focus:

1. Continued involvement, education and acceptance by the public about the need for the CSO Program

2. Progress on the specific projects within the Long Term Control Plan

Program stakeholders range from the business and residential ratepayers to regulators, elected officials, utilities, transportation and media. In each category, the CSO! Program provides public involvement necessary to meet stakeholder needs and expectations.

CSO Program and Projects are showcased at public meetings, neighborhood association events, civic organization presentations and professional conferences and other events. These opportunities provide a broad view of Omaha's effort to meet regulatory compliance and foster community acceptance. Over the last year there have been presentations at neighborhood meetings and civic organizations including the North Omaha Neighborhood Alliance, South Omaha Neighborhood Alliance, Aksarben-Elmwood Neighborhood Association (NA), Spring Lake Park Neighborhood; Kiwanis, Cosmopolitan Clubs, Chamber outreach meetings and others. In addition, a workshop and tour of the Spring Lake Park project was organized for the South Omaha Magnet School's bilingual science class.

There are three main methods of communication with the public.

Website

The CSO Program uses multiple channels to communicate the story of this major public infrastructure project. One focal point is the website, www.omahacso.com. Features of the site include:

- Interactive map for residents to locate their address and current CSO projects in the area
- Construction bid information linked to the City's website
- Long Term Control Plan and other Program documents
- Project pages for each project completed, in design, under construction or in the future
- Public meeting notices
- A newsroom (provides information resources to media and archives major articles)

The website has been a widely used outreach tool. As noted in Attachment 3, there have been nearly 15,000 unique visitors and close to 42,000 page views. Of people visiting the site, 80% were new visitors.

Hotline

The Program maintains a hotline answered by a knowledgeable individual to answer questions and problem solve as needed for CSO Program stakeholders.

Informational Materials

The CSO display, brochures, flyers, neighborhood newsletters, presentations, and children's coloring books on water conservation are among other tools used by the Program and Projects to communicate key messages. When needed, information is translated into other languages.

A Public Participation Report produced by Lovgren Marketing Group, provides a more detailed summary of efforts during the reporting period and is included as Attachment 3.

C. Consideration of Sensitive Areas

Sensitive areas include water with threatened or endangered species and their designated critical habitat, waters with primary contact recreation, public drinking water intakes, and any

other areas identified by State or Federal Agencies. An update of the sensitive areas was included in the LTCP Update.

The CSO NPDES Permit states that the City of Omaha should provide any changes to the status of previously identified sensitive areas in the Annual Report. No changes were made to the sensitive areas however, in January 2016, the northern long-eared bat (NLEB) was added to the endangered species list. As a result, during 2017 the CSO Program reached out to the Nebraska Games and Park Commission to determine if there are known "hibernacula" in the area of the CSO program. (Hibernacula are defined as locations where one or more northern long-eared bats have been detected during hibernation or at the entrance during fall swarming or spring emergence.) At this point in time, there are no known hibernacula in the area where CSO projects are occurring. However, to be proactive, modifications were made during the Annual Report period to the plans and specifications to address/protect the NLEB hibernacula and roosting trees should one be found.

D. Evaluation of Alternatives

The process that the City of Omaha originally undertook to identify, screen, evaluate, and select CSO control technologies and alternatives for the Missouri River and the Papillion Creek watersheds was included in Section 3 of the LTCP CSO Control Alternatives Evaluation. (See also to LTCP Update.) This process resulted in a group of selected CSO controls that includes two retention treatment basins, upgrades to the MRWWTP, replacement of force mains, a deep tunnel for conveyance and equalization, green solutions, and sewer separation projects which are anticipated to satisfy presumption approach of the CSO Control Policy and will not preclude meeting water quality standards.

The CSO NPDES Permit requires any significant changes or revisions to the controls set forth in the LTCP be submitted to the NDEQ by October 1, 2019 for review and approval according to the Part IX (F) Revisions to the Long Term Control Plan. During the last year, the City evaluated options to address overflows at CSO 205, and is performing evaluations of controls that could affect the Minne Lusa Basin and the overall Missouri River Watershed. These are the Deep Tunnel System (DTS)Project Definition Task and the Technical Assessment for Cost Savings (TACS) task. These three tasks are summarized below:

1. CSO 205: In August of 2015, a single bid was received for the Saddle Creek Retention Treatment Basin (RTB). This bid was significantly higher than the Engineer's estimate and significantly higher than the LTCP cost. A re-evaluation of the most cost-effective control for CSO 205 was performed by the Project Team. The result of the City's evaluation was a revised design of the RTB. The revised RTB will have a treatment capacity of 160 mgd but with the ability to disinfect and dechlorinate up to 320 mgd. The estimated construction cost of the redesigned RTB is $85 million which is consistent with the 2009 LTCP budget. The result of the evaluation was provided to NDEQ in March 2017 and subsequently NDEQ has confirmed the approach.

2. DTS Task: Since the DTS is the single largest project under the LTCP, the City felt that it was prudent to review the assumptions in the LTCP to ensure that the assumptions and budget for the project were appropriate. This has been done over the last year by the City

and PMT and has included the development of a schedule. It is likely that this work will continue into early 2018.

3. TACS Task: In January 2017, the City and PMT started an evaluation of the controls in the LTCP in an effort to determine the most cost-effective approach to capture the remaining volume to meet the 85% capture requirement with the added goal of reducing the cost of the program. This included a re-evaluation of several of the projects in the Minne Lusa basin. The process used included development of a range of alternatives. The results were reviewed in a workshop with several of the alternatives undergoing additional review to ensure their validity and to develop conceptual level costs. The result of this work was an alternative project list that achieves the regulatory requirement of 85% volume capture with a savings to the overall all program of 20%. The City and PMT are refining the schedule and as required in the permit will provide the list of projects in the Minne Lusa basin by June 30, 2018.

In addition to these areas, the City is implementing an ongoing process that will review the business case for current and future projects to ensure that the projects are appropriate and cost effective to meet the 85% volume capture requirement.

Finally, the City is hoping to implement a strategy that will allow for an evaluation period on projects to ensure that they are performing as anticipated. Over the last 10 years the City has been on a fast pace to construct CSO projects. The City hopes to have time to fully realize the benefits of work completed to date, along with projects that are currently under design or construction. These projects need to be assessed for their performance and effectiveness at meeting the goals they were designed to achieve. It is also important that the operation of the controls be optimized for best performance. In addition, it is important to verify that the results of the modeling of the controls reflect their actual performance. This is essential to confirming that the final level of control required under the CSO Program is reliably achieved.

As required in the permit, the City will submit a revised LTCP in October 2019 which includes a revised schedule that reflects these changes and others that are developed. .

E. Cost/Performance Considerations

An evaluation of the benefit cost ratios for CSO control levels and financial capability analysis is included in Section 3 Control Alternative Evaluation and Section 6 Financial Capability Evaluation of the LTCP. (See also Update to LTCP 2014)

The CSO NPDES Permit requires that the City of Omaha submit a financial report to the NDEQ by October 1, 2019; that sets forth a strategy to obtain sufficient revenue to fund the CSO program through at least the year 2024 that includes funding for the specific projects in the Implementation Schedule, Section 7 of the LTCP and 2014 Update to LTCP.

In 2016, Omaha contracted with a consultant to update the City's Rate Model that was originally developed in 2006, and to perform a Financial Capability Assessment (FCA) to prepare for the next rate ordinance in 2018. The Rate Model Update was completed in 2017, and the FCA report is planned to be finalized by the end of 2017. As part of the Rate Model Update, assumptions used to develop the original model are being examined and updated as needed. This included assumptions related to cash reserves, customer growth rate, cost of borrowing

money, utilization of State Revolving Fund loans, rate of inflation, O&M costs, and others. The current contract does not include updating the cost of service evaluation, or setting rates for the next Rate Ordinance; however, the existing Rate Model will be made much more user friendly, allowing what-if scenarios for future rates impacts to be more easily evaluated.

The FCA evaluated the burden of currently planned sewer rate increases on the Omaha community, and on various sectors of the community. This will assist the City in working with NDEQ to establish a framework, as noted in the paragraph above, to address issues related to Affordability of the program. It will also assist the City in estimating the impact of other regulatory and infrastructure needs that sewer fees must pay for. It was found based on EPA Residential Indicator calculations that the overall City and service are at only a "Medium Burden" as defined by EPA. However, it was also shown that a significant portion of the City (more than 44,000 households) is already well above the High Burden threshold, and this will get worse over time.

In the next Annual Report cycle, beginning in the 4th Quarter of 2017, the City will work with their rate consultant to develop the next Rate Ordinance, which will establish sewer rates for 2019 through 2022. Several important factors will be considered, including current efforts to reduce the total cost of the CSO Program, ongoing discussions with NDEQ to extend the compliance date for the CSO Program through a modification to the Consent Order, and the desire to lessen the burden on the portions of the community that are already experiencing a High Burden from sewer rates.

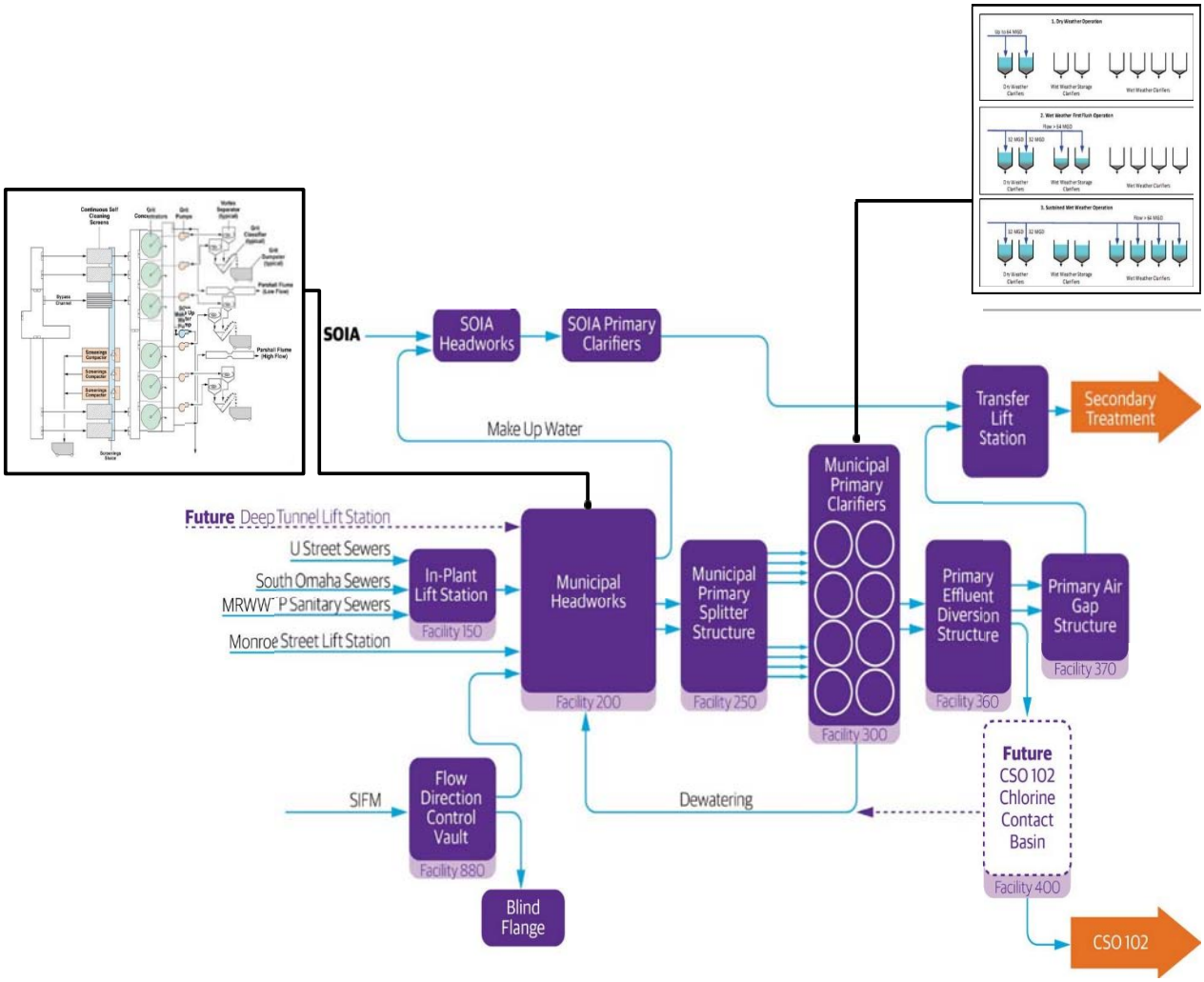
F. Operational Plan

The CSO NPDES Permit required the City to update the *Monitoring Program and CSO Wet Weather Operations Plan* as CSO controls are constructed and sewers are separated. Current language in the permit also requires that by September 30, 2015, the City shall submit a wet weather operations protocol for discharge through CSO 102 that includes operational procedures to maximize wet weather flows through this outfall, provide disinfection and chlorination/dechlorination.

This submittal was provided on November 13, 2015, as allowed by the NDEQ. The Plan included a summary of the anticipated operation of the Plant once the construction is complete. It is important to note that the modifications addressed in the Plan are currently under construction and the system as a whole will not be operational until 2019. The construction projects will provide for the initial flush from the SIFM during wet weather to be managed in a manner that limits the concentration of ammonia in the CSO 102 disinfection facilities so that disinfection efficiency is enhanced. Figure 4-2 includes the process flow during wet weather.

The new Leavenworth Lift Station was started up June of 2017 and the City is working on internal wet-weather operation protocols and will modify if needed in the future. SOIA Lift Station wet weather operations are under City review due to having to divert flow to Monroe Lift station during a 5-year rain event; an indication of not operating as designed.

Figure 4-2 MRWWTP Schematic



G. Maximizing Treatment at the Existing POTW Treatment Facilities

An evaluation of the feasibility of expanding wet weather treatment at both the MRWWTP and the PCWWTP is included in Section 3.0 of the 2009 LTCP CSO Control Alternatives Evaluation and the LTCP Update. Major projects being implemented are included in the LTCP during the next few years (including completion of the South Interceptor Force Main and Schedule B2 facilities at the MRWWTP; and design/construction of the Burt Izard, Riverview, and Monroe Street Lift Stations) will be major factors in to maximize treatment of combined wastewater at the MRWWTP. Expansion of the treatment capacity of the PCWWTP is scheduled after this permit term.

The CSO NPDES Permit requires the City of Omaha to continue to evaluate opportunities to maximize treatment at the WWTPs as part of the adaptive management strategy for implementation of the LTCP and provide a summary of any new approaches identified to maximize treatment of combined wastewater at the WWTP in this Annual Report.

No new approaches have been identified since the last Annual Report; however, the City is moving forward with a contract with a specialty consultant to help identify opportunities to

optimize the collection system in the Missouri River Watershed using methods such as in-line storage and real-time controls. Ongoing efforts to update and increase the detail in the City's InfoWorks collection system model will support this and other efforts, which should all result in more flow being treated at the WWTP. Projects related to current strategy are discussed in more detail in the relative progress report in Attachment 4. Expansion of the treatment capacity of the PCWWTP has not been identified under the CSO program and falls under the NPDES permit for that facility. The City has contracted with a firm to evaluate the use of technology to actively operate the collection system so that more flows can be captured in the system to future maximize treatment of combined flows at the WWTPs.

H. Implementation Schedule

The original LTCP Section 7.0, *Implementation Schedule,* outlined an implementation schedule that complied with the October 1, 2024 deadline for completing the CSO projects. The 2011 Missouri River Flood constituted a force majeure event which impeded the City's efforts at design and construction and impacted the schedules of several projects. The deadline of October 1, 2027 was put into effect.

Per the modified CSO NPDES Permit, October 1, 2015, *Part VI. Compliance Schedule for Implementation of CSO Control Projects* lists the construction and sewer separation projects that will be designed, constructed, or operationally completed during the current permit term and the compliance milestones. CSO NPDES Permit requires the City to include progress reports on implementation of the CSO projects in the Annual Report.

During this permit reporting period, the City continued to implement projects and adhere to a compliance schedule. However, changes were made to the permit to reflect changes to dates in Part VI. C. Schedule, as noted previously.

This Annual Report, Section V - Compliance Schedule, provides a status update on the implementation of the CSO Major and Sewer Separation projects. Attachment 4 contains an Annual Project Progress Report for each of the projects under a compliance schedule.

The LTCP had identified 5 other projects as system reliability projects to address current and future system support. The implementation schedule is as necessary and when funding available. Two of these projects continued final design during this report year: Burt-Izard Lift Station and Riverview Lift Station Improvements. A designer has been hired for the third project, the Monroe Lift Station. This project will start preliminary design in 2018. These are not under a compliance schedule but are given a brief status in Section V.

I. Post-Construction Compliance Monitoring Program

An outline of a post-construction compliance monitoring program is included in Section 8 of the 2009 LTCP *Monitoring Program and CSO Wet Weather Operations Plan* plus a draft document *Water Quality Monitoring for the Implementation Monitoring Plan (IMP)* was included with CSO NPDES permit application received March 29, 2010. As required by CSO NPDES Permit:

1. Instream monitoring data is provided in Section VII and Attachment 7

   The results of studies performed that support the deactivation of a CSO outfall are included in this Annual Report in Section VIII - Performance Report.

V. Compliance Schedule

The purpose of this section is to provide information on the status of the implementation of the LTCP as required both in the City's CSO NPDES Permit and the Complaint and Compliance Order by Consent -August 8, 2007, NDEQ Case No. 2710 (or Consent Order) issued to the City of Omaha (amended May 30, 2012) as well as the status of the individual or "component projects." The amended Consent Order changed the completion date from October 1, 2024 to October 1, 2027 and required an update to the LTCP to be submitted to the NDEQ by October 1, 2014.

The City has corresponded regularly with the NDEQ regarding any potential changes to the schedule. The CSO NPDES Permit set compliance schedules for this permit cycle based on LTCP Update schedule and subsequent schedule approval with NDEQ.

A. Implementation Requirements

The requirements for implementation are set forth in the CSO NPDES Permit as well as the Consent Order. Details about each are presented in this Section. The CSO NPDES Permit specifically states: "…the City of Omaha shall implement the compliance schedule [as listed in the Permit] for construction projects set forth in the Long Term Control Plan (LTCP). This schedule may be modified in accordance with NDEQ Title 119 and written notice from the NDEQ. The City of Omaha shall include a yearly summary of construction activities, actions, and other measures applicable to this compliance schedule in the Annual Report".

These requirements are achieved though the summary tables and figures in this section as well as through the Annual Project Progress Reports in Attachment 4. As stated in the CSO NPDES Permit, the following definitions shall apply to compliance schedule dates. The italicized wording has been added in this Annual Report to provide additional clarification:

- Bid Year – The year when the bidding process for a specific project is started. *This will be noted in the tables below as "bidding" date and corresponds to the day the project was advertised for bid. This compliance action only applies to Sewer Separation Projects.*
- Begin Final Design – The date when a Notice to Proceed is issued to a design consultant, or in the case of a design that is completed by City staff, the date when work is started by City staff. *In some projects, an amendment to the original contract for Preliminary Design will serve as the date the Final Design began.*
- Commence Construction – The date the Notice to Proceed is issued to the contractor.
- Complete Construction – When a major project or sewer separation project is substantially complete. *For Sewer Separation as well as Major Facility Projects, substantial completion is issued to the construction contractor. In addition, notification is provided to the when a Major Facility Project is considered Operationally Complete.*
- Operationally Complete – When a Major CSO project is substantially complete, is ready for its intended use, and has been made ready to operate by the City. *For Sewer Separation Projects in general the "complete construction" and "operationally complete" will be the same date.*

NPDES Permit Modification and LTCP Update

A permit modification and corresponding LTCP modifications were submitted to NDEQ on February 2 and February 28, 2017 respectively. These were approved by NDEQ on June 12 and July 19, 2017 respectively. This included the following modifications to projects:

1. Changed the date in Part VI. A. Schedule for the South Interceptor and Force Main (SIFM) Project from June 30, 2017 to June 30, 2018 to reflect delay to the SIFM completion because of encountering a subsurface anomaly.

2. Changed the date in Part VI. C. Schedule for Phase 2 Major Projects of the LTCP from September 30, 2020 to December 31, 2023 to allow for additional time for the redesign and construction of the Saddle Creek RTB.

3. Removed Part VI. D. Schedule for Phase 3A Major Projects of the LTCP, Part E. Schedule for Phase 3B Major Project of the LTCP, Project 7 of Part VI. F. Schedule for Phase 4 Major Projects, Projects 5 and of Part VI., and Project 4, of Part VI. K of the permit. In addition, a requirement was added to the permit to provide the NDEQ with the project or projects that will replace the projects that were originally planned in the Minne Lusa Basin by of June 30, 2018. The following is a list of those projects removed:

    - Part VI. D
        - Minne Lusa Stormwater Conveyance Sewer
        - JCB Stormwater Conveyance Sewer (CSO Outfall 105 Project)
        - Paxton Blvd. Stormwater Conveyance Sewer 30th to 41st (CSO Outfall 105 Project)

    - Part VI. E
        - Paxton Blvd. Stormwater Conveyance Sewer 41st to 49th (ML-105-l 3A Phase 2)

    - Part VI. F:
        - CSO 105 - Minne Lusa Avenue Storage Facility

    - Part VI. I
        - ML Paxton Corridor Sewer Separation
        - Minne Lusa-105-2a. 41 & Sprague SE Phase 1

    - Part VI. K:
        - Minne Lusa-105-2b. 41 St and Sprague NW Phase 1

    - From the LTCP - Phase 7 of the Sewer Separation Projects and Milestones:
        - Minne Lusa-105-6, 43rd & Boyd
        - Minne Lusa-105-6, 43rd & Boyd
        - Minne Lusa-105-2b, 41st & Sprague NW Phase 2
        - Minne Lusa-105-5, 46th & Grand East

4. Removed Project 4 (Martha Street to Riverview Lift Station Phase 2), Part VI. H. Schedule for Phase 3 Sewer Separation Projects for the LTCP. The Martha Street to Riverview Lift Station Phase 2 project is part of the Riverview Lift Station Project, a system reliability project. It is currently under design.

Consent Order Directives

In addition to the current NPDES Permit, implementation and reporting requirements for this Annual Report are also guided by the Consent Order, which states the report shall contain:

> a. A statement identifying each component project time frame in the period preceding the initial, or thereafter, the most recent previous report, calling for commencement, completion, implementation or some other action to be taken, and whether and to what extent such action was taken by the City within the respective component project time frame.
>
> b. A general description of the work performed pursuant to the LTCP and component project time frame schedule for the period covered by the report and whether it conformed to the LTCP and time frame schedule.
>
> c. A statement of any future planned or expected deviations from the LTCP and component project time frame schedule and the reasons for such deviations.

These directives are achieved through the submittal of the Annual Project Progress Reports in Attachment 4. In addition, planned or expected deviations are tracked through an internal CSO Program process to document variations in schedule, scope, or budget. The Change Notifications Requests (CNRs) process includes identifying the reason or justification for a schedule change, potential impacts to related projects or LTCP Phases, and possible mitigation efforts. Any resulting CNRs have supported the LTCP Update process to date. Current CNRs for the reporting year can be found in Attachment 5.

B. Major CSO Control Projects

Implementation of the Major CSO Control Projects continued in the reporting year. Major CSO control Projects in Phase 1 and 2 are listed in Tables 5-1 and 5-2. These tables cite the action or activity that took place during the reporting period, the LTCP target date for a particular action, the actual date if achieved, and a brief summary on compliance with the LTCP Update schedule. All completed component projects will continue to be included in the Annual Report until the particular Phase is completely achieved.

Phase 3 projects were removed from the Permit as well as the LTCP and are no longer tracked are reported on in this Annual Report. As noted previously, the City will inform NDEQ by June 30, 2018 what project or projects will be implemented along with a draft schedule.

Phase 4 of the Major Projects have no required activity to report this period, although the City is working, as noted previously on the project definition of the Deep Tunnel system. See LTCP Update for list of those projects and planned schedules. Table 5-5 lists system reliability projects which have had activity, but however are not under a compliance schedule.

Table 5 -1: Phase 1 Major CSO Project Status and Compliance

Major Projects Phase 1: South Interceptor Force Main (SIFM)

CSO Permit Requirement: All projects shall be operationally complete by June 30, 2018

ID	Project Name	OPW Number	Action	*LTCP Target Date*	Actual Date	Compliance
1C	South Interceptor Force Main	51873 52223 52222 52134	Under Construction	*6/30/2018*[1]	**In Progress**	On Schedule

Major Project Phase 1: Missouri River Wastewater Treatment Facility Improvements

CSO Permit Requirement: All projects shall be operationally complete by December 31, 2019

ID	Project Name	OPW Number	Action	*LTCP Target Date*	Actual Date	Compliance
1D	Missouri River WWTP Improvements	51875 52200 52570 52494 52648	Under Construction	*12/31/2019*	**In Progress**	On Schedule

[1] Extended 12 months because of Force Majeure on geotechnical anomaly

Table 5-2: Phase 2 Major CSO Control Project Status and Compliance

Major Projects Phase 2

CSO Permit Requirement: Project shall be operationally complete by December 31, 2023

ID	Project Name	OPW Number	Action	LTCP Target Date	Actual Date	Compliance
2C	Saddle Creek CSO 205 – 64th & Dupont Retention Basin	52049	Final Design	*12/31/2023*	**In Progress**	On Schedule

Table 5-3: System Reliability Projects - activity during 10/1/2016 to 9/30/2017

System Reliability Projects *CSO Permit Requirement: NONE; LTCP Critical Milestones: NONE*					
Project Name	**OPW Number**	**Action**	***LTCP Target Date***	**Actual Date**	**Compliance**
Burt-Izard Lift Station Improvements	52472	Final Design	*N/A*	**In progress**	N/A
Riverview Lift Station Replacement	52402 52402a 53270[1]	Final Design	*N/A*	**In progress**	N/A
Monroe Street Lift Station Improvements	53082	Preliminary Design	*N/A*	**In progress**	N/A

[1] Includes the Blake Street Lift Station and associated gravity sewer/force main construction contract

C. Sewer Separation Projects

Implementation of Sewer Separation Projects continued in the reporting year. Sewer Separation Phase 1 is complete and will not be further reported here. Sewer Separation Phases 2 through 6 are listed in Tables 5-4 through 5-7. These tables cite the action or activity that took place during the reporting period, the LTCP target date for a particular action, the actual date if achieved, and compliance with the LTCP Update schedule. Future phases are included only to show if any projects within that phase have taken action during the report year. All completed projects will continue to be included in the Annual Report until the particular Phase is completely achieved. During this period, Phase 2 Sewer Separation was completed.

Sewer Separation projects listed in LTCP Update under Phase 6 and Phase 7 had no projects with activity in the report year. The exception is the 16th and Grant Sewer Separation Project, previously under Phase 6, merged with Nicholas Phase 3 in the Sewer Separation Phase 4.

Table 5-4: Phase 2 Sewer Separation Projects Status and Schedule Compliance

Sewer Separation Phase 2 – All Projects Complete

CSO Permit Requirement: Complete construction on all the following projects by September 30, 2017

ID	Project Name	OPW Number	Action	*LTCP Target Date*	Actual Date	Compliance
2B	Bridge Street (CSO 103-1, 36th Street)	51698	Complete	*8/11/2015*	**11/14/2014**	ACHIEVED
2E	Burt-Izard (CSO 108-3, Nicholas & Webster Separation Phase 1)	51962	Complete	*6/30/2016*	**10/13/2015**	ACHIEVED
2H	South Interceptor (CSO 117-1, Missouri Avenue Phase 1)	51997	Complete	*10/19/2016*	**7/29/2016**	ACHIEVED
2I	Minne Lusa (CSO 105, JCB & Miami Phases 1 & 2 and Adams Park Improvements)	52165 52390a	Substantially Complete	*9/30/2017*	**11/30/2016**	ACHIEVED

Table 5-5: Phase 3 Sewer Separation Projects Status and Schedule Compliance

Sewer Separation Phase 3 *CSO Permit Requirement:* Complete construction on all of the following projects by December 31, 2018						
ID	**Project Name**	**OPW Number**	**Action**	***LTCP Target Date***	**Actual Date**	**Compliance**
3C	Burt-Izard (CSO 108-3B, Nicolas Street Phase 2)	52297	Complete	*12/31/2016*	**6/24/2016**	ACHIEVED
3D	Cole Creek (CSO 204, Phase 1)	51995	Complete	*6/30/2016*	**7/30/2016**	ACHIEVED
3G	Ohern/Monroe (CSO 119-6, Gilmore Avenue Phase 1 & 2)	52184	Under Construction	*12/31/2017*	**In progress**	On Schedule

Table 5-6: Phase 4 Sewer Separation Projects Status and Schedule Compliance

Sewer Separation Phase 4 *CSO Permit Requirement:* Initiate bidding process on one of project on or before December 31, 2016						
ID	**Project Name**	**OPW Number**	**Action**	***LTCP Target Date***	**Actual Date**	**Compliance**
4B	Burt-Izard (CSO 108-3, Nicholas Street, Phase 3)	52721	Preliminary Design	*Complete Final Design and Bid by 1/1/2018*	**In Progress**	Delayed [1]
4G	Minne Lusa (CSO 105-15, Forest Lawn Separation)	52470	Bidding	*Complete Final Design and Bid by 9/12/2017*	**In Progress**	Delayed [2]See CNR
4M	Lake James to Fontenelle Park	52658/52659	Under Construction	*12/31/2019*	**In Progress**	On Schedule.
4N	South Interceptor (CSO 117-1, Missouri Avenue Phase 2)	51997b	Bidding	*Complete Final Design and Bid 7/1/2017*	**1/18/2017**	On Schedule
4P	Papillion Creek South (CSOs 207/208, 42nd & Q)	52257	Under Construction	*Complete Final Design and Bid by 7/1/2018*	**In Progress**	On Schedule
4Q	Cole Creek (CSO 204, Phase 2)	52814	Final Design	*Complete Final Design and Bid by 1/1/2019*	**On hold pending a reassessment**	On Hold
4R	Burt Izard (CSO 108-3, Nicolas & Webster Separation, Phase 2)	N/A	No activity this report period	*Complete Final Design and Bid by 1/1/2019*	**Not Started**	Delayed [3]

[1, 2] Slight delay in Design schedule, anticipated to meet LTCP milestone completion, See CNR
[3] Scheduled was start of preliminary design was Aug 2017) Currently evaluating need for project. See CNR.

Table 5-7: Phase 5 Sewer Separation Projects Status and Schedule Compliance

Sewer Separation Phase 5 *CSO Permit Requirement:* Commence bidding on one of the following projects on or before December 31, 2019						
ID	**Project Name**	**OPW Number**	**Action**	***LTCP Target Date***	**Actual Date**	**Compliance**
5A	Papillion Creek North 210-2 Inflow Reduction Project	N/A	No activity to report this period	*Final design complete and bid by 1/1/2020*	**Future** (2018)	Not Applicable
5B	Cole Creek 204, Phase 3	N/A	Preliminary Design	*Final design complete and bid by 7/1/2020*	**In Progress**	On Schedule
5C	Cole Creek 203-1 Sewer Separation	53059	Preliminary Design	*Final design complete and bid by 7/1/2020*	**In Progress**	On Schedule
5D	Cole Creek 202, Phase 1	53059	Preliminary Design	*Final design complete and bid by 7/1/2020*	**In Progress**	On Schedule
5E	Cole Creek 202, Phase 2	53059	Preliminary Design	*Final design complete and bid by 7/1/2020*	**In Progress**	On Schedule
5F	Papillion Creek North 212-1, Separation	51685	No activity to report this period	*Final design complete and bid by 1/1/2022*	**Future** (2020)	Not Applicable
5G	Papillion Creek North 210-1, Separation	N/A	No activity to report this period	*Final design complete and bid by 1/1/2022*	**Future** (2020)	Not Applicable
5H	Papillion Creek North 211-2, Inflow Reduction Project	N/A	No activity to report this period	*Final design complete and bid by 1/1/2022*	**Future** (2020)	Not Applicable

Table 5-8: Phase 6 Sewer Separation Projects Status and Schedule Compliance

Sewer Separation Phase 6 *CSO Permit Requirement:* Commence bidding on one of the following projects on or before June 30, 2020						
ID	**Project Name**	**OPW Number**	**Action**	***LTCP Target Date***	**Actual Date**	**Compliance**
6B	South Interceptor 110-1, Pierce Street	NA	No Activity During Reporting Period	*Complete Final Design and Bid by 7/1/2020*	**Future** (2018)	Not Applicable
6C	Ohern/Monroe - 119-5A, South Barrel Conversion	53149	No Activity During Reporting Period	*Complete Final Design and Bid by 7/1/2020*	**Future** (2018)	On Schedule
6D	Ohern/Monroe - 119-5B, South Barrel Conversion	53149	No Activity During Reporting Period	*Complete Final Design and Bid by 7/1/2020*	**Future** (2018)	On Schedule
6F	Burt Izard 108-8, 18th & Seward	52721	Preliminary Design	*Complete Final Design and Bid by 1/1/2021*	**In Progress**	On Schedule[1]

[1] Project is part of Nicholas Street Phase 3, Sewer Separation Phase 5. See CNR

D. LTCP Overall

The Consent Order in Paragraph 29 item b, requires that as part of the Annual Report the City provide, "A general description of the work performed pursuant to the LTCP and component project time frame schedule for the period covered by the report and whether it conformed to the LTCP and time frame schedule." The Annual Project Progress reports provide summary information regarding this objective in Attachment 4. This section addresses the overall status of the LTCP implementation.

Schedule

The schedule for the overall program considers phasing and future financial planning to achieve the goals of the LTCP. Adaptive Management of the LTCP allows for the implementation of lessons learned and the adjustment of scheduling of the projects in the LTCP, with the concurrence and approval of the NDEQ. The City has communicated and will continue to communicate any potential impacts it may have to the scheduling and completion of projects to the NDEQ.

Table 5-9 provides a summary of the status of the milestones as described in the permit and LTCP Update along with subsequent modifications. Anticipated schedules for specific permits have been reported in the APPRs for each active project and are attached.

As a result of the modifications to the projects in the permit and the LTCP Update, the number of projects dropped from 74 to 61. This included 12 projects in the Minne Lusa Basin and 1 project in the Burt Izard basin which were removed from the LTCP. These projects are listed in Section II. A of this Report.

Figure 5-1 shows the count of projects per the LTCP Update with the June 2017 LTCP modifications reflected. Figure 5-2 shows the general status of completed and in-progress projects relative to their stage of study, design, and construction.

Figure 5-1 LTCP Projects Graph by Remaining and Completed

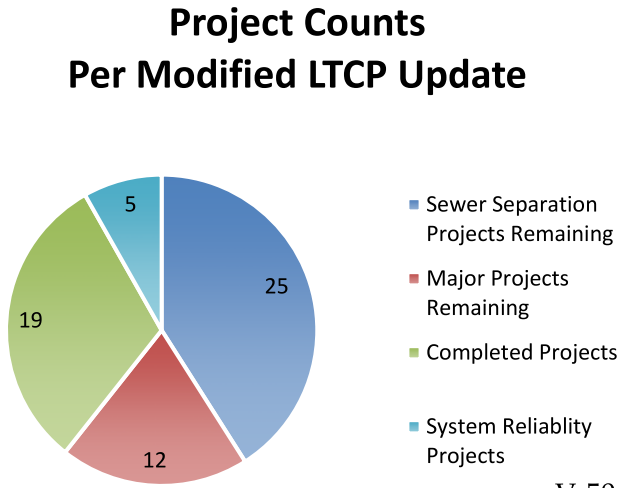
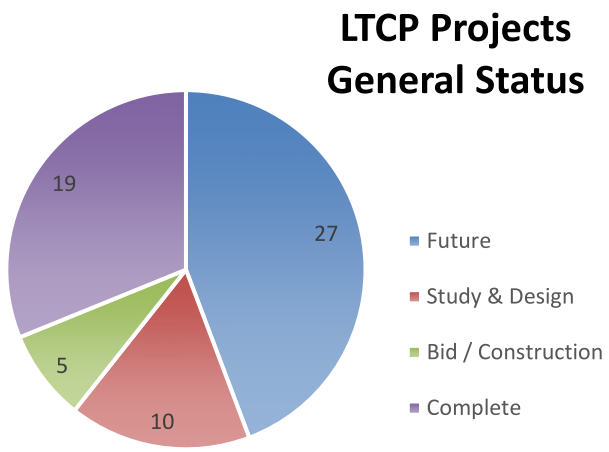


Figure 5-2 LTCP Projects Graph by General Status



There are currently 38 projects listed in the CSO Permit of which 29 are being reported on in this Annual Report. As shown in Figure 5-3, the majority of these projects are active or construction has been completed, of which one was within the last year. Of the active projects only three are delayed. These include:

- Nicholas Street Phase 3 – This project was delayed as the result a re-evaluation of the project as the result of cost increases. A revised approach which still achieves the LTCP goals was developed and will be under final design in 2018. This project will meet the complete construction milestone date for Phase 4 of June 30, 2022.
- Forest Lawn Separation – The construction of this project has been delayed due to the extent of relocations required by Metropolitan Utilities District (M.U.D.) in the area of the project and the duration required to complete these relocations. The City decided to delay the construction start to allow M.U.D. to perform their work. The project will meet the complete construction milestone for Phase 4 of June 30, 2022
- Nicholas & Webster Separation Phase 2 – This project has not yet started and is being re-evaluated to determine if the project is necessary to achieve the LTCP goals. It will likely at a minimum that it will be moved to later in the LTCP project schedule.

At this point in time, only one project is currently on hold, CSO 204 Phase 2. During design of this project, the City determined that an evaluation was needed to develop a less costly approach to achieving the needed objective of the project than was being proposed by the Project Team. A final decision has not been made on the approach. However, since the LTCP schedule for this project does not call for it to go to bid until January 1, 2019 with construction complete by December 31, 2020, this project is not yet late.

Figure 5-3- Summary of Compliance Status

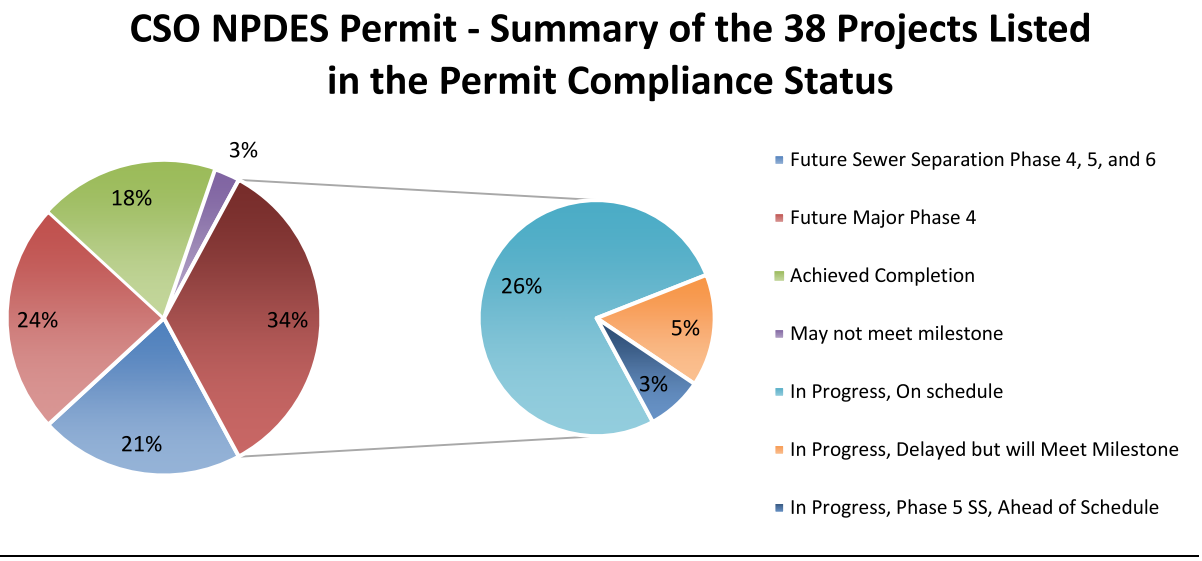


Table 5- 9:Phase Milestones 5 Year Look Ahead

PHASE MILESTONES				
Milestone Name	**Projects**	**Compliance Date**	***Forecast Date***	**Notes**
MAJOR CSO				
South Interceptor Force Main (SIFM) Operational	SIFM	30-Jun-18	*27-Mar-18*	SIFM North Segment
Missouri River Wastewater Treatment Facility Improvements	Missouri River Wastewater Treatment Facility Improvements	31-Dec-19	*08-Jul-19*	MRWWTP Schedule B2
Phase 2 - Complete Construction	Saddle Creek RTB, Aksarben Village, Bohemian Cemetery	31-Dec-23	*03-May-23*	Saddle Creek RTB is the last project to be completed. Final design on the RTB has restarted.
Phase 4 - Begin Final Design	Jones St to Leavenworth Diversion, Deep Tunnel Lift Station, Deep Tunnel and Drop Shafts, Deep Tunnel Girt Basin Facilities, Conveyance to Tunnel Drop Shafts, CSO 119 - Monroe Storage Basin, CSO 118 - Ohern Storage Basin, MRWWTP RTB, Cole Creek Storage Facility;	31-Dec-19		Jones St to Leavenworth Diversion is intended to meet this date (Target date for preliminary design 7/5/2019)
Phase 4 - Start Construction	Jones St to Leavenworth Diversion, Deep Tunnel Lift Station, Deep Tunnel and Drop Shafts, Deep Tunnel Girt Basin Facilities, Conveyance to Tunnel Drop Shafts, CSO 119 - Monroe Storage Basin, CSO 118 - Ohern Storage Basin, MRWWTP RTB, Cole Creek Storage	31-Dec-23		Jones St to Leavenworth Diversion, Deep Tunnel and Drop Shafts, Deep tunnel Lift Station & Force Main,

PHASE MILESTONES				
Milestone Name	**Projects**	**Compliance Date**	***Forecast Date***	**Notes**
	Facility;			Deep Tunnel Grit Basin Facilities, or Monroe Basin Storage Facility are to meet this date.
Phase 4 - Complete Construction	Jones St to Leavenworth Diversion, Deep Tunnel Lift Station, Deep Tunnel and Drop Shafts, Deep Tunnel Girt Basin Facilities, Conveyance to Tunnel Drop Shafts, CSO 119 - Monroe Storage Basin, CSO 118 - Ohern Storage Basin, MRWWTP RTB, Cole Creek Storage Facility;	30-Sep-27		Ohern Basin Storage Facility and MRWWTP RTB are on the critical path
SEWER SEPARATION				
Phase 3, Complete Construction	Nicholas St Phase 2, CSO 204 Phase 1, Gilmore Avenue Phase 1 & 2;	31-Dec-18	*23-Oct-17*	Gilmore Ave Phase 1 & 2 on the critical path.
Phase 4, Complete Construction	Lake James to Fontenelle Park; Forest Lawn Separation, Missouri Avenue Phase 2, Nicholas Phase 3, 42nd & Q; CSO 204 Phase 2; Nicholas & Webster Separation Phase 2;	30-Jun-22		CSO 210 Inflow Reduction on Critical Path, except that Nicholas Webster was to start 8/1/2017 and has not started. If it is significantly delayed could be the critical project.
Phase 5, Begin Bidding	210 Inflow Reduction Project, CSO 204 Phase 3, CSO 202 Phase 1 & 2, CSO 212 Sewer Separation, CSO 210 Sewer Separation, CSO 211 Inflow Reduction	31-Dec-19	*01-Oct-19*	CC 202/203 anticipated to bid first.
Phase 5, Complete Construction	210 Inflow Reduction Project, CSO 204 Phase 3, CSO 202 Phase 1 & 2, CSO 212 Sewer Separation, CSO 210 Sewer Separation, CSO 211 Inflow Reduction	31-Dec-23		CSO 212 Separation and CSO 211 Inflow Reduction on Critical Path
Phase 6, Sewer Separation, Begin Bidding	Pierce St Sewer Separation, South Barrel Conversion A &B, 18th $ Seward	30-Jun-20	*30-Jun-20*	119-5A and 119-5B South Barrel Conversion anticipated to bid first.
Phase 6, Complete Construction	Pierce St Sewer Separation, South Barrel Conversion A &B, 18th $ Seward	31-Dec-23		18th and Seward on Critical Path
Phase 7, Sewer Separation, Begin Bidding	Hickory Street Sewer Separation, CSO 204 Phase 4 &5, Cole Creek Diversions	30-Jun-22		Hickory St Sewer Separation on Critical Path
Phase 7, Complete Construction	Hickory Street Sewer Separation, CSO 204 Phase 4 &5, Cole Creek Diversions	30-Sep-27		Cole Creek Diversions and CSO 204 Phase 5 on Critical Path

Costs

The City has uses various tools to track the costs of the LTCP projects as controlling costs is important to ensure that the program continues to be as affordable as possible for the ratepayers, while maintaining the LTCP schedule. The estimated cost of the program has been escalated using the Capital Infrastructure Plan (CIP) tool. The current cost of the program is $2.06 billion which is currently less than the projected rate model revenue of $ 2.27 billion. However, the rate increases that were assumed when the 2014 to 2018 rate ordinance was finalized, present a burden as noted in Part I. Section E. Cost/Performance Considerations. As noted in Section I. D., the City has undertaken efforts to reduce costs including performing a re-evaluation to reduce the cost of the remaining program by 10 to 20%.

Through September 2017 the City has paid out $ 356 million on the implementation of the LTCP. Also, approximately $925 million will have been spent, which represents nearly half of total Program Budget when all of the project currently under design or construction are complete. It is anticipated at that point we will be over 85% capture in the Papillion Creek Watershed and about 70% wet weather volume capture for the Missouri River Watershed.

Adjustments in schedules and costs of the individual projects within the program are included in Attachments 4 - LTCP Annual Project Progress Reports, and Attachment 5 - Change Notifications Requests.

VI. CSO Outfall 102 and 205 Monitoring Data

The CSO NPDES Permit requires a summary of monitoring data from Outfall CSO 102, located at Missouri River Wastewater Treatment Plant, and Outfall CSO 205, located and 64th and Dupont. Section VII of the report includes Figure 7-1, which shows the locations of the CSO outfalls, along with the in-stream monitoring locations.

A. Missouri River Wastewater Treatment Plant (MRWWTP) – Outfall 102

The Interim Requirements for CSO Outfall 102, as defined in Table 3, Part II of the NPDES Permit, are in effect for this Permit year. The conditions for approved bypass of combined sewer complied with these requirements.

There were 41 overflow events at CSO 102 from October 1, 2016 through September 30, 2017. Results from these events are reported on quarterly discharge monitoring reports. The data for CSO 102 has been summarized in Table 6-1. The value reported for Flow Rate is the average flow rate of all of the events in the reporting period. The value reported for Total Flow is the total of all of the events in the reporting period. The value reported for Duration of Discharge is the total of all of the events in the reporting period. The value reported for Total Suspended Solids is the average concentration of all of the events in the reporting period. The value reported for Biochemical Oxygen Demand is the average concentration of all of the events in the reporting period. The value reported for Dieldrin is less than 0.0001 mg/l, which is the analysis detection limit. The value reported for Polychlorinated Biphenyls is less than 0.001 mg/l, which is the analysis detection limit. The value reported for E. coli is the average count of all of the events in the reporting period. The values reported for pH are the maximum and minimum values of all of the events in the reporting period.

Table 6-1: CSO 102 Monitoring

Parameter	Value		Units
Flow Rate	3.78		MGD
Total Flow	154.82		MG
Duration of Discharge	196.30		Hours
Total Suspended Solids	366		mg/L
Biochemical Oxygen Demand	151		mg/L
Dieldrin	<0.0001		mg/L
Polychlorinated Biphenyls	<0.001		mg/L
E. coli	942,997		# 100 mL
pH 00400	min=6.96	max=7.88	SU

B. 64th and Dupont Retention Treatment Basin - Outfall 205

The CSO NPDES Permit, Part III specifies Interim Requirements for the Monitoring of CSO Outfall 205. This requirement was originally drafted in the permit to be effective on October 1, 2020. During a Permit modification, effective June 2016, this was changed to January 1, 2024. Additional information found in Section V for flow monitoring update; Section VI for LTCP project status and compliance schedule; Section VIII for CSO Occurrences during wet weather.

VII. In-Stream Monitoring Data

The current NPDES Permit requires a summary of instream monitoring data consistent with the Implementation Monitoring Plan objectives to include monitoring station identification, stream identification, the list of parameters along with the monitoring results.

It is important to note that although In-Stream Monitoring was included as part of the *Draft-Implementation Monitoring Plan, March 2010*, it also states in the plan "Although not legally required by state or federal regulations, the City has included in-stream water quality monitoring as part of the water quality monitoring plan. An in-stream water quality monitoring network within portions of the Papillion Creek, its tributaries, and the Missouri River will provide water quality data that benefits both the CSO Program and the Stormwater Program." A permit modification was accepted by the NDEQ with regard to the City's MS4 NPDES Permit, April 5, 2016 that modified the Program Elements of the Storm Water Monitoring Plan. With that, the in-stream monitoring was removed from the plan, and alternate elements approved.

A summary of in-stream monitoring data is reported below in this annual report. Figure 7-1 is a map showing the locations of the in-stream monitoring sites. A summary of the data is provided in the following two sections: City In-Stream Monitoring and USGS Sampling and Analysis.

A. City In-Stream Monitoring

The in-stream monitoring for this reporting year was performed by the City of Omaha Quality Control Division and the Sewer Maintenance Division. The objectives of the monitoring were two-fold: to meet requirements of CSO NPDES Permit and City's Municipal Separate Storm Sewer System (MS4) NPDES Permit. However, the MS4 Permit submitted a modification request in March of 2016, and was approved by NDEQ in April 2016 that eliminated an element of the Stormwater Monitoring Plan that included the in-stream monitoring.

Although Sites PC1, LPC1, BPC4, were eliminated in the new MS4 permit, they were sampled this year. The CSO Program in-stream monitoring sites: MR 1, MR2, MR5, CC1, CC2, LPC3, BPC3, PC1, LPC1, and BPC4 were collected by Sewer Maintenance Division staff and analyzed through Midwest Laboratories Inc. in accordance with the Implementation Monitoring Plan. As stated in this plan, the frequency of sampling is as follows:

> "… The in-stream monitoring will be performed during the spring (March 1 to May 31), summer (June 1 to August 31) and fall (September 1 to November 30) seasons. The frequency of monitoring will be twice per season, one of which will be during wet weather."

The results for the wet weather and dry weather sampling are summarized in Table 7-1. Note that any results known at the time of writing this report will be reported regardless of the CSO Annual Report period ending on September 30, 2017. The Missouri River Sites were also sampled by USGS during this report period and is described in more detail in the next section.

Figure 7-1: In-Stream and CSO Monitoring

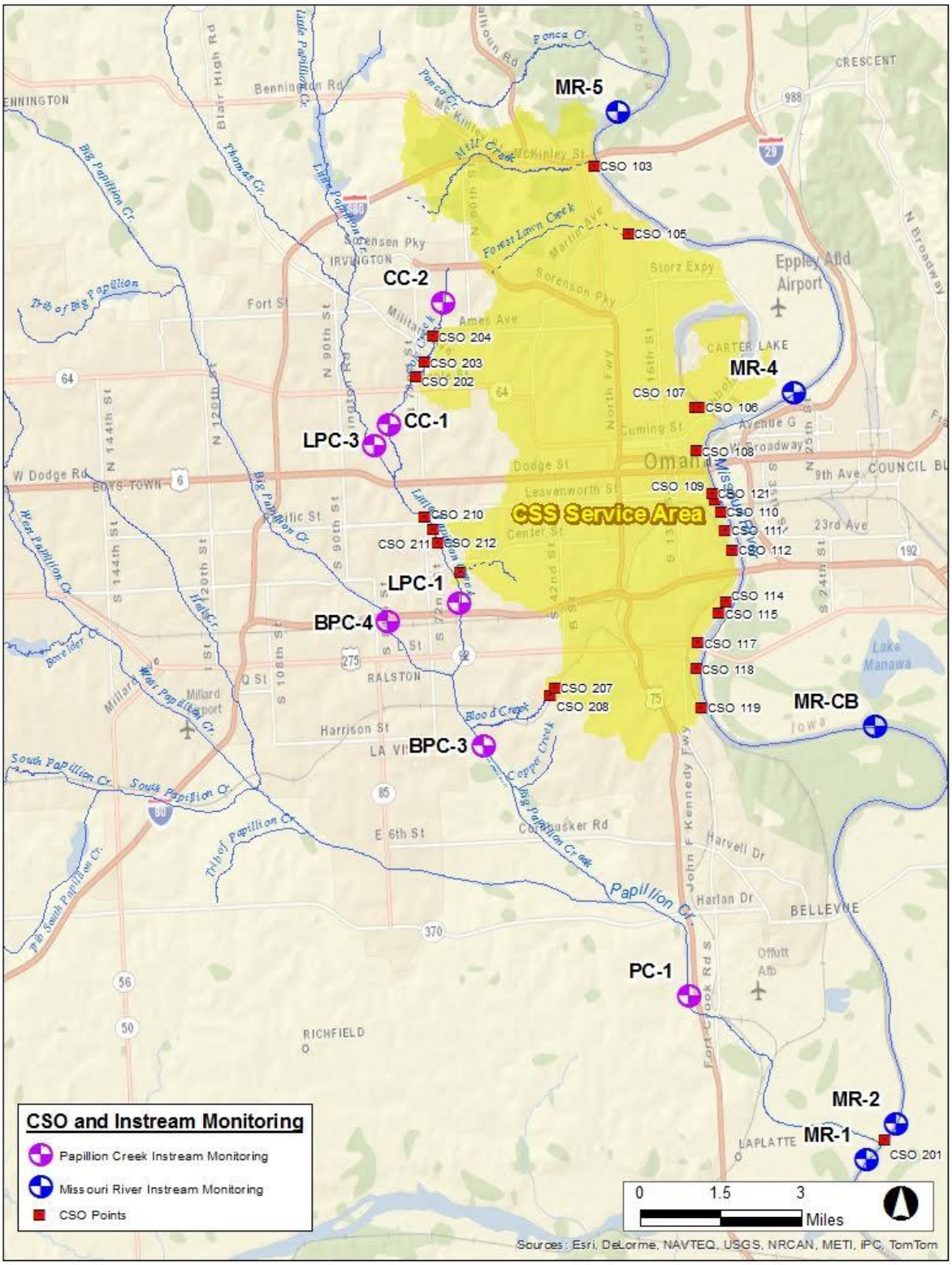


Table 7-1: 2017 In-Stream Monitoring Results

2017 SEASON 1 - DRY - MARCH 1ST TO MAY 31ST										
PARAMETER/SITE	MR - 5	CC - 2	LPC - 3	CC - 1	BPC - 3	MR - 2	MR - 1	LPC-1	BPC-4	PC-1
DATE	4/17/2017	4/17/2017	4/17/2017	4/17/2017	4/17/2017	4/17/2017	4/17/2017	4/17/2017	4/17/2017	4/17/2017
FIELD TEMP, C°	17.80	21.30	20.60	21.00	19.70	16.60	17.20	19.90	18.80	20.00
FIELD CONDUCTIVITY (mMHO/cm)	646.00	922.00	477.00	699.00	554.00	583.00	599.00	559.00	505.00	547.00
FIELD pH	8.87	7.72	8.22	7.82	8.45	8.61	8.29	8.38	8.41	8.10
FIELD DO (%)	104	141	119	102	101	95	89	120	93	75
FIELD DO (mg/L)	9.86	12.44	10.65	9.06	9.24	9.21	8.53	10.88	8.66	6.80
BOD (mg/L)	4	4	3	2	2	3	5	2	2	3
TSS (mg/L)	77	5	17	7	76	95	81	22	95	35
Total Coliforms (MPN/100ml)	980	2000	3450	2000	10000	1000	866400	54800	7500	11000
E. coli (Cfu/100ml)	20	60	30	20	130	470	20000	630	460	150
2017 SEASON 1 - WET - MARCH 1ST TO MAY 31ST										
PARAMETER/SITE	MR - 5	CC - 2	LPC - 3	CC - 1	BPC - 3	MR - 2	MR - 1	LPC-1	BPC-4	PC-1
DATE	4/18/2017	4/18/2017	4/18/2017	4/18/2017	4/18/2017	4/18/2017	4/18/2017	4/18/2017	4/18/2017	4/18/2017
FIELD TEMP, C°	14.60	15.80	16.20	16.80	15.80	15.20	15.50	15.40	15.40	15.70
FIELD CONDUCTIVITY (mMHO/cm)	896.00	398.00	595.00	415.00	432.00	694.00	684.00	341.00	448.00	628.00
FIELD pH	8.16	7.61	8.36	8.15	8.11	8.57	8.55	8.10	8.09	8.21
FIELD DO (%)	115	96	97	99	91	92	91	84	92	87
FIELD DO (mg/L)	11.70	9.51	9.51	9.61	9.05	9.20	9.02	8.39	9.18	8.61
BOD (mg/L)	2	8	8	25	28	4	4	5	14	22
TSS (mg/L)	70	70	147	234	1020	55	58	313	516	438
Total Coliforms (MPN/100ml)	410	139600	81640	275500	2035000	8600	488400	61700	161000	1119000
E. coli (Cfu/100ml)	70	1840	3200	1670	69000	560	22000	1250	6000	43000
2017 SEASON 2 - DRY - JUNE 1ST TO AUGUST 31ST										
PARAMETER/SITE	MR - 5	CC - 2	LPC - 3	CC - 1	BPC - 3	MR - 2	MR - 1	LPC-1	BPC-4	PC-1
DATE	7/31/2017	7/31/2017	7/31/2017	7/31/2017	7/31/2017	7/31/2017	7/31/2017	7/31/2017	7/31/2017	7/31/2017
FIELD TEMP, C°	25.70	20.40	23.00	22.00	24.80	27.30	26.90	25.00	25.00	25.80
FIELD CONDUCTIVITY (mMHO/cm)	742.00	970.00	551.00	627.00	547.00	665.00	666.00	621.00	525.00	549.00
FIELD pH	8.62	7.85	8.37	8.24	8.48	8.65	8.50	8.27	7.39	8.10
FIELD DO (%)	91	72	81	75	92	90	93	86	92	103
FIELD DO (mg/L)	7.72	6.26	6.94	6.43	7.24	7.26	7.53	7.10	7.54	8.35
BOD (mg/L)	2	<2	2	<2	<2	3	6	<2	3	3
TSS (mg/L)	46	10	56	11	116	46	56	18	115	54
Total Coliforms (MPN/100ml)	>2419.6	>2419.6	>2419.6	>2419.6	>2419.6	>2419.6	>2419.6	>2419.6	>2419.6	>2419.6
E. coli (Cfu/100ml)	16	1900	5700	400	1900	46	120	1200	3500	500
2017 SEASON 2 - WET - JUNE 1ST TO AUGUST 31ST										
PARAMETER/SITE	MR - 5	CC - 2	LPC - 3	CC - 1	BPC - 3	MR - 2	MR - 1	LPC-1	BPC-4	PC-1
DATE	8/25/2017	8/25/2017	8/25/2017	8/25/2017	8/25/2017	8/25/2017	8/25/2017	8/25/2017	8/25/2017	8/25/2017
FIELD TEMP, C°	22.60	20.30	19.60	19.00	20.80	21.00	21.80	20.40	19.70	19.30
FIELD CONDUCTIVITY (mMHO/cm)	829.00	313.00	365.00	418.00	371.00	669.00	636.00	537.00	470.00	512.00
FIELD pH	8.15	7.51	8.06	7.73	8.05	8.29	8.38	8.02	8.46	8.51
FIELD DO (%)	93	107	102	93	102	89	90	79	91	92
FIELD DO (mg/L)	8.00	9.66	9.33	8.61	9.15	7.92	7.90	7.12	8.22	8.33
BOD (mg/L)	<2	4	6	9	11	<2	3	3	5	3
TSS (mg/L)	91	44	208	11	1190	84	77	31	332	186
Total Coliforms (MPN/100ml)	9208	7000	242000	387300	650000	24890	24100	35500	248900	86000
E. coli (Cfu/100ml)	164	816400	5700	15900	33000	500	300	1270	6000	2400
2017 SEASON 3 - DRY - SEPTEMBER 1ST TO NOVEMBER 30TH										
PARAMETER/SITE	MR - 5	CC - 2	LPC - 3	CC - 1	BPC - 3	MR - 2	MR - 1	LPC-1	BPC-4	PC-1
DATE	9/12/2017	9/12/2017	9/12/2017	9/12/2017	9/12/2017	9/12/2017	9/12/2017	9/12/2017	9/12/2017	9/12/2017
FIELD TEMP, C°	20.30	17.90	20.50	19.00	20.50	22.80	22.80	19.70	20.40	20.90
FIELD CONDUCTIVITY (mMHO/cm)	669.00	811.00	578.00	729.00	581.00	631.00	639.00	643.00	556.00	599.00
FIELD pH	8.34	7.83	8.25	8.09	8.41	8.57	8.34	8.02	8.52	8.52
FIELD DO (%)	95	100	105	100	94	107	105	112	97	111
FIELD DO (mg/L)	8.55	9.50	9.43	9.25	8.49	9.17	8.98	10.20	8.41	9.12
BOD (mg/L)	2	<2	<2	<2	<2	2	3	3	<2	<2
TSS (mg/L)	45	10	4	5	31	45	43	<4	29	5
Total Coliforms (MPN/100ml)	10630	112000	27550	25950	36400	7630	13400	12100	25950	10460
E. coli (Cfu/100ml)	44	3300	236	600	190	20	<100	330	430	60
2017 SEASON 3 - WET - SEPTEMBER 1ST TO NOVEMBER 30TH										
PARAMETER/SITE	MR - 5	CC - 2	LPC - 3	CC - 1	BPC - 3	MR - 2	MR - 1	LPC-1	BPC-4	PC-1
DATE	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017
FIELD TEMP, C°	17.80	18.30	18.00	17.30	16.90	17.50	17.80	17.20	16.60	16.50
FIELD CONDUCTIVITY (mMHO/cm)	798.00	318.00	350.00	320.00	400.00	817.00	622.00	728.00	519.00	638.00
FIELD pH	7.95	7.60	8.41	7.85	8.38	8.34	7.81	8.10	8.51	8.51
FIELD DO (%)	91	83	77	95	91	98	96	119	131	128
FIELD DO (mg/L)	8.60	7.77	7.27	9.15	8.81	9.34	9.12	11.40	12.70	12.48
BOD (mg/L)	<2	4	6	9	8	<2	3	7	4	<2
TSS (mg/L)	57	80	312	312	688	46	60	120	360	162
Total Coliforms (MPN/100ml)	1076	5200	9340	19900	30000	1220	22300	4100	24600	41000
E. coli (Cfu/100ml)	576	2200	2700	7300	12100	600	1000	2400	10200	9200

B. USGS Sampling and Analysis

In July 2012, the City of Omaha requested the U.S. Geological Survey (USGS) Nebraska Water Science Center to implement a Missouri River water-quality monitoring program at selected points on the Missouri River near the Omaha metropolitan area. The agreement with the USGS was extended through to 2020, and it is anticipated that continuation of this program will be

necessary in the future. The City has requested the USGS complete a data analysis for the E.coli parameter for the samples collected to date. This program is consistent with the Implementation Monitoring Plan. The scope for the USGS work includes the following key components:

1. Provide continuous stage and discharge records for the Missouri River at locations important to the pursuit of understanding the water quality in the river.
2. Provide monthly discrete water-quality sampling of selected compounds at locations important to the pursuit of understanding on water quality in the river.
3. Provide continuous monitoring of selected water-quality parameters at locations important to the pursuit of understanding the water quality in the river.

These scope items are further described in the following paragraphs.

1. Provide continuous stage and discharge records for the Missouri River at locations important to the pursuit of understanding the water quality in the river. Continuous stage discharge is provided by the USGS for the Omaha area at the I-480 Bridge gauging station. Data from location at the I-480 bridge can be found at: http://waterdata.usgs.gov/nwis/uv?site_no=06610000

2. Provide monthly discrete water-quality sampling of selected compounds at locations important to the pursuit of understanding on water quality in the river. The four discrete sampling locations are:

MR-5	USGS Site Number: 412126095565201	Missouri River at NP Dodge Park (above the City)
MR-4	USGS Site Number: 411636095535401	Missouri River at Freedom Park (below the Airport)
MR-CB	USGS Site Number: 06610505	Missouri River near Council Bluffs, IA (below MRWWTP and above the confluence with Papillion Creek , North/East side of the river)
MR-1	USGS Site Number: 410333095530101	Missouri River near La Platte (downstream of the PCWWTP and below the confluence with Papillion Creek but above the Platte River)

Field parameters monitored at these locations include stream discharge, pH, temperature, dissolved oxygen, specific conductance, turbidity, E. coli and total coliforms, TSS, total phosphorous, BOD 5-day, TKN, nitrogen, nitrate, ammonia nitrogen, and floating debris.

The USGS indicates whether there were wet conditions in Omaha or upstream during the sampling event. With the exception of E. coli and total coliforms, samples are a composite of the cross section of the stream. Discrete sampling data was collected by

USGS staff and was analyzed through Midwest Laboratories, Inc. and USGS Labs. Samples were collected from a boat, and are based on depth-integrated sampling procedures used by the USGS to obtain samples that represent a composite of the cross section of the Missouri River at the sampling location. In addition to monthly sampling, The City may request specific studies from the USGS as needed. An example is that the USGS is currently collecting samples from the bank that correspond to the four site locations where they are collecting discrete river samples, to see if a relationship can be developed between the bank cross sectional stream samples. Starting in 2015, the City asked the USGS to collect two additional discrete samples during the recreational season targeting wet weather events. The City also asked to USGS to code the samples to identify if weather conditions immediately prior or during sampling were dry upstream, wet upstream, dry locally, and/or wet locally. Discrete sampling locations as described above are shown on Figure 7-1.

3. Provide continuous monitoring of selected water-quality parameters at locations important to the pursuit of understanding the water quality in the river. USGS obtains continuous data for the Missouri River at the following sites for pH, temperature, dissolved oxygen, specific conductance, and turbidity. All data is provided to the City directly as well as published on the USGS website for the sampling site.

   Data for MR-5 may be found at:
   http://waterdata.usgs.gov/ne/nwis/uv/?site_no=412126095565201

   Data for MR-CB can be found at:
   http://waterdata.usgs.gov/ne/nwis/uv/?site_no=06610505

   Data for MR-1 can be found at:
   http://waterdata.usgs.gov/ne/nwis/uv/?site_no=410333095530101

Refer Figure 7-1 at the beginning of Section VII for the Missouri River continuous monitoring locations. Results from this effort will provide the City of Omaha with information to support long-term planning goals and regulatory compliance. The data from this study could be used to study temporal trends and evaluate water-quality variations during different discharge conditions. This study reinforces the goals of the USGS science direction by providing citizens, communities, natural-resources managers, and policymakers with clearer knowledge of the status of the Missouri River, an increased capacity to discover trends over time, and an improved ability to make decisions about future strategies and policies.

VIII. Performance Report

As stated in the CSO permit, Part VIII, Section E, the performance report consists of A) reporting the number of times each CSO outfall has an overflow and an evaluation as to whether the controls are achieving their design intent; B) documentation needs to be provided that demonstrates that each CSO overflow occurrence was the result of a wet weather event; C) once in the term of the permit, provide the percent by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis that is eliminated or captured for treatment.

A. CSO Occurrence Inspections

Per *Combined Sewer Overflow Guidance for Nine Minimum Controls* (EPA, 1995), "The municipality should record the number of CSO overflows at as many outfalls as feasible." The City of Omaha maintains records of CSO overflow events at a majority of the outfalls in the system. Due to access or safety considerations, the outfalls are not monitored at the discharge point to the receiving stream, but rather in an upstream diversion structure. The City maintains a block program also commonly referred to as CSO device checks. Under this program a "block" or device placed as a simple physical indicator that an overflow has occurred. A typical arrangement would be the placement of the indicator on the top of a weir wall in a CSO diversion structure. The occurrence of an overflow is indicated when the device is moved off of the weir wall in the downstream direction.

City procedure is to inspect these designated CSO structures and devices after rain or snow melt events and make a record of the inspection in the bypass tracking database if there is evidence of an overflow. City procedures were revised to meet requirements of the new permit starting 10/01/2015. City personnel are dispatched within 24 hours of wet weather occurrences, including weekends and holidays, to meet current permit requirements. The inspections are performed and documented by the Sewer Maintenance Division with assistance from the Levee Group. Routine preventative maintenance checks at the lift stations and control gates also allows for a check for occurrence of CSOs. The wastewater treatment plants are responsible for recording the number of occurrences for CSO 102 and 201. With the exception of CSO 102, all of the visual observations are logged into a single database maintained at Sewer Maintenance Division.

During the report period City staff logged 2025 total inspections, with 1519 being post rain and snowmelt checks, and the remainder being pay-day checks or every 2 weeks for potential dry weather occurrences. There were a total of 506 routine inspections recorded for 23 of the CSO points that the City is able to check. Dry weather CSOs are reported in Section III.E.

The old Leavenworth lift station was taken offline sooner than expected due to mechanical failures and flows were diverted to the new Leavenworth lift station June 28, 2017. The flow was diverted past the old diversion structure for CSO 109 and crews were unable to verify bypasses using the block system. The levee crew was unable to send out bypass notifications due to the old lift station being decommissioned. This created a revision in Standard Operating Procedure for CSO Station Checks. Sewer Maintenance staff, Levee Group, and Plant Operations worked together to revise the procedures to make sure all wet –weather CSOs are

documented and continue monitoring for dry weather issues. Below is a summary of the revised procedure:

> The new Leavenworth Lift Station is able to determine if a bypass occurred by level sensors installed in the new diversion structure. Automatic notifications began September 2017 and submit to Sewer Maintenance CSO group, who records daily rain events in the tracking database. Prior to the notifications, for June 29 to September 16, Plant operations staff reviewed the level data at the Diversion structure and provided a list of wet weather overflows to include in this report. They also verified no dry weather overflows were indicated by the level data.
>
> As reported by MRWWTP Superintendent:
>
> - 6/29/2017 9:51 pm - 6/30/2017 12:35 am
> - 6/30/2017 8:44 pm - 10:05 pm
> - 7/2/2017 10:05 am - 3:03 pm
> - 7/3/2017 6:02 pm - 7:10 pm
> - 7/4/2017 2:43 pm - 6:50 pm
> - 7/12/2017 1:13 am - 2:19 am
> - 7/13/2017 4:05 am - 6:06 am
> - 7/18/2017 No Overflow
> - 7/26/2017 6:23 am - 7:52 am
> - 7/26/2017 9:51 am - 10:30 am
> - 7/26/2017 2:43 pm - 3:35 pm
> - 8/5/2017 No Overflow
> - 8/10/2017 4:41 pm - 5:16 pm
> - 8/15/2017 9:20 am - 10:12 am
> - 8/15/2017 11:24 pm - 8/16/2017 9:45 am
> - 8/20/2017 1:27 am - 4:12 am
> - 8/21/2017 9:33 pm - 8/22/2017 6:36 am
> - 8/25/2017 6:21 am - 8:51 am
> - 9/16/2017 3:57 am - 5:54 am
> - 9/16/2017 10:06 pm - 11:00 pm
> - 9/18/2017
> - 9/24/2017 3:04 pm - 3:55 pm
> - 9/25/2017 1:30 am - 6:55 am
> - 9/25/2017 11:45 am - 12:18 pm
> - 9/25/2017 9:12 pm - 9:30 pm
> - 9/25/2017 10:41 pm - 9/26/2017 12:17 am

The dates marked 'No Overflow' are wet weather dates that were confirmed by the Superintendent that levels that did not indicate an overflow occurred. Both dates were less than 0.1 inch of rainfall. With the level data being more precise than the manual post rain checks it is apparent that several discharge events could occur over the course of a day. If a discharge occurs multiple times in a 24-hour period, it is only counted as one.

Table 8-1 shows the counts of wet weather CSOs as confirmed by the CSO visual checks procedure, or meter data. There were 8 visual inspections performed where multi-day rain or snowmelt events were only counted once in the tracking database. Of the multi-day events, two were over 2 tenths of an inch, and likely caused a separate CSO occurrence that would be unconfirmed and not accounted for in the tracking performed.

Table 8- 1: Wet Weather CSO Occurrences

CSO Outfall	CSO Frequency	Water Quality Sample Required*
102	41	Yes
103	0	
105	49	
106	42	
107	37	
108	53	
109	46	
110	35	
111	32	
112	47	
114	34	
115	41	
117	55	
118	50	
119	***	
121	36	
201	1	
202	40	
203	47	
204	52	
205	57	Not required until 2024
207	50	
208	32	
210	48	
211	15	
212	30	

* As required by CSO NPDES Permit
***CSO 119 was not monitored for CSO frequency due to unsafe conditions

B. Evaluation of Completed Controls

The CSO NPDES Permit requires reporting annually as to whether the controls are achieving their design intent. When CSO Controls are completed as identified in the LTCP the City monitors the effectiveness of that control.

CSO 102; 119 -The South Omaha Industrial Area Sewer Separation (SOIASS), the South Omaha Industrial Area Lift Station (SOIALS), and the South Omaha Industrial Area Force Main and Gravity Sewer (SOIAFMGS) projects have been completed. The objective of these projects was

to eliminate the overflow of high strength waste streams occurring during wet weather periods less than or equal to the 10-year design storm to the City's combined sewer system.

Currently, six (6) industrial facilities deliver high strength flows via the Packinghouse Expressway (PEX) sewer to the SOIALS where they are pumped to industrial primary treatment facilities at the Missouri River Wastewater Treatment Plant (MRWWTP).

Since start up began in March of 2014, the new systems have been subjected to numerous wet weather events from the period of April through September 2014. During that time, a total of 47 storm events occurred greater than 0.5 inch. Three (3) of those events resulted in flows that exceeded the design flow of 17.4 MGD upstream of the lift station. The City is facilitating a project to investigate for sources of excessive stormwater inflow from the upstream system including cattle cleaning operations, inlets, and sewer cross-connections to the PEX.

During the report year, the City has continued to perform flow monitoring to isolate additional areas that may be high contributors of heavy inflow and infiltration. Mapping of the contributing system is continuously being updated as new field findings show change. Several sources of inflow have been addressed during this report period such as: 1) an intentionally opened manhole cover to facilitate drainage in private property; 2) a cross connection with a defective pipe plug; 3) a cross connection from 30 inch storm into 8 inch sanitary. A fourth substantial area drain connection to the PEX system required engineering design and construction planned for 2018. A smoke testing project is currently being scoped to evaluate any remaining suspect areas established during flow monitoring.

CSO 211 – 69th & Pierce. The only project identified to Control this CSO was completed in 2013. However, a few inlets are still connected and are planned to be included in Sewer Separation Project for CSO 212, part of Phase 5 and not scheduled to begin until 2022 according to LTCP. A weir was built in the 30"outfall pipe in fall of 2015 and is monitored to evaluate effectiveness of current completed sewer separation. In the report year, the CSO overflowed fifteen (15) times compared to 27 times in the 10/1/2012-9/30/2013 timeframe. Comparing ratio of overflows to rain events over 0.1 inch can demonstrate an improvement. For every 3 rain events 1 might result in an overflow where previously it was almost a 1 to 1 ratio. City will continue to monitor this CSO.

CSO 103 – Bridge Street Lift Station. The 36th Street and McKinley sewer separation project was completed November 2014. A small isolated sanitary system evaluation survey completed this report year found potential storm inlets connected. This will be presented to CSO Program Management Team once the final report is reviewed and accepted by Sewer Maintenance Division. A potential Lift Station upgrade or replacement has been under consideration for a future project. The objective of the LTCP is to deactivate this CSO outfall pending verification and additional monitoring. This CSO discharged zero (0) times during the report period, which previously averaged about 11 overflows per year. The rainfall during the report year was about 25 inches based on Eppley Airport rain gauge totals. When compared against average annual rainfall of 31 inches, this was a lighter than average rainfall year. The City will continue to monitor this site needed to support goals of the CSO Program.

C. Wet Weather CSO Occurrences

The CSO NPDES Permit requires that documentation is provided in the Annual Report that demonstrates that each CSO overflow occurrence was the result of a wet weather event. CSO

discharges that occurred during dry weather are reported in section III. D. *Prohibition of CSOs during Dry Weather.*

Documentation is provided in Attachment 9 - CSO Inspection Report. The report demonstrates that each CSO overflow occurrence was the result of a wet weather event. The rainfall during the report year was about 25 inches based on Eppley Airport rain gauge totals. When compared against average annual rainfall of 31 inches, this was a lighter than average rainfall year. The highest peak intensity storm was on June 16th at 1 inch in 15 minutes, or approximately a 5-year recurrence interval.

This report identifies the CSO outfall inspected, the date and time, and by who completed the inspection. It provides the reason for the overflow, whether an overflow occurred and if it was still occurring. Comments and the rainfall amount are noted. The depth of flow at CSO 205 is also recorded as per City procedure.

City reviews available rain data during the year and compares to the results of the inspections. Missouri River Wastewater Treatment Plant is responsible for recording and reporting wet weather discharges from CSO 102. There were 41 overflows at CSO 102. The City uses this accounting as an additional check for the other CSOs. If there is another CSO with a greater frequency, than at CSO 102, City staff will take a closer look at the data and perform quality assurances queries to confirm it occurred during a wet weather event.

Part of procedure is to check against Eppley Airport rain data, which registered 145 days with precipitation, this includes days with only trace amounts. Of that, 60 of the recorded rain events were 0.09 inches or greater. This count closely matches with the highest frequency of CSO occurrences, being 57.

Due to the spatial variation of rain, the number of occurrences and amount of rain recorded at Eppley is only used as a starting point of reference. On dates where only trace amounts are recorded by Eppley, a comparison to our City maintained rain gauges in the CSS area is performed and corrections are made to the tracking database to more accurately represent rainfall totals.

D. Percent by Volume Captured

The CSO NPDES Permit requires that once in the term of the permit, provide the percent by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis that is eliminated or captured for treatment. The percent by volume eliminated or captured will be determined in a future Annual report. This modeling and analysis was not completed during this permit term. It is anticipated that it will be completed for submission in the 2019 Annual Report.

IX. Other Information

The CSO NPDES Permit, Part VII.F suggests that the City could include other information on "measures of success" for the Program such as reduction in the number of overflow events, reduction in the number of CSO outfalls, or other indicators or improvements of receiving water quality.

This year's report includes information on the continued coordination efforts with the EPA, updated information on the Missouri River Flood of 2011 and its effects on the CSS, as well, the City of Omaha's RNC program. At the request of the NDEQ Waste Management Division, a section is included for Materials Management within the CSO Program projects..

A. MRWWTP Bank Stabilization Project

The City of Omaha (City) was confronted with record flooding on the Missouri River in the spring, summer, and fall of 2011. Significant quantities of sediments (in excess of 5 feet in some areas) were deposited on areas of the river bank during the course of the flood. In the spring of 2013, rotational failure and bank sloughing of a significant portion of river bank was observed, in an area adjacent to planned treatment facility improvements.

The City awarded a construction contract in early 2016 to stabilize the bank using the dry mix method, and construction began shortly thereafter. The soil stabilization was accomplished by mixing the existing soil with powder cement to create columns of soil having a strength of 100 psi or greater. The moisture in the soil was adequate so that it was not necessary to mix the powder cement into a slurry. The columns were mixed down to a depth to connect to a more stable material layer which was between 50 and 65 feet below the ground surface. The columns were placed in 20 foot long shear walls that ran perpendicular to the Missouri River. The walls were place roughly 6 feet apart.

Significant buried rubble and obstructions were encountered early in construction. The City, Construction Manager, Design Team, Construction Contractor and Subcontractor worked together to identify a pre-drilling technique, to allow construction of stabilized elements to proceed in areas with buried obstructions. The predrilling operation employed two drill rigs with three twelve hour shifts per day to minimize the impacts to the construction schedule.

The contractor mixed over 2000 columns to complete the work using over 8,000,000 pounds of cement. The specifications required the contractor to obtain core samples and subject them to unconfined compressive strength tests. A total of 69 full depth cores of the completed columns were taken and the verification tests met the specified requirements. The soil mixing and site restoration was substantial complete on April 17, 2017. Final completion was achieved on June 22, 2017.

B. EPA Coordination Efforts

The City of Omaha continued its partnerships with the EPA Office of Research and Development office in Cincinnati, OH (EPA ORD) and various officials from EPA Region 7. The construction of the demonstration facility at the City Of Omaha Sewer Maintenance Facility was completed in 2014. The facility is designed to capture and treat stormwater before it enters the Little Papillion Creek, and includes both pervious pavers and bio-retention. Equipment is installed to help understand the effectiveness of this facility. The monitoring was funded

through September 2017 by the EPA, and was being executed for the City by the USGS. The City is currently considering continuing to fund the monitoring efforts.

C. Reduction in the Number of Overflow Events

As CSO LTCP projects are implemented, the number of overflow events will reduce. To date in the program, the City has performed work to eliminate the occurrence of CSO at three permitted outfalls: CSO 209, CSO 104, and CSO 113. Of the remaining 26 outfalls, the level of reduction in the number of overflow events will vary due to:

- the type of control that is being established for a given CSO point through the implementation of the LTCP;
- the point in time when the control of a CSO point will be fully implemented as a part of the LTCP; and
- the unpredictability and varied nature of wet weather that impacts the magnitude, volume, and duration of the overflows at a given CSO point.

Two CSO outfalls have had projects completed and have shown a reduction in number of CSO occurrences. Evaluation of overflows at CSO 211, 66th and Pacific has shown a great reduction by 50%-75% in the last 2 years of tracking data. CSO 103, Bridge Street has reduced the frequency of overflows by more than 70% and had zero overflows this year. Much of the basin was cleaned per the 5 year cleaning cycle. This along with lighter rains may be the reason for zero overflows. City will continue to monitor for any further need of inflow and infiltration reduction. Additional detail on these 2 CSO points in Section VIII. Performance Report.

The monitoring of the overflows will help the city track the progress of and understand the success of the CSO LTCP and its projects as they are being implemented. As more projects come on line, a system to report the compliance monitoring associated with the CSO program will be developed in cooperation with the NDEQ.

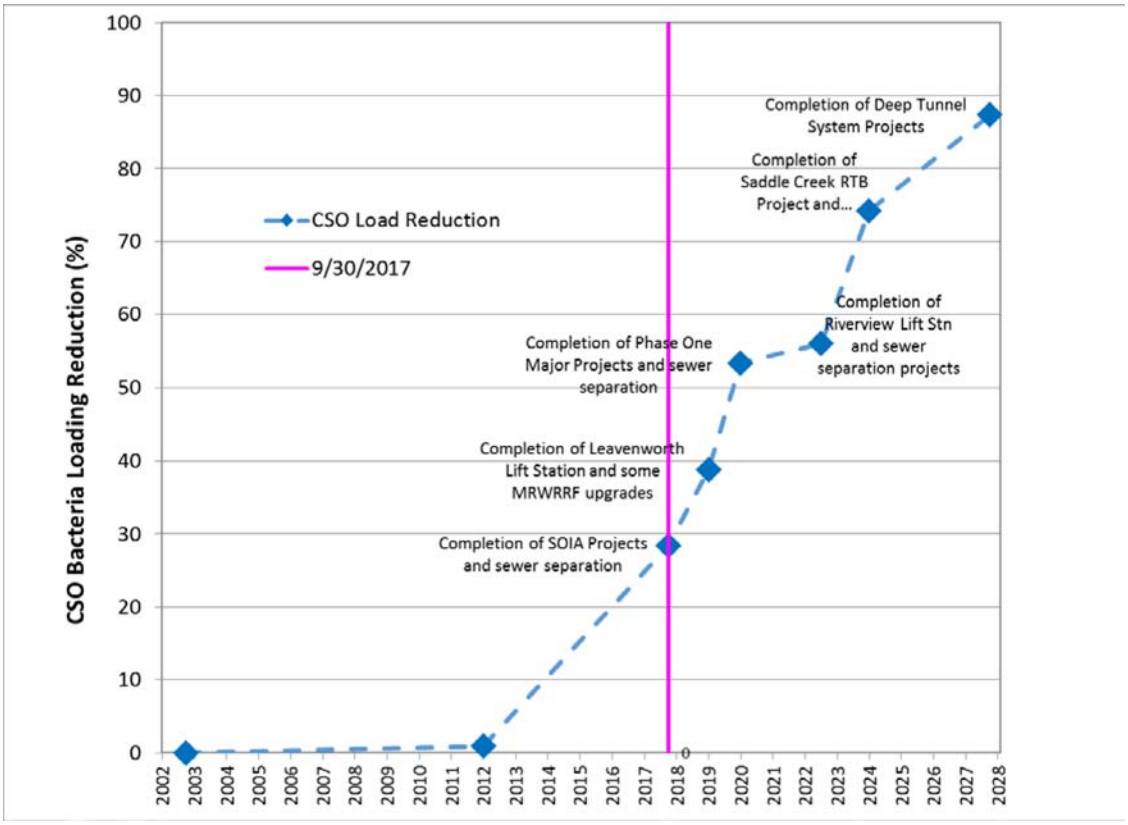
D. Reduction in the Number of CSO Outfalls

During this report year there has been no reduction of CSO outfalls. Any outfalls being evaluated for future deactivation are in section VIII B. *Evaluation of Completed Controls.*

E. Receiving Water Quality

Figure 9-1 shows the expected reduction in *E. coli* resulting from the implementation of the LTCP, based on the 2014 LTCP Update. A significant reduction in *E. coli* load to the Missouri River occurred with the implementation of the SOIA Lift Station. Another major reduction will occur when the South Interceptor Force Main and Missouri River Wastewater Treatment Plant projects currently under construction are completed.

Figure 9- 1: E. coli Reduction over LTCP implementation



F. City of Omaha RNC Program

The City continues a program, referred to as the RNC (renovation of combined sewers) Program. The original goals of this program included sewer separation and rehabilitation to address a large occurrence of basement backups due to combination flows and inadequate capacity. Many of the projects resulted in localized separation that reentered the combined system further downstream. Several RNC project were reevaluated during the Long Term Control Plan basin studies and determined if they should be included in the plan.

This program is managed separately from the CSO Program; however crossover of procedures, plans, standards, and guidance documents occurs between the two programs. These projects are also closely coordinated with the CSO Program Projects. These projects often complement the LTCP Sewer Separation Projects. Although the intent is not to achieve a reduction in the impacts of the CSS at the CSO outfalls, the projects are designed in a manner to ensure that they do not result in negative impacts downstream. If possible, they are designed in a manner that will help achieve the goals of the CSO program, including reduction in frequency, magnitude, and duration of overflows, and ultimately the improvement of water quality.

During this report year, a closer look at the last 7 years of backup data, and the success of many of the projects, has led to a new focus with this program. The 49th & Caldwell Area Sewer Separation was completed January 2017 and the 18th and Fort Street continued design in 2017. This latter project is the only area in the City that experience wet-weather backups in the combined sewer service area during the report year. These last 2 projects align with the program goals of localized relief from sewer backups into basements by separating smaller neighborhoods in the combined sewer systems.

This program was utilized during the report year to focus on large diameter sewer pipeline condition assessment in the combined sewer area. Long term goals for this program are under evaluation, however City will continue to look for opportunities to support controlling combined sewer system impacts. The pipeline inspection has resulted in cleaning efforts and currently supports the nine minimum controls of proper O&M and maximizing the use of the collection system for storage.

G. Material Management

During the 2017 reporting year, waste material including building demolition materials, concrete and soil were taken to landfills in the area from construction of capital projects associated with the CSO Program. The City will monitor and track contaminated waste materials and soils and use this report to update the NDEQ Waste Management Division.

Several projects commenced or continued construction in 2017, but only a few generated excess soil or waste material that required disposal in a landfill. These projects and the volume of soil or waste material disposed are presented below in Table 9-1. With the exception of one project, all of the soil and waste material were disposed of at the Pheasant Point Landfill, as noted below in Table 9-1.

No hazardous waste was disposed in 2017.

Table 9- 1: Volume of Waste Disposed during LTCP Projects

LTCP Project	OPW Number	Material Taken to Landfill	Material Taken to C&D Landfill
Gilmore Avenue Sewer Separation – Phase 1	52184	Pheasant Point: 347.30 tons (soil)	0
Missouri River WWTP Improvements – Schedule B2	52642	Pheasant Point: 801.19 tons (wood, paper/cardboard, plastic, insulation)	0
Missouri River WWTP Improvements – River Bank Stabilization	51997	Pheasant Point: 178.52 tons (soil)	0
South Interceptor Force Main – North Segment	52223	Pheasant Point: 6,029.00 tons (soil)	0
Fontenelle Park Lagoon Improvements	52658	Pheasant Point: 5.55 tons (wood and paper)	Hawkins C&D Landfill: 588 tons (concrete)

As part of the design process, additional environmental and geotechnical investigations occurred on a variety of projects. All of the cuttings were disposed in accordance with all applicable rules and regulations.

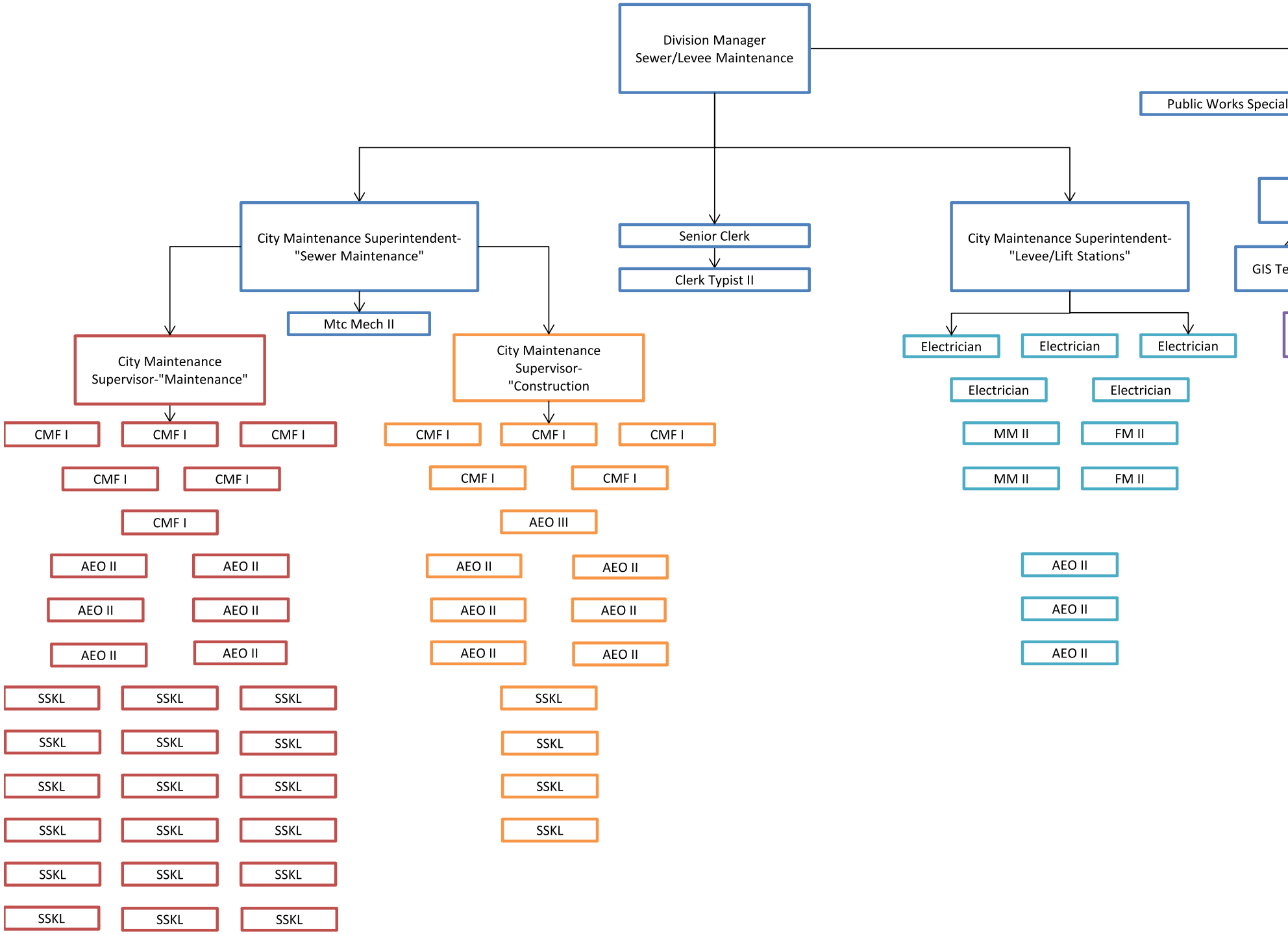
Additionally, to provide the Contractor with the necessary guidance and protocols to manage and dispose of soil and groundwater generated during the implementation of the City of Omaha Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) Program, the City collaborated with the NDEQ to develop an NDEQ approved Materials Management Plan for Soil and Groundwater for the CSO Program. This Plan was approved by the NDEQ in April of 2012 and amended in July of 2013 and is referenced in the Project Manual of the Construction Documents.

Attachment 1 – O & M Procedure Updates and Revisions Summary

The O & M procedures, as documented in the *Sewer System Operation and Maintenance Manual for Sewer Maintenance Division* (Brown & Caldwell, 2006), had the following updates:

- Chapter III, Figure 3: Sewer Maintenance & Levee Maintenance Organizational Chart
- Appendix B: CSO Station & Monitoring Device Procedures and Locations
- Appendix D: Standard Operating Procedure (SOP) for Reporting and Public Notification of Dry Weather Sewer Overflows and Bypasses
- Appendix F: CSO Checks for Leavenworth Lift Station (New) CSO 109
- Appendix H: After Hours Call-Out Procedure

Attachment 1


Division Manager
Sewer/Levee Maintenance
Public Works Special
City Maintenance Superintendent-
"Sewer Maintenance"
Senior Clerk
Clerk Typist II
City Maintenance Superintendent-
"Levee/Lift Stations"
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Mtc Mech II
City Maintenance
Supervisor-"Maintenance"
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Supervisor-
"Construction
Electrician
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CSO STATION AND MONITORING DEVICE PROCEDURES AND LOCATIONS

ALL CSO LOCATIONS ARE CHECKED EVERY OTHER WEEK ON PAYDAYS AND WITHIN 48 HOURS OF ANY WET WEATHER EVENT TO ALLOW FOR WEEKENDS AND HOLIDAYS. ALL STATIONS WITH MANUALLY CLEANED BARSCREENS ARE TO BE CHECKED PRIOR TO ANY RAIN EVENT AND IMMEDIATELY FOLLOWING THE RETURN TO NORMAL OPERATION OF THE NORTH INERCEPTOR, GRACE, BURT-IZARD AND LEAVENWORTH STATIONS.

EQUIPMENT AND STATIONS ARE CHECKED AT LEAST ONCE DURING THE WORK WEEK, MONDAY THROUGH FRIDAY.

			Equipment and Stations	CSO Devise Check (routine)	CSO Devise Check (WW)
BRIDGE ST	CSO 103		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
MORMON ST (DEACTIVATED)	CSO 104		na	na	na
MINNE LUSA	CSO 105		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
NORTH INT DIV	CSO 106		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
GRACE DIVERSION	CSO 107		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
BURT IZARD	CSO 108		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
6TH LEAVENWORTH	CSO 109		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
PIERCE	CSO 110		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
HICKORY	CSO 111		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
MARTHA ST	CSO 112		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
SPRING ST (DEACTIVATED)	CSO 113		na	na	na
GROVER	CSO 114		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
RIVERVIEW	CSO 115		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
MO AVE	CSO 117		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
SO OMAHA/OHERN	CSO 118		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
JONES ST	CSO 121		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
72ND BEDFORD	CSO 202	*	SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
69TH EVANS	CSO 203	*	SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
61ST TAYLOR	CSO 204	*	SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
63RD PRATT	CSO 204	*	SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
64TH DUPONT	CSO 205		SMD-Levee Crew	SMD-Levee Crew	SMD-CSO Crew
43RD & R ST	CSO 207	**	na	SMD-CSO Crew	SMD-CSO Crew
45TH & V ST	CSO 208	***	na	SMD-CSO Crew	SMD-CSO Crew
44TH & HARRISON ST	CSO 209	(DEACTIVATED)	na	na	na
66TH & BLONDO	CSO 210		na	SMD-CSO Crew	SMD-CSO Crew
66TH & PACIFIC	CSO 211		na	SMD-CSO Crew	SMD-CSO Crew
64TH & WOOLWORTH	CSO 212		na	SMD-CSO Crew	SMD-CSO Crew

* CSO SITES LOCATED IN THE BENSON AREA

** THIS CSO CHECK ALSO REQUIRES AN INSPECTION OF MH 0644082 FOR DEBRIS. (Coordinate a service truck as needed)

*** THIS CSO CHECK ALSO REQUIRES AN INSPECTION OF MH 0645025 AND CHECK OF DEVICE IN DITCH (END OF CORRUGATED METAL PIPE SEWER NODE #045036F)

BYPASS INSTRUCTIONS

INSURE THE GATE IS OPEN

CHECK FOR OBSTRUCTION BETWEEN GATE AND THE GRIT PIT

IF UNABLE TO CLEAR THE OBSTRUCTION, THEN CALL SEWER MAINTENANCE IMMEDIATELY

CONTACT SEWER MAINT SUPERVISOR, RECORD WHO WAS NOTIFIED, DATE, AND TIME.
SUPERVISOR JOHN DIEDERICH 402-660-3993 OR SEWER MAINTENANCE 402-444-5332

ALL DRY WEATHER CSOs REQUIRE IMMEDIATE REPORTING AND MITIGATION EFFORTS
THESE RECORDS ARE SUBJECT TO AN ANNUAL REVIEW FOR REVISIONS

REVISED 4/2017

CITY OF OMAHA
PUBLIC WORKS
ENVIRONMENTAL SERVICES

STANDARD OPERATING PROCEDURE

For

REPORTING AND PUBLIC NOTIFICATION

Of

BYPASS,
DRY WEATHER COMBINED SEWER OVERFLOW
& SANITARY SEWER OVERFLOW

NEXT REVIEW DATE:	**11/10/2017**
LAST REVISION:	06/26/17
ORIGINATION DATE:	12/28/03 – Marty Grate

Reviewed By:
J. Morales/W. Robinson

Updated: contact lists, NDEQ follow up letter contact

SAFETY

Hazards	Protection Measures
1. N/A	1. N/A

KSA'S and STAFFING

Staffing will consist of Public Works Division Managers, supervisors, and field personnel who together must possess the following KSA's:

Knowledge of City of Omaha NPDES Permits for the Wastewater Treatment Plants and Combined Sewer System and the reporting requirements contained therein.

Skill in preparing accurate and detailed reports, as well as carefully prepared statements for media distribution.

Ability to evaluate situations and conditions and exercise good judgment in determining a course of action

EQUIPMENT

-Telephone -Fax machine -Personal computer -mobile device

-Sewer Maps (www.dogis.org\sewer) w/ waterbody, contours, parcels, City boundary

TASK DESCRIPTION

NPDES Permits regulate discharges at the Wastewater Treatment Plants and the Combined Sewer Overflows. Violations require reporting to the NDEQ and shall apply when any of the following occur:

- "Unintentional Bypass" - diversion of waste streams from any portion of a treatment facility (unplanned/unintentional).
- "Discharge", when used without qualification, means accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of pollutants into any waters of the State or in a place which will likely reach waters of the State. Discharges of waste streams are only allowed at permitted CSOs and effluent points where NPDES criteria is met. All other discharges are prohibited.
- "Dry weather CSO" - overflows or spills from the CSS during dry weather or prolonged discharge after a wet weather event due to a blockage or system malfunction.
- "Sanitary Sewer Overflow" -Per 2005 letter from NDEQ to City of Omaha, SSO is defined as: "an excursion of sewage from the sanitary sewer collection system."..." include any discharge from the collection system up to but not including headworks of the treatment facility and include backups into dwellings and establishments from the collection system"

PROCEDURE - GENERAL

Upon discovery of a potential violation, critical information needs to be reported to the Nebraska Department of Environmental Quality (NDEQ) Regional Office within 24 hours. Verbal notification (via telephone or message system) is acceptable, but City procedure requires all discharges that reach the Waters of the State to have both a **verbal** and **written** communication within this timeframe.

In addition, any discharge within public ROW, or near areas where the public may be exposed, or would be raised up as a concern to City government or media needs to be elevated up the chain of command , as soon as is practicable, to the ***Sewer Maintenance Division Manager*** and ***Designee*** of the ***Assistant Director of Public Works-Environmental Services.*** One of these individuals shall be responsible to notify the Assistant Director and/or Director in some cases. This internal notification should generally be within 1 hour of discovery.

The **Initial Notification** must be made as soon as practicable to all Supervisors and the Manager with staff involved in the discovery and mitigation of the event. This immediate initial notification is needed to make decisions and carry out further portions of the notification procedure. See *Bypass Memorandum Form* for appropriate information to report. Sewer Maintenance Division Manager and Designee will present information to the Assistant Director to determine criticality and impact to health of humans and environment. If warranted a **Public Notification** will be issue via the Mayor's Media coordinator.

A **Follow-Up Report,** in the form of a letter, citing final cause, mitigation and long term corrective action, needs to be mailed to the NDEQ Headquarters **within 5 days of the event.**

Designee is responsible for proper documentation and filing of all events reported sent to the State and periodic review of this SOP.

PROCEDURE – DETAILED

1. **DISCOVERY:** The City is made aware of an event, such as a sanitary sewer overflow (SSO, which includes basement backups), overflow in the Combined Sewer Service(CSS) area during dry weather, or an otherwise unscheduled bypass of treatment. Usually discovery is made in these ways:

    - A call is received by Sewer Maintenance Division dispatch, typically from a citizen, utility company, plumber, contractor, or other City staff and a Work Order is issued to the correct response crew.

- WWTPs, EQCD, or Sewer Maintenance Division staff discover an event during standard daily procedures and will involve other response staff as needed.

2. **CRITICALITY:** response or discovery crew to inform immediate supervisor to assess criticality and elevate information to appropriate manager.

   Response or Inspection Crew→Foreman Supervisors→ City Maintenance Supervisors →City Maintenance Superintendent or Engineering Supervisor→Sewer Maintenance Division Manager or Plant Manager→Assistant Director

   - **If reaching waters of the State**, and/or a defect or discharge of scale that would attract public and media concern, or impose a threat to human health and safety, require immediate notification to responsible City management to completely assess criticality. Discharges that reach a municipal separate storm system (MS4) or a combined sewer outfall (during dry weather) will be considered as "reaching waters of the State" unless specifically contained and prevention or clean up measures performed.

   - The Supervisor or Superintendent whose staff had the lead role in responding to or eliminating the overflow or unanticipated discharge must understand criticality and elevate information to appropriate manager. One must call the following personnel to discuss the severity of the discharge and determine the need for public notice (Step 6).

     1. Plant or Division Manager of Crew Responding
     2. Designee of the Assistant Director of Public Works - Environmental Services
     3. Assistant Director of Public Works - Environmental Services

   Notice to Assistant Director will typically come from Division or Plant Manager, or Designee in their absence. *Attachment 2* lists the incumbent staff.

3. **DETAILS:** Complete an ***Unscheduled Bypass Memorandum*** form (see Attachment 1). The employee(s) responding to or discovering the event must gather the required information, at a minimum, on the paper form.

- The paper form is a 2-sided document, generally printed on blue paper, with required information to be filled out on the front and guidance provided on the back.

- The electronic form is available, and can be saved locally on a desktop computer, laptop, or mobile device. It is encouraged that most of the critical information gets filled in while out in the field. The template is on the City Network and Google Docs:
  - P:\CSO\CSO_SSO\SOPs\Notif1_Unscheduled_Bypass_Memorandum.doc
  - https://drive.google.com/open?id=0B_nIAoEA_N-kbkt6RmY2VzBIQWs

- A completed form can also be generated through data entry into the Bypass Tracking.mdb for New Bypass/Excursion Report. Hit the "Generate Report" button for a neat and complete version of the form.
  - If the responding crew is unable, untrained, or uncertain about this process, contact the Public Works Specialist and assistance will be provided. Instructions for authorized users to obtain a copy of the database are in Attachment 7.

4. **INITIAL NOTIFICATION (Verbal):** notification to NDEQ Field Office representative listed in Attachment 3 shall be made by the responding crew or management as decided in Step 2 for all prohibited bypasses or overflows reaching surface waters of the State.

   - If the NDEQ Field Office representative is not available, a voice mail message will satisfy the requirement.

   - This shall serve as the Initial Notification to the NDEQ. The Initial Notification shall be made as soon as possible and at all times must be made within 24 hours of the discovery of the event.

   - Verbal notification of wastewater discharges not reaching waters of the United States shall be at the discretion of the Division that discovers the discharge.

5. **INITIAL NOTIFICATION (written):** The *Unscheduled Bypass Memorandum* shall be sent to the NDEQ Field Office representative and circulated to appropriate City Staff as follows:

    - Either email or fax. If no phone call was warranted or made, the form shall serve as the **Initial Notification** to the NDEQ. Again, the **Initial Notification** shall be made as soon as possible and at all times must be made within 24 hours of the discovery of the event**.** The employee(s) who responded/discovered the event are responsible for making the Initial Notification unless told otherwise by a supervisor or manager.

    - A **copy** of the completed *Unscheduled Bypass Memorandum* form should be forwarded to appropriate manager(s). Copy Assistant Director of Public Works - Environmental Services and Designee for events that reached waters of the State. Copy the Public Work Specialist for record keeping and to begin the Follow-Up Report (Step 8).

6. **PUBLIC NOTICE CRITERIA:** Determination of the need for a news release will be on a case-by-case basis and may be made in consultation with the NDEQ and the Douglas County Health Department. Factors alone or in combination that support the need for a news release include the following:

    - The anticipated duration of the incident – is an overflow or bypass likely to continue for 24 hours or more?

    - The estimated quantity of wastewater discharged – is the quantity expected to exceed 100,000 gal?

    - The nature of the overflow – does the wastewater likely contain pollutants in concentrations presenting an imminent threat to health or the environment?

    - The location of the overflow – is the release in an area that cannot be secured or is likely to cause adverse impacts on health or the environment?

7. **ISSUING A PUBLIC NOTICE**: This will generally be determined by the Assistant Director of Public Works - Environmental Services. If absent or unavailable, this responsibility will pass to the Designee.

    - This responsibility requires evaluating the need for and drafting any news release for notification to the public of an overflow or bypass event.

    - Use the general format provided in the ***Unscheduled Bypass News Release*** template provided as *Attachment 4*. Whenever possible, the draft release should be reviewed by the Assistant Director of Public Works - Environmental

Services and/or the Public Works Director and then forwarded to the Mayor's Media Coordinator for release. *Attachment 8* contains current contact information for the Mayor's Media Coordinator and instructions to follow if unable to make contact.

- When the magnitude or duration of the event may have adverse impacts on downstream communities, the person drafting the news release should email a copy of the final version to the local, state and regional contacts on the attached ***Bypass Email Addresses*** list provided as *Attachment 5*.

8. **FOLLOW-UP REPORT:** The Plant or Division Manager whose staff had the lead role in eliminating the overflow or bypass will typically responsible for drafting the letter. For Sewer Maintenance Division, the Public Works Specialist will prepare the follow up report for review by the Manager and Designee. The Designee shall offer assistance to writing report when requested. The letter must include the following information:

   - A description and location of the discharge and cause.
   - The period of event, including dates, times and quantity, or if not corrected, the anticipated time the discharge is expected to continue.
   - Identification of the receiving steam and any environmentally sensitive areas impacted.
   - The steps taken to reduce eliminate and prevent the reoccurrence of the overflow or bypass.

   Attachment 6 is provided as a template for this letter. The MS Word file may be found at P:\CSO\CSO_SSO SOPS\Notif2_Follow-up_Letter_Template.doc

9. **REVIEW OF FOLLOW-UP REPORT**: bypasses and overflows reaching waters of the State should be reviewed by the Plant or Division Manager whose crew led mediation activities. For Sewer Maintenance Division, the Designee, at a minimum, shall review all reports prior to submission to NDEQ.

   - For Levee and Sewer Maintenance, email a draft report to the Public Works Specialist who will circulate for review with Division Manager and Designee.
   - Comments will be compiled and submitted back to the original author or edits will be made directly and report will be signed by the authorized reviewer.

10. **SUBMIT FOLLOW-UP REPORT:** Follow-up must be signed by an authorized Designee or Manager and mailed to the NDEQ as soon as practically possible, postmarked no later than:

    - 5 calendar days after the initial notification**. For the purpose of this procedure, the City shall apply this deadline to any prohibited Bypass or Overflow that reach waters of the State.
    - 7 calendar days after becoming aware of any other noncompliance with the NPDES requirements.***

**This is prescribed by the NDEQ Title 119 Rules And Regulations Pertaining To The Issuance Of Permits Under The National Pollutant Discharge Elimination System, Chapter 14, General Terms and Conditions (001.04G) and specifically outlined in the CSO NPDES Permit (NE0133680) for substantial dry weather overflows.
***Specifically outlined in the NPDES Permits for the Wastewater Treatment Plants/Facilities (NE0112810; NE0036358; NE0040096).

11. **COPY AND FILE REPORTS:** A signed copy of the final version of all Initial and Follow-Up reports must be provided as follows:

    - Both a hard copy and scanned electronic copy of the follow up letter shall be provided.
    - The Public Works Specialist at Sewer Maintenance shall be responsible for cataloging all of this information, both in hard copy and electronically, under direction of the Designee. (See SOP for Bypass Records Retention)
    - Additionally, electronic copies shall be provided to the Assistant Director of Public Works - Environmental Services, and the Managers and Supervisors depending on which Division had the lead role in notification.
    - The electronic distribution of the follow reports mailed to NDEQ shall occur, at a minimum, every two weeks.

12. **SOP REVIEW:** The Designee is responsible for review and updating this SOP semi-annually by March 1 and September 1, or more frequently as needed.

Attachment 1

Unscheduled Bypass ☐ / Excursion ☐ Memorandum

(Select Bypass or Excursion - See back of page for definitions and guidance notations – Fax front page to NDEQ)

Discovery **Date:** _____ **Time:** _____ (1) Called Brett Anderson with NDEQ (when required): Y / N (2)

Report made by: _____ (3) Contact Telephone #: 402-444-5332 or _____ (4)

***Location Address:** _____ (5) ***Receiving Water:** _____ (6)

Location of Cause (if different): _____ (7)

Approximate system location: ***UP MH**: _____ ***Down MH**: _____ (8)

***Why is bypass/excursion occurring?** _____ (9)

Wet Weather is contributing: _____ Yes ☐ (9a)

***What is being done to terminate the bypass/excursion?** _____ (10)

***When did bypass/excursion begin?** Time: _____ Date: _____ Unknown ☐ (11)

***When did or will the bypass/excursion end?** Time: _____ Date _____ Unknown ☐ (12)

***What is/was the volume (approximate) of wastewater bypassed?** _____ Unknown ☐ (13)

What treatment is or was the wastewater receiving? _____ None ☐ (14)

Description of wastewater (domestic, industrial, etc.): _____ (15)

Appearance of sample (Cloudy, Clear, Muddy, etc.): _____ (16)

Delivered Sample To (circle one): Mo River Lab Sewer Maintenance Midwest Labs Other

How could this bypass/excursion been prevented? _____ Unknown ☐ (17)

Are there alternatives to bypassing treatment? _____ None ☐ (18)

Have there been any adverse effects to the receiving stream? _____ None ☐ (19)

If so, what: _____

How will the public be notified of the occurring bypass? _____ Press Release ☐ NA ☐ (20)

Comments: _____ (21)

_____

_____

For Office Use:

This Hand-Written Form was faxed to NDEQ? Yes ☐ (Date & Time) _____ @ _____ : _____

Immediate Reporting to for private issues reaching storm sewer or waterways (James Kee w/ QCD @ 402-444-3915x238)? Yes ☐

Attachment 1
SOP For REPORTING AND PUBLIC NOTIFICATION Of DRY WEATHER SEWER OVERFLOWS AND BYPASSES

Unscheduled Bypass/Excursion Memorandum Guidance

(See *SOP For REPORTING AND PUBLIC NOTIFICATION Of DRY WEATHER SEWER OVERFLOWS AND BYPASSES* for complete procedure)

Bypass: a discharge from the collection system or diversion from the treatment facility that affects public property or reaches waters of the State.

Excursion: wastewater that escapes or is rejected by the collection system but is retained on private property and for the most part re-enters the collection system and proceeds to treatment. This includes basement backups due to a collection system issue.

(1)	Discovery Date & Time (military time) of the event when it was confirmed by Response Crew.
(2)	**A call to NDEQ** is required if sewage or combination flow reaches waters of the State (creek, drainage ways, rivers, including Municipal Separate Storm Sewer System"MS4"). Voice mail is sufficient: include many of the bolded details on this report. NOTE: A call to James Kee with Quality Control Division is required for all private issues that reach waters of State or MS4.
(3)	Enter the Foreman or crew member responsible for responding or who made the discovery.
(4)	Enter a Contact Telephone, usually Sewer Maintenance front desk or if other division/crew responds, their telephone number.
(5)	**Location Address, if known, of the Bypass/Excursion, enter street names and/or outfall name etc.**
(6)	**Receiving Water:** West Papillion Creek; Little Papillion Creek; Big Papillion Creek; Hell Creek; Missouri River; Cole Creek; Papillion Creek; Blood Creek; Other / Unnamed; Elkhorn River; Copper Creek; None
(7)	Location of Cause, can be address or intersection of cause (i.e. water main break locations, blockage location several blocks away, lift station power outage, etc.)
(8)	**Upstream and Downstream Manhole:** ID for pipeline blockage or damage location. At a minimum, need upstream manhole nearest to the cause.
(9)	**Reason why Bypass/Excursion is or was occurring (can cite more than one reason):** Construction Debris; Debris; Grease; Grit; Line Collapse; Line Defect; Mechanical Malfunction; Power Failure; Rags; Roots; Sewer Overload; Utility/Contractor Damaged; Vandalism; Water Main Break; if outside these choices cite "Blockage Unknown" or "Other" but clarify in comments (NOTE: a final cause must be determined after additional research) **(9a) Are observed flows elevated due to Wet Weather? Cite YES if it rained within 24 hours and more than 80% full.**
(10)	**What is being done to terminate the Bypass/Excursion:** Bypass Pumped; Jet Line; Remove Debris; Repaired; Saw Line; Vacuumed; Water Main Repaired or if necessary cite "Other" but explain in comments.
(11)	**Time when Bypass/Excursion began:** Only cite the actual time if known and source is trustworthy. Check "unknown" otherwise.
(12)	**Time when Bypass/Excursion ended or anticipated time it will end. Call NDEQ again if bypass has not ended by time stated.**
(13)	**Volume of Bypass/Excursion. Approximated.** a. Excursions: Total flow in gallons or square footage affected and flow depth (ex; 400 SF with 2" of flow). b. Bypasses: Total Flow in gallons or flow rate in gallons per minute (gpm). Include the units. Include known details such as inches of flow observed in the pipe at an outfall or over a weir and weir width.
(14)	Treatment is almost always cited as "None" if in Sewer Maintenance jurisdiction. But if some wastewater treatment does occur prior to discharge, cite on this form.
(15)	Description of Wastewater: domestic, industrial, commercial, or other. If combined, cite the predominant wastewater source. Most often, commercial applies to applications such as restaurants, hotels, camps, laundries, hospitals and car washes, to name a few. Industrial applications often include large factories, computer chip operations, cooling systems, power plants and boiler treatment operations.
(16)	Appearance of Sample: cloudy, clear, muddy, gray, other (add comment describing other color and appearance) ** sample all illicit discharges from the collection system** If none taken, note legitimate reason why. See *SOP for SAMPLING Of SANITARY SEWER OVERFLOWS AND BYPASSES*
(17)	How could this been prevented? Always "UNKNOWN" unless manager/supervisor/engineering staff specifies otherwise.
(18)	Alternatives to bypassing/treatment? Always "NONE" unless manager/supervisor/engineering staff specifies otherwise.
(19)	Adverse effects to receiving Stream: Cite what is seen through visual observation of the receiving waters. (Was the public exposed or in contact with sewage? Visible animal or fish kill? Settled solids or waste that cannot be cleaned?) **If unknown, discuss with manager/supervisor/engineering staff.**
(20)	How will the public be notified of the occurring Bypass? **Asst.Director/Manager Press will decide Press Release (i.e. longer than 24hrs, greater than 100,000 gallons; immanent threat to humans; etc.)**
(21)	Comments are required if no sample obtained. Comment as needed for other descriptions or additional information.

NDEQ Contact and Reporting Information

Initial Notification shall be provided to the NDEQ Field Office in Omaha, NE as soon as possible and **always within 24 hours.** Bypasses reaching waters of the State must be made verbally by phone AND this hand written form or Database version faxed or emailed to: brett.anderson@nebraska.gov ; Phone: (402) 595-1766; Fax: (402) 895-6543

Attachment 1
SOP For REPORTING AND PUBLIC NOTIFICATION Of DRY WEATHER SEWER OVERFLOWS AND BYPASSES

Attachment 2

Listing of Incumbent City Staff as of June 2017

Assistant Director of Public Works - Environmental Services - James Theiler
Phone – 402-444-5225
Cell – 531-222-7901

Designee of Assistant Director of Public Works-Environmental Services
Jennifer Morales, Civil Engineer III
Phone – 402-546-0701
Cell – 402-661-0053

MO River WWTP &Elkhorn WWTF-Plant Manager– Mike Arends
Phone – 402-444-3915 x203
Cell – 402-505-1917

Papillion Creek WWTP – Plant Manager– Dave Sykora
Phone – 402-444-3922 x 2301
Cell – 402-505-0981

Papio WWTP – Civil Engineer II - Jake Hansen
Phone – 402-444-3922 x 2202
Cell – 402-505-0983

Public Works Director - Bob Stubbe
Phone - 402-444-5228
Cell - 402-960-5241

Quality Control Division Manager (Provisional)- Jim Kee
Phone – 402-444-3915 x 238
Cell – 402-657-2951

Sewer Maint./Levee &Lift Stations Division Manager (Provisional) – Stephen Andersen
Phone – 402-444-5265
Cell – 402-215-8517

Sewer Maintenance Superintendent – Mike Mertz
Phone – 402-444-4923
Cell – 402-660-3997

Sewer Maintenance Supervisor, Construction – Jeremy Bridges
Phone – 402-444-4728
Cell – 402-618-6743

Sewer Maintenance Supervisor, O & M – John Diederich
Phone – 402-444-4717
Cell – 402-660-3993

Sewer Maintenance Public Works Specialist - Wendy Robinson
Phone – 402-444-3467

Attachment 3

NDEQ Contact and Reporting Information

Initial Notification shall be provided to the NDEQ Field Office in Omaha, NE as soon as possible and always within 24 hours verbally by phone, by fax, or by email per the requirements of this SOP. Contact Information is as follows:

Mr. Brett Anderson
NDEQ Field Office
8901 South 154th Street, Suite 5
Omaha, NE 68138-3621
Phone: (402) 595-1766
Fax: (402) 895-6543
Email: brett.anderson@nebraska.gov

Follow-up Letters shall be mailed to the NDEQ Headquarters in Lincoln, NE as soon as practically possible, postmarked no later than 5 or 7 days after initial notification per the requirements of the NPDES Permit and this SOP. Contact Information is as follows:

Mr. Reuel Anderson
Nebraska Department of Environmental Quality
PO Box 98922
Lincoln, NE 68509-8922

Please provide a copy of the follow up letter to the NDEQ Field office by mail or email. CC: Shelley Schneider (NDEQ)

Douglas County Health Department Contact Information

If the location of the overflow is in an area that may cause Public Health concerns, contact:

Russell Hadan
Environmental Supervisor
Phone: 402-444-6162
Cell: 402-547-0154
Email: Russell.hadan@douglascounty-ne.gov

OR

Dr. Larry Figgs
Division Chief of Environmental Health Division
Phone: 402-444-7490
Cell: 402-669-8485
Email: Larry.figgs@douglascounty-ne.gov

Papio-Missouri River NRD Contact and Reporting Information

If mitigation requires work within the Papio-Missouri River NRD's jurisdiction, such as closing a gate along the Papio levee system, contact:

Martin P. Cleveland, PE
Construction Engineer, Papio-MRNRD
402-444-6222
402-315-1707 (direct line)
E-Mail: mcleveland@papionrd.org

Attachment 4

Unscheduled Bypass news release template

<date>

City of Omaha, Nebraska
News Release for Wastewater Discharge to the <receiving stream>

Contact - Bob Stubbe, OPWD, 402-444-5228

Due to <problem> at approximately <time> on <date> at <location>, approximately <discharge rate> of untreated wastewater is being discharged to the <receiving stream>. Repairs to the <problem> that will allow treatment to resume are expected by <time/date>.

<If applicable insert…Seasonally cool temperatures are expected to limit recreational use of the river and therefore minimize adverse health impacts. However,> Until repairs are completed the Omaha Public Works Department is issuing the following advice:

Avoid wading, swimming and other primary body contact with the waters of the <receiving stream> in the area near and several miles downstream from <location A> to <location B>.

This advisory will remain in effect until further notice.

Attachment 5

Email Addresses & Emergency Phone Numbers for Bypass notification

Local officials:

Russell.hadan@douglascounty-ne.gov
Larry.figgs@douglascounty-ne.gov
cjacobsen@papionrd.org
Brett.Anderson@Nebraska.gov
Kirk.Morrow@Nebraska.gov
Pat.nelson@CH2M.com
mcleveland@papionrd.org

Regional officials:

earl.imler@nebraska.gov
elizabeth.esseks@nebraska.gov
howard.isaacs@nebraska.gov
Doug.Woodbeck@nebraska.gov
jeff.roberts@bellevue.net
epiphany.ramos@bellevue.net
jhare@bellevue.net
dick.mcclemons@bellevue.net
jhare@bellevue.net
jackson.Robertw@epamail.epa.gov
dan.olson@dnr.iowa.gov
robert_f_stewart@ios.doi.gov
DDierks@CouncilBluffs-IA.Gov

Downstream officials:

elizabeth.basnett@sema.dps.mo.gov
Brian.Quinn@sema.dps.mo.gov
todd.farley@sema.dps.mo.gov
Tom.Masso@sema.dps.mo.gov
Michael.booth@sema.dps.mo.gov
Maureen.Burke@sema.dps.mo.gov
dawn.warren@sema.dps.mo.gov
Alan.Reinkemeyer@dnr.mo.gov
Cory.Jorgensen@dnr.mo.gov
ken.tomlin@dnr.mo.gov
deana.cash@dnr.mo.gov
jamie.gaggero@ks.gov
bob.jurgens@ks.gov
john.mitchell@ks.gov
mike.mcnulty@ks.gov

If it reaches the Missouri River, notify all three groups and the following emergency call centers: Missouri DNR 573-634-2436, Kansas emergency spill: 785-291-3333, Iowa DNR spill reporting line 515-725-8694.

Attachment 6

City of Omaha
Jean Stothert, Mayor

Public Works Department
Omaha/Douglas Civic Center
1819 Farnam Street, Suite 601
Omaha, Nebraska 68183-0601
(402) 444-5220
Fax (402) 444-5248

Robert G. Stubbe, P.E.
Public Works Director

Date

Mr. Reuel Anderson
Nebraska Department of Environmental Quality
P.O. Box 98922
Lincoln, NE 68509-8922

RE: Location or Facility, Description of Event

Dear Mr. Anderson:

{Description of Event. Include all relevant information. Refer to Notification of Bypass SOP when preparing this document and the initial notification form to make sure all required information is included in this document. Include mitigation, investigation, and follow up actions and longer term actions}

If you have any questions or require additional information, please do not hesitate to contact me at (402)444-XXXX.

Sincerely,

Author
City of Omaha Public Works Department
Facility
Address

Cc: Brett Anderson (NDEQ), Grate (OPW), Theiler (OPW file copy)

Attachment 7

Bypass Tracking Database

A copy of the user “front end” of the database is located at ***Public on 'Omdotcfil03' (P:) \CSO\CSO_SSO Bypass Tracking\ Bypass Tracking.mdb).***

Users should copy this file and save to a location on their computer such as on their desktop. Users should be connected to the City network in order for the data to register in the “back end” of the master database.

The Bypass Tracking Database is maintained at Sewer Maintenance by the Designee.

See also *SOP for Bypass Tracking Database Entry of Initial Memorandum Reports.*

Attachment 8

Mayor's Media Coordinator Contact Information
And Media Distribution List

News Release shall be forwarded to one of the following personnel for proper media distribution:

Carrie Murphy
Deputy Chief of Staff - Communications
Phone (402) 444-3520
Cell (402) 679-6603

Brandi Preston
Assistant Community Director
Phone (402)-444-6274
Cell (402)-659-3438

In cases of emergency where the above personnel cannot be reached after 1 hour of attempt, the drafted press release, approved by Director or Assistant Director to Public Works-Environmental Services, may be distributed among the list included here:

KMTV Channel 3	news@kmtv.com
KPTM Fox 42	news42@kptm.com
KETV Channel 7	news@ketv.com
Robert Adams	rbadams@oppd.com
Omaha Ambulance	brian@omahaambulance.com
Hannah Adeponu (PWks)	Hannah.Adeponu@cityofomaha.org
Keith Backsen (OCVB)	kbacksen@visitomaha.com
D/C Dave Baker (OPD)	dave.baker@ci.omaha.ne.us
River City Barricades	rcbjay@qwestoffice.net
Capt. Katherine Belcastro (OPD)	katherine.belcastro@cityofomaha.org
Tim O'Bryan, Benesch	tobryan@benesch.com
Mark Biodrowski (PWks)	mark.biodrowski@cityofomaha.org
Robert Boyd (PWks)	Robert.Boyd@cityofomaha.org
Christopher Braun (PWks)	christopher.braun@cityofomaha.org
John Brown (PWks)	john.brown@cityofomaha.org
Kevin Brown (PWKs)	kevin.brown@cityofomaha.org
Karl Burns	karl.burns@nebraska.gov
Michelle Bussell (PWks)	michelle.bussell@cityofomaha.org
Cami Carlisle	ccarlisle@scripps.com

Daniel J. Carpenter (PWks)	Daniel.Carpenter@cityofomaha.org
MUD-Tracey Christensen	tracey_christensen@mudnebr.com
NDOR-Natalie Clark	natalie.clark@nebraska.gov
Sgt. Joe Collins (OPD)	joe.collins@cityofomaha.org
David Coon	Dave.Coon@cityofomaha.org
Kevin B. Daily (PWks)	kevin.daily@cityofomaha.org
Lt. Mark Desler (OPD)	mark.desler@cityofomaha.org
NDOR-Connie Diblasi	connie.diblasi@nebraska.gov
John Diederich (PWks)	John.Diederich@cityofomaha.org
MUD-Mark Doyle	mark_doyle@mudnebr.com
Tom Doyle (Eng)	tom.doyle@douglascounty-ne.gov
Fanslau, Steve	sfanslau@oppd.com
Christopher Faulk (PWks)	christopher.faulk@cityofomaha.org
Pete F Festersen	pete.festersen@cityofomaha.org
Brandon M. Fisicaro (PWks)	brandon.fisicaro@cityofomaha.org
David Flemming (PWks) David	david.flemming@cityofomaha.org
Gary Forman	gary.forman@nebraska.gov
Mike Gaughen (PWks)	mike.gaughen@cityofomaha.org
Garry C. Gernandt (CCou)	garry.gernandt@cityofomaha.org
Sebastino Giaffoglione (PWks)	sebastino.giaffoglione@cityofomaha.org
Thomas Glow (PWks)	thomas.glow@cityofomaha.org
Traffic To Go	traffictogo@ketv.com
D/C Greg Gonzalez (OPD)	greg.gonzalez@cityofomaha.org
Nicholas R. Gordon (PWks)	nicholas.gordon@cityofomaha.org
Ben G. Gray (CCou)	ben.gray@cityofomaha.org
Matthew Grosse (PWks)	matthew.grosse@cityofomaha.org
John C. Gubalke (PWks) John	john.gubalke@cityofomaha.org
Sgt. Anthony Gutierrez (OPD)	anthony.gutierrez@cityofomaha.org
Bryan P. Guy (PWks)	bryan.guy@cityofomaha.org
Dawaune Hayes (PWKs)	dawaune.hayes@cityofomaha.org
Michele Hayes (OCVB)	mhayes@visitomaha.com
Omaha World Herald	news@owh.com
Mark Horak (PWks)	mark.horak@cityofomaha.org
Jason H. Hughes (PWks)	jason.hughes@cityofomaha.org
Luke Jager	Luke.Jager@cityofomaha.org
Chris D. Jerram (CCou)	chris.jerram@cityofomaha.org
Chief School Bus-George Jiboo	nebrhog@aol.com
Verna Johnson	verna.johnson@cityofomaha.org
Lt. Robert Jones (DCSO)	robert.jones@douglascounty-ne.gov
Michael G. Kleffner (PWks)	michael.kleffner@cityofomaha.org
Murthy R. Koti (PWKs)	murthy.koti@cityofomaha.org
Dan Kutilek (Eng)	dan.kutilek@douglascounty-ne.gov

Arrow Stage Lines	joe@arrowstagelines.com
KETV-John Livingston	jdlivingston@hearst.com
Brian Lodes (PWks)	Brian.Lodes@cityofomaha.org
Joseph Luedtke (PWks)	joseph.luedtke@cityofomaha.org
Tom Lund (PWks)	tom.lund@cityofomaha.org
MAPA	mapa@mapacog.org
Marcuccio, Louis	louismarcuccio@creighton.edu
Creighton-R Mcaulif	rmcaulif@creighton.edu
Tom McDonald (Eng)	tom.mcdonald@douglascounty-ne.gov
Ed McNulty (PWks)	ed.mcnulty@cityofomaha.org
Aimee S. Melton (CCou)	aimee.melton@cityofomaha.org
Omaha World Herald-M.	micah.mertes@owh.com
Mike Mertz (PWks)	Mike.Mertz@cityofomaha.org
Mitch Moehling	mitch.moehling@cityofomaha.org
Carrie E. Murphy (Mayr)	carrie.murphy@cityofomaha.org
Michael S. Musgrove (PWks)	michael.musgrove@cityofomaha.org
Metro Network News Metro	scott_welgos@metronetworks.com
Emily Nohr	Emily.Nohr@owh.com
US Post Office	roger.l.humphries@usps.com
	omafbattalionchiefs@cityofomaha.org
Camila Orti	corti@hearst.com
Joe Ostblom	jostblom@oppd.com
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Tony Panowicz (PWks)	tony.panowicz@cityofomaha.org
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Darrell Parks (PWks)	darrell.parks@cityofomaha.org
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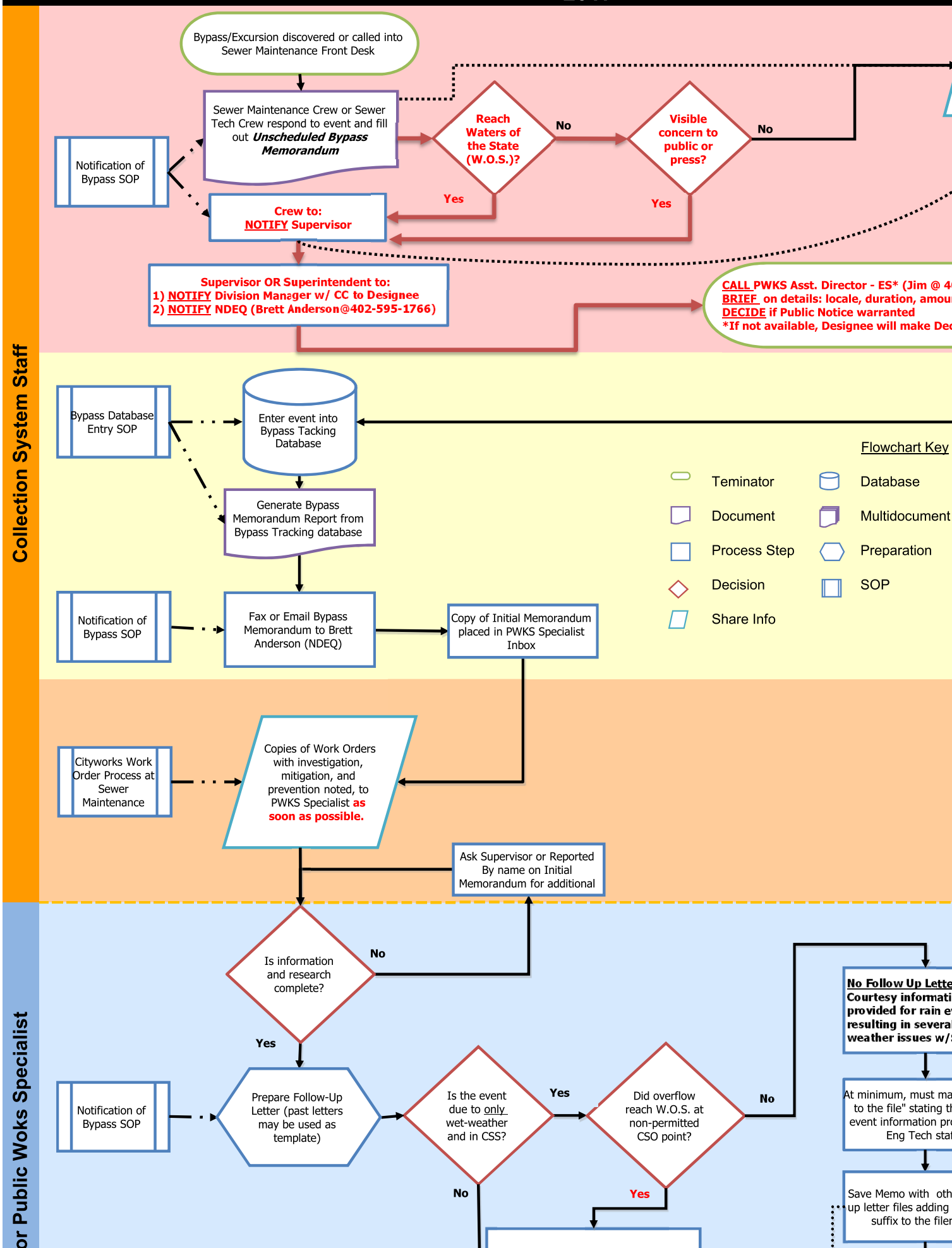
KETV-Connie Phillips	cphillips@hearst.com
Heather Tippey Pierce (PWks)	heather.tippey-pierce@cityofomaha.org
Mark Poland (PWks)	Mark.Poland@cityofomaha.org
John Pollreis	john.pollreis@cityofomaha.org
Janine Post (PWks)	janine.post@cityofomaha.org
	pwreception@cityofomaha.org
Barney Rempe Jr	bernard.rempejr@cityofomaha.org
Lt. Denise Rieder (DCSO)	denise.rieder@douglascounty-ne.gov
Michael Rief	Michael.Rief@cityofomaha.org
Jeffrey Riesselman (PWks)	jeffrey.riesselman@cityofomaha.org
Austin E. Rowser (PWks)	austin.rowser@cityofomaha.org
Richard Rubek (PWks)	richard.rubek@cityofomaha.org
Allegheny-Jessica Russell	jrussell@answering-svc.com
Cory P. Sanchez (PWKs)	cory.sanchez@cityofomaha.org

Steve Scarpello (CCou)	Steven.Scarpello@cityofomaha.org
Ashley K. Schuler (Str)	ashley.schuler@cityofomaha.org
E. Schweitz	eschweitz@ometro.com
Melissa Sheard	melissa.sheard@nebraska.gov
Sheldrick, Doug	dsheldrick@deffenbaughinc.com
Omaha World Herald-P. Smith	patrick.smith@owh.com
Smith, Roger	rsmith@deffenbaughinc.com
Todd Spark (PWks)	todd.spark@cityofomaha.org
Troy Staroscik (PWks)	troy.staroscik@cityofomaha.org
Timothy Storer	timothy.storer@cityofomaha.org
Mayor Jean L. Stothert	jean.stothert@cityofomaha.org
Robert Stubbe (PWks)	robert.stubbe@cityofomaha.org
Anajo Teel	anajo.teel@nebraska.gov
Robert Theisen (PWks)	robert.theisen@cityofomaha.org
Franklin T. Thompson (CCou)	franklin.thompson@cityofomaha.org
James Thompson (PWks)	james.thompson@cityofomaha.org
Lt Darci Tierney (OPD)	darci.tierney@cityofomaha.org
Douglas Tietsort	douglas.tietsort@cityofomaha.org
Sgt David Volenec (OPD)	david.volenec@cityofomaha.org
Molly Welsh	molly@filmstreams.org
Chief Dep. Thomas Wheeler (DCSO)	thomas.wheeler@douglascounty-ne.gov
Omaha World Herald-C. White	connie.white@owh.com
Lynette A Whitmire (PWks)	lynette.whitmire@cityofomaha.org
Omaha World Herald-J. Withrow	jay.withrow@owh.com
WOWT	sixonline@wowt.com
Kayleen Young (PWks)	kayleen.young@cityofomaha.org

Attachment 10-Reporting Flowchart

Unscheduled Bypass or Non-permitted Discharge Notification and Repor
2017



LEAVENWORTH LIFT STATION (NEW)

Lift Station Location: 400 PIERCE ST
Diversion Location: 599 Marcy St

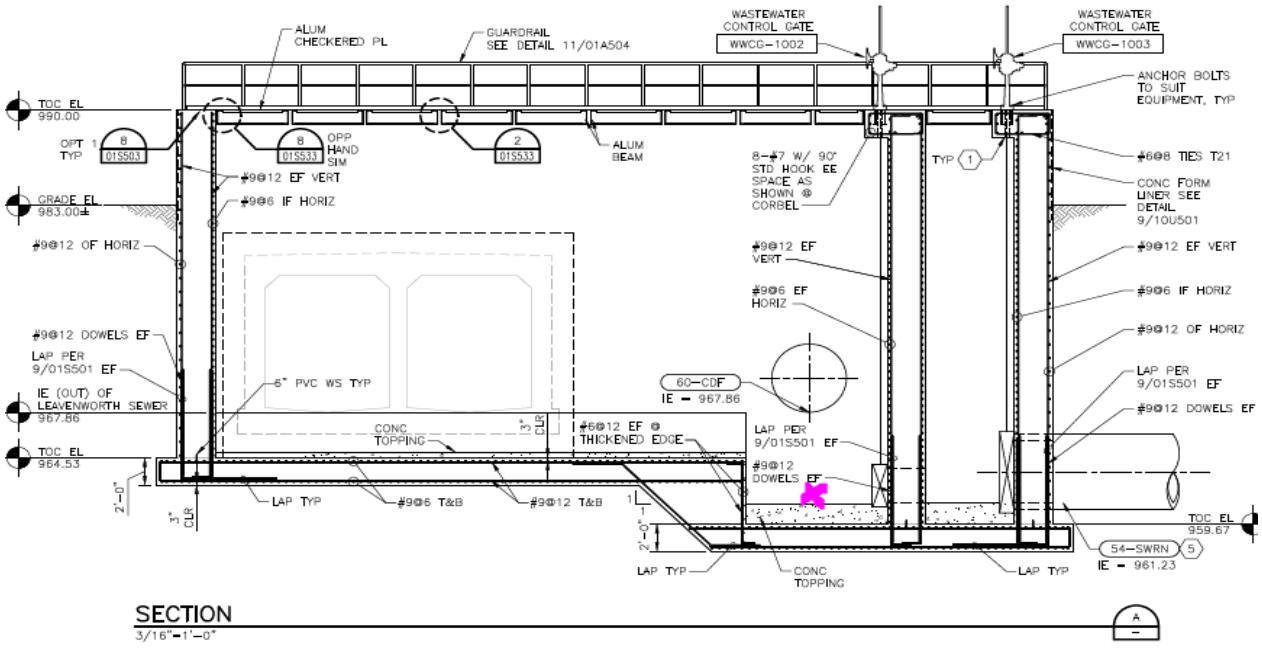
Alternate CSO Occurrence Checks Procedure

1. METERED LEVEL DATA AT DIVERSION No. 1 WILL BE REPORTED TO CSO GROUP IF ELEVATION REACHES HEIGHT OF OVERFLOW (IE=967.06)

A. BY: H. Curtis Wieland OR appointee
Superintendent
Missouri River Wastewater Treatment Plant
402-444-3915 ext. 1000
curtis.wieland@cityofomaha.org

B. TO:Erik Dickes OR appointee
City Maintenance Foreman II
402-676-1673
erik.dickes@cityofomaha.org

2. OCCURRENCE RECORD WILL BE ENTERED INTO DATABASE AT SEWER MAINTENENANCE. ANY RECORD OF DRY WEATHER OVERFLOW SHALL BE REPORTED PER ***NOTIFICATION OF BYPASS S.O.P.***



M E M O R A N D U M

DATE: **06/21/2017**

TO: **Sewer Maintenance Personnel**

FROM: **Mike Mertz**

RE: **After Hours Call-Out Procedure**

The following is the procedure for after hour's calls.

On-call personnel. On-call personnel shall include a CMF I and one Labor Union employee. The CMF will take the initial call and determine the appropriate response. One SSKL or AEO II will be the Jet Truck operator and will respond to all calls requiring a jet truck on site. In the event another person is needed on the call, the On-call CMF shall call in personnel using the Overtime Call List.

The call-out CMF shall contact the customer by phone immediately, identify the problem and if it is necessary to respond, attempt to be on site within 20 minutes of the call.

First Response: After normal working hours of 7 am to 3:30 pm the main phones at the Sewer Maintenance Division will be transferred to the City Dispatcher from 3:30 pm to 10:45 pm Monday through Friday. At the end of the dispatchers shift the phones will be transferred to the On-call CMF's cell phone. (In the event the Dispatcher is on leave, the phones will be transferred to the CMF's cell at 3:30 pm) On Friday night this will be in effect until 7 am on Monday. The CMF will take direct calls from the citizens that call the Sewer Maintenance Division main phone line (402) 444-5332. Some citizens will call the Street Maintenance line, (402) 444-4919, and will reach the answering service. These calls will be forwarded by the answering service to the on duty CMF. The answering service call back number is 412-847-2126.

The CMF shall receive the call from the City dispatcher/Resident/ Ans. Service*. If the call comes through the dispatcher or service the CMF shall immediately call the customer and get a complete detailed report of the problem. If the CMF determines that it is a private sewer problem, (s)he shall inform the customer and that will end the call. (S)he shall also check that the address is within the City limits. If it is not (s)he shall call the customer and inform them of the proper SID contact information.

The Call-out CMF shall have an up to date laptop or Ipad. The CMF shall also have a cellular phone and a digital camera.

If the CMF determines the problem may be sewer related (s)he should immediately go to the site. He shall check the sewer manholes and the customer's basement to determine if there is a sewer back up. **CMF will Collect a Sample and follow the SOP. The CMF will assist in the Jetting operation at all times.**

Clearing the Blockage:
A basket, shoe or rake must be placed in the downstream side of the downstream manhole so debris from the line does not go through the manhole and plug the next line section.

Reel out five feet of hose and install rubber hose guide (tiger tail) on hose.

Install penetrator jet nozzle with extension and lower into manhole flow line.

Turn water pressure to 1200 psi and release hose reel. The hose should now travel up the line. The operating water pressure should be 1200 psi. This will be sufficient to open most blockages, but in some cases a higher pressure might be indicated. Do not operate the water pressure higher than 1800 psi.

Jet to the stoppage using medium reel speed. Once stoppage is felt, pull back hose with reel. Then release reel lever to hit stoppage again. Repeat until nozzle goes through or breaks loose stoppage. If needed work nozzle back and forth through blockage at least three times to assure that blockage is loosened and removed. This further assures that nozzle will not simply go through blockage and pump water upstream of block. Once the blockage breaks loose, reduce the jetting pressure, stop hose reel and rewind jet hose back to the downstream manhole until the surcharge is relieved.

If blockage is not removed, use the jet saw. Before using the jet saw, inspect the area of the blockage for signs of recent boring projects. The jet saw can be effective in pushing a large piece of debris out of the line. If the jet saw fails, use a 15° nozzle for more striking force or a culvert nozzle such as Little Thunder for more mass.

Then clean the line as required. This can be accomplished by using a 15° nozzle. After jetting the line check the upstream manhole to make sure it is clean. Clean debris from the manhole as needed.

The manholes downstream of the jetting manhole must be checked to make sure they are not backing up. Clean debris from any manhole where debris is observed.

Documenting the Backup:
Check with the property owner and inspect the basement for damage. If there is any damage, complete the damage evaluation form on the back of the work order and take digital photos of entire basement to document damaged and undamaged areas. Explain to the property owner/representative that documentation is not intended to be the basis for paying a claim to the property owner; it allows the City Attorney's office to verify the accuracy of the claim and the degree of any damage. **Collect a Sample follow SOP.**

If the backup is due to a blockage in the city main:

- **Explain the policy for cleanup with the property owner/tenant. Be thorough, explaining the Policy, especially the difference between choosing to utilize Legacy or another cleanup company that they prefer.**
- **Explain the importance of sending build back bids and all other claim information to the City Clerk as outlined in the Policy.**
- Call Legacy if property owner/tenant chooses to use them.
- If Legacy is used, have the property owner sign the triplicate form and give them the appropriate copies.
- Answer any questions property owner might have, keep answers brief and to the point. Do <u>not</u> indicate to property owner that they will be reimbursed for damages. Damage claim questions should be referred to the City Law Department with the claim letter.

A work order must be completed at the time of the back up. It is extremely important to include:

- Manhole numbers, pipeline length, pipe size, addresses, street names, and property owner names are correct and included on the work order.
- Document the proper description and tasks in the work order. Do not use "**Inspection Request" when documenting a Backup or Bypass-Overflow.**
- Only use Complaint Backup for basement backups or Bypass-Overflow for overflowing manholes. IF both conditions exist due to the same issue, document both conditions and tasks utilized to clear up the issue.
- If the backup is determined to be private, a work order is still required and use Complaint Backup as the description and Private as the task with comments written describing how it was determined to be a private issue.

  This assists in both review of the damage claim and evaluating the problem line for preventative, corrective maintenance and future sewer projects.
- Process the initial memorandum to the NDEQ (blue sheet) per Notification of Dry Weather CSO and Bypass SOP.

All other types of calls should also be documented with a completed work order and photographs as needed.

For other problems such as a missing manhole cover, the CMF shall determine whether it is a City sewer manhole and notify the appropriate agency if it is not a City manhole.

In the event of a blockage, the call-out crew shall make every attempt to open the line. The call-out crew cannot leave a blocked sewer issue without obtaining the permission of the Supervisor or the Division Manager

The CMF can handle some calls, such as loose or missing covers or keys dropped in an inlet, without help from the crew. If needed the CMF will order barricades, cover all cave-ins and open manholes with plywood and cones before leaving the job site. If the cave-in is too large to cover, then the CMF will stay on the site until barricading can be set up. If cave-in or manhole does not belong to the city, note this on the work order who is the responsible party. Notify the dispatcher who owns the issue, if you can determine the owner of the utility problem.

The call-out CMF can either send an email, text detailing back-ups and water main breaks after filling out paper work or the following morning at 6:45 contact the Maintenance Supervisor to discuss the previous night's back-ups to include follow-up work needed. All completed work orders shall have:

- Proper description and tasks assigned to correct node or line segment
- information about the back-up including how you jetted
- from which manhole,
- if done with the flow,
- if there are drop pipes in manhole,
- Any pertinent information that follow-up personnel need to know, such as TV follow-up and PM dates,
- Document on a copy of the 1/8 section map with the house and line segment where the back up occurred being highlighted

Give original work order to the Maintenance Supervisor with copies to Wendy Robinson. Overtime slips and completed Call Logs shall be given to the Supervisor as soon as possible. The call-out Foreman shall record the time of the workers who do not go to a yard to punch in. Their time shall begin when they arrive on site and end when they leave the site.

Non-Storm Event After-Hours Response

The CMF shall contact the SSKL/AEO on call if he needs to jet a line or if he needs other on-site help. The SSKL/AEO shall go directly to the closest sewer yard, pick up a jet truck and go to the site.

The main responder shall have keys to the yard (s)he is using.

The main responder shall attempt to get to a maintenance shop within 20 minutes and be on site of the issue within 40 minutes of notification.

If the CMF determines a need for additional help, because of the severity of the problem, he shall call for help using the overtime call list, which is voluntary unless it becomes

necessary to mandatory in help. Notify the Maintenance Supervisor the next working day to update the list.

The call-out CMF will notify the additional help, which yard to respond to and what equipment is required.

The additional help shall attempt to get to a maintenance shop within 20 minutes and be on site within 40 minutes of notification.

If a jet/vac truck is needed the foreman shall call an AEO II off of the separate AEO II overtime call list of qualified AEO II's.

Wet Weather Responses

Pre-Storm Preparation
If weather forecasters are predicting heavy rain associated with Thunder Storm activity, exercise the following protocol:
--On-call CMF will contact all other CMF I's and Maintenance Supervisor by phone call, text or e-mail to ask for staff who are willing to be available to report during off hours
--The CMF group will inform all staff members about the potential for heavy rain and ask them to contact the On-call CMF if they are willing to be available and respond after hours as needed
--All Staff members who are able to respond after hours, need to contact the On-call CMF this includes CMF's that are not scheduled on-call
--The On-call CMF will compile a list of the staff members who called him/her.
Note: If the numbers of staff who call the On-call CMF is not sufficient to cover the predicted storm event that occurs, the secondary list will be called for volunteers top down by seniority and if needed employees will be mandatorily required to report per the contract guidelines.
Storm Response
The On-call CMF will handle calls generated by the storm event to the best of their ability. If needing additional storm response help, the On-call CMF should call the pre-generated list of on call volunteers. If the need exceeds the pre-generated list, the On-call CMF can choose one of two options. 1) He/she can go directly to Q St shop and switch the phones back to the front office, and call the Maintenance Supervisor and all CMF I's to assist with the calls. 2) He/she can call the Maintenance Supervisor and CMF to go to Q St and call in more help, take over the phones and start a Call Log. Either option the first CMF in the office will call down the Overtime List to mobilize available personnel. If not enough responders are found the Maintenance Supervisor or his appointed replacement shall then call the Overtime List to MANDATORY personnel to respond and calling from the bottom of the list going up.

Documentation Storm Related Calls
It is important that every complaint have a separate and completed work order (even if there is not an issue found during the response). Each work order will be documented as a rain event work order, by writing on the top corner Storm Event and date of the storm.

The work orders will be compared to the call list to make sure we did not miss any complaints.

Storm Event Related Backups in the Combined Sewer System

It is important to document evidence or lack of evidence of a surcharge (photograph). In the comments, note how much surcharge was present or evident and the manholes that were surcharged. Document all tasks associated with the investigation. Complete a bypass/excursion memorandum for each affected address or location, noting the presence of a storm water surcharge as the cause. If the amount of affected addresses is larger than 6 then just document the addresses in the work order. Document all properties affected by the surcharge. Cleanup Company will not be called if a backup is related to storm water surcharge and we should not sign an agreement with the homeowner. A standard claim letter will be given to the homeowner for Combined Sewer Weather Related Backups.

Backups Unrelated to the Storm Event During the Storm Event

If a backup is not related to the storm event, it is necessary to document it as a complaint backup, and in the notes put down not storm related and complete the paper work as normal. Cleanup Services can be called if the backup is not related to a storm water surcharge and the policy form/ agreement should be filled out with the homeowner if they choose. If the line was jetted, you must document condition of the line and the home before and after jetting (in both cases).

Backups in Sanitary Only System During a Storm that Could be I&I Issue

If a backup occurs in a sanitary only system during a storm event, but could be related to I&I, write in the comments exactly what you see that leads you to that conclusion. This type of backup is like any other sanitary only system backup, utilizing the Backup Cleanup Policy.

Document each missing manhole cover and flooded street with the proper asset number(s), what we did to resolve the issue and that it was storm event related.

Call-out Assignment Responsibilities

Each member of the crew is responsible to take calls when assigned or find a replacement. Employees on sick leave, or IOD are not eligible for overtime and are responsible for finding call-out replacements. If an illness or personal emergency arises and a working CMF cannot respond to a call they are to notify the Maintenance Supervisor or another working CMF to cover for them until the illness or personal emergency is over. Notify the dispatcher of any staff changes and anticipated duration. If the primary is ill or has a personal emergency, they shall notify the call out working CMF of the situation and expected duration. The working CMF will then contact a secondary volunteer to cover and notify the Maintenance Supervisor of the change.

Call-out Trucks

Jet trucks will be kept in good working condition, have a full tank of fuel and full tank of water at the end of every shift.

If an issue with a truck arises during the response of a callout, document the issue and send an email to the Maintenance Supervisor before the next regular shift.

Attachment 2 – Dry Weather Overflow Media Release

There were no dry weather overflow media releases related to the combined sewer system issued during the 2017 Annual Reporting Period of 10-1-2016 to 9-30-2017. No such notices were warranted per the criteria set forth in the Standard *Operating Procedure (SOP) for Reporting and Public Notification of Dry Weather Sewer Overflows and Bypasses*

Attachment 2

Attachment 3 – Public Participation Report

Attachment 3

CSO Clean Solutions for Omaha
Combined Sewer Overflow Program
Public Participation Summary
October 1, 2016 – September 30, 2017

Public Participation Focused

Engaging and educating the public about Clean Solutions for Omaha (CSO!) is a long-term commitment for the Program. While it is required by law, it is also good public policy. Stakeholders at every level expect to be a part of major public efforts. The public participation program is concentrated on providing accurate and timely information, insights about the Program and Projects, listening to and being responsive to the stakeholders.

The Program stakeholders range from the business and residential ratepayers to regulators, elected officials, utilities, transportation, wholesale customers and media. In each category, the CSO! Program endeavors to provide the public involvement elements necessary to meet their needs and expectations.

In December 2016, the CSO Program received an Award of Merit from the Nebraska Public Relations Society for it public involvement program.

Program Specific Activities

The CSO Program and the specific Projects are showcased at public meetings, neighborhood associations and alliances, civic organizations, professional conferences and events. These opportunities provide a broad view of Omaha's effort to meet regulatory compliance and community acceptance.

Now in the implementation phase of the seventeen year program the objective continues to be public education and information with a strong focus on specific projects.

11 presentations or progress updates at neighborhood meetings, civic organizations including North Omaha Neighborhood Alliance, South Omaha Neighborhood Alliance, Aksarben-Elmwood Neighborhood Association (NA), Hanscom Park Revitalization, Spring Lake Park NA; Cosmopolitan Club, and professional organizations.

In addition, a workshop and tour of the Spring Lake Park project was organized for the South Omaha Magnet School's bilingual science class.

Public Events Participation (Display and/or Speaker)

- Rotate Program exhibit at 5 Douglas County Treasurer's Offices
- Rotate display at 9 public libraries

- Provide display at Project public meetings
- Restore Omaha Conference
- Lauritzen Gardens Spring Green Event
- World O! Water Event, an annual event designed to educate the public about water conservation, water quality and water recreation
- Iowa-Nebraska Neighborhood Association National Conference
- Water Environment Federation National Conference professional presentations on CSO

Special Communications Activities

Public Involvement participates in the development and implementation of CSO Economic Inclusion Strategy.

- The Program team met regularly to:
    - create a strategy for small businesses
    - develop a youth involvement plan
    - review projects and develop smaller contract opportunities
    - integrate activities with the City's small business program
- Provided lists of upcoming bidding opportunities

Communications Tools

Website

The CSO Program uses multiple communications channels to communicate the story of this major public infrastructure project. One focal point is the website, www.omahacso.com. Features of the site include:

- Interactive map for residents to locate their address and links to current CSO projects
- Construction information linked to the City's website
- Long Term Control Plan and other Program documents
- Project pages for each project completed, in design, under construction or in the future
- Public meeting notices
- A newsroom (provides information resources to media and archives major articles)
- A twitter account in conjunction with the City of Omaha's Public Works Dept.

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Hotline and Website Email Comments

The Program maintains a hotline answered by a knowledgeable individual Monday through Friday, 8a.m.-5p.m. to answer questions and problem solve as needed for CSO Program stakeholders. The hotline fielded 134 calls with topics ranging from rate structure to construction questions and rate payer assistance.

The website also provides a forum for comments and we fielded thirty-two program and project specific questions and concerns through this communication option.

Informational Materials

The CSO Display, Brochures, Project Updates, Neighborhood Newsletters, PowerPoint Presentations, media outreach, project tours, and a youth information/quiz game on water conservation are among other tools used by the Program and Projects to communicate their messages. Bilingual information is available through a project display and for meeting notices and project updates where appropriate.

Special Communications

A new communications summary with information targeted to elected officials – the SnapShot – was implemented this year. It is a monthly fast-read summary of CSO Program and Project work in progress. Public involvement provides content and collaboration for the SnapShot, quarterly and annual reports to update the community, elected officials and regulators about the progress of the CSO! Program.

Video Segments

Six new video segments were developed to verbally tell the CSO story. Two segments are told through the eyes of experts on the Program's strategic team. In addition, three others told shared CSO efforts through the lens of a grant funder, a community person, and economic inclusion engagement. These are used for the website and for other community involvement presentations.

Project Specific Activities:

Consistent communications with stakeholders in the active project areas is a priority. Public involvement works diligently to build key relationships, provide a variety of communications options between public meetings, and be proactive in potential circumstances of concern.

Public Communications

- Provided construction updates to neighborhoods with CSO projects in progress
- Provided construction updates to community newspapers/newsletters
- Coordinate public meeting and stakeholder meetings
- Distributed public meeting notices to media
- Develop and distribute project information for media stories
- Newsletter articles for Nebraska Environmental Trust related to Spring Lake Park Project and other grant efforts with the agency

Public Meetings

Project teams held 8 public meeting throughout the year to provide project updates, listen to stakeholders and to engage with the neighborhoods involved with current projects.

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Additional Public Information Activities

- Continue to build on-going, trusted relationships for transfer of information on program and projects with elected officials, utilities, transportation/traffic, neighborhood associations and alliances, community organizations, economic development interests and impacted stakeholders
- Provided Program communication consistency through brochures, direct mail, social media, progress update handouts, presentations, the CSO display, and specialized materials
- Initiated collaboration with community, neighborhood associations and alliances to hold joint public meetings to increase the effectiveness of the program and to engage in joint public meetings to increase attendance and reduce redundancy
- Regularly worked with the broadcast and print news to broaden the dissemination of information and to pursue positive news and editorial support

Earned Media

The CSO Program and Projects work with area media to provide up to date information about the working being implemented, the technology being used and the effectiveness of projects.

Several highlights this year included the South Interceptor

Earned media impact information about the CSO Program*
(based on a third-party monitoring service.)

Story Count	**62**
Audience	**1,950,921**
Total Calculated Publicity Value	**$ 843,954**
Calculated Ad Value	**$ 214,871**

Website:

Unique visitors	**6,589**
Page Views	**28,234**

Attachment 4 – LTCP Annual Project Progress Reports (APPR)

Attachment 4

This section is ordered by Work Breakdown Structure (WBS)

Work Breakdown Structure (WBS)	Annual Project Progress Report Title
CSOP.01.01.1C	South Interceptor Force Main
CSOP.01.01.1D	Missouri River Wastewater Treatment Plant (MRWWTP) Improvements Schedule A, B1, and B2
CSOP.01.02.2C	Saddle Creek Retention Treatment Basin (CSO 205)
CSOP.02.02.2I	JCB & Miami Sewer Separation Phases 1 and 2 & Adams Park
CSOP.02.03.3G	Gilmore Avenue Sewer Separation Phase 1
CSOP.02.04.4B	Nicholas Street Phase 3
CSOP.02.04.4G	Forest Lawn Sewer Separation
CSOP.02.04.4M	Lake James to Fontenelle Park (Minne Lusa CSO 105)
CSOP.02.04.4N	Missouri Avenue Sewer Separation Projects Phase 2 (CSO 117 - Spring Lake Park)
CSOP.02.04.4P	42 Street & Q Street Sewer Separation
CSOP.02.04.4Q00 & CSOP.02.05.5B	Cole Creek (CSO 204) Phase 2 and 3
CSOP.02.05.5D, CSOP.02.05.5E00 & CSOP.02.05.5C	Cole Creek (CSO 202) Phase 1 and 2 & CSO 203 Sewer Separation (Cole Creek)

South Interceptor Force Main (SIFM)

CSOP.01.01.1C00 1C - South Interceptor Force Main

LTCP Project Description:

The new South Interceptor Force Main (SIFM) will consist of approximately 4,360 feet of 48-inch diameter pipe from north connection, just south of the I-480 Bridge to the proposed Leavenworth Lift Station and 18,390 feet of 64-inch diameter pipe from the proposed Leavenworth Lift Station south to the Missouri River WWTP.

The SIFM Project also includes the South Gravity Sewer (SGS) and North Gravity Sewer (NGS). The SGS conveys flows from the Hickory and Pierces Street sewers to the new Leavenworth Lift Station. The NGS conveys flows from the Leavenworth Sewer to the new Leavenworth Lift Station

LTCP Phase: Phase 1 Major CSO Control Projects

CSO Permit Requirement:
The substantial completion and operationally complete have been achieved for the Central and South Segments on August 8, 2015. The substantial completion and operationally complete for the North Segment is on or before June 30, 2018.

LTCP Schedule:
Construction Complete: 6/30/2018
Operationally Complete: 6/30/2018

Compliance Report

South Segment Substantial Completion was completed on 8/8/15.
Central Segment Substantial Completion was completed on 8/7/15.

Activity	LTCP Schedule Date	Actual or Anticipated Date
Substantial Completion	06/30/2018	*December 2017**
Operationally Complete	06/30/2018	*December 2017**

*Dates in italics are estimates.

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period:

- Geological anomaly was identified in the North Segment which brought tunnel activity to a halt in May 2016. Alternative evaluations for a solution commenced after discovery and the selected alternative was identified by the City in January 2017.
- A rescue shaft was constructed in Heartland of America Park and the stuck tunnel boring machine was removed in August 2017.
- Completed the rock tunnel at the north most end of the project with a new micro-tunnel boring machine that was tunneled from the north shaft south to the rescue shaft in August and started work on installing the carrier pipe.

City Project #	City Project Name	Activity	Date
OPW 51873	South Interceptor Force Main - South Segment	Completed in 2015	100%
OPW 52222	South Interceptor Force Main - Central Segment	Completed in 2015	100%
OPW 52223	South Interceptor Force Main - North Segment	Construction	92%

Anticipated Project Activity for Next Period

- Complete installation of pipe and hydrostatically test of the piping to achieve substantial completion and bring the project to operationally complete.
- Restore Heartland of America Park.

Costs

LTCP Estimated Construction Cost: (April 2009 dollars): $39,094,400

Current Final or Estimated Construction Cost:

Final cost of the project is anticipated to be $52,271,904. This consists of:

OPW 52223 - $32,400,000 (Construction Manager Estimate at Completion as of 08/31/2017) for the North Segment. This is an increase of approximately $10M over the previous Annual Report to address the geological anomaly

OPW 51873 - $15,359,434 is the Final Cost for the South Segment

OPW 52222 - $4,812,470 is the Final Cost for the Central Segment

Changes from the LTCP

Compliance with LTCP and the CSO Permit was to be operationally complete by June 30, 2017. However, a force majeure event has occurred as documented in the letter to the NDEQ dated June 27, 2016. The CSO Permit completion date was changed to June 30, 2018. The completion date for construction cannot yet be determined with certainty, but the project is expected to be substantially complete and operationally complete by December 2017 with final completion in the spring of 2018.

Other Items of Interest

A value engineered cost proposal (VECP) was identified by the North Segment contractor to change the approach for tunneling from the Leavenworth Sewer Site to the Leavenworth Lift Station site. The contractor identified cost savings by extending the rock tunnel south, beneath the Union Pacific Railroad line and eliminating the soft-ground tunnel. This approach provided for approximately $500,000 in savings to the City and the elimination of a number of risks with the soft-ground tunneling approach.

During tunneling of the rock tunnel from shaft #2 to shaft #1 an unexpected geological anomaly was encountered. Specifically the rock elevation dipped below the expected elevation leaving the upper portion of the rock tunneling machine in soil. A dewatering system was placed into operation in the fall of 2016 to lower the groundwater level and allow for continuation of operations. In early October 2016, tunneling activities recommenced, but boulders were then encountered in the soil anomaly halting operations again. These differing conditions were of sufficient concern to the contractor that work stopped until a new manner of execution and or design could be implemented. After consideration it was decided to construct a rescue shaft in Heartland of America Park and remove the stuck tunnel boring machine. A new microtunnel boring machine suited for the mixed rock/soil/boulder conditions was utilized to tunnel from shaft #2, south to the rescue shaft. Both tunnel boring machines were removed in August 2017 and installation of the carrier pipe is underway.

Missouri River Wastewater Treatment Plant (MRWWTP) Improvements Schedule A, B1, and B2

CSOP.01.01.1D00 1D - Missouri River WWTP Improvements

LTCP Project Description:

MRWWTP Improvements were identified to treat an increase in combined sewage flow during wet weather of up to approximately 150 MGD through preliminary and primary treatment, and to provide a firm capacity for secondary treatment of 64 MGD for both dry and wet weather flows. Flow in excess of the secondary treatment system capacity will be discharged through CSO 102 after chlorination and de-chlorination.

Key components of the MRWWTP Improvements described in the 2009 LTCP include a new head works facility, primary clarifier splitter structure, odor control facilities, chlorine contact basin, industrial waste treatment system and an upgraded Transfer Lift Station.

LTCP Phase: Phase 1 Major CSO Control Projects

CSO Permit Requirement:
Add verbatim from CSO NPDES Permit: Ex. "On or before December 31, 2016 the City of Omaha shall commence bidding on one of the Sewer Separation Projects in Phase 4." GET FROM PMT

LTCP Schedule:
Construction Completion is expected to be in compliance with the LTCP

Compliance Report

The completion of Sch. A, Sch. B1, and Sch. B2 are anticipated to be complete by the LTCP date of December 2019.

Activity	LTCP Schedule Date	Actual or Anticipated Date
Substantial Completion for Schedule B2	9/13/2019	*5/8/2019*
Operational Complete for Schedule B2	12/31/2019	*5/8/2019*

The following is the status of the Sch. B2 portion of this project.

Action This Term	Target Date	Actual Date
Construction Start of Sch. B2	Oct. 3, 2016	Oct. 3, 2016
Action Next Term	**Target Date**	**Anticipated Date**
Completion of Milestone A (Odor Control) Sch. B2 is scheduled	June 8, 2018	June 8, 2018

Costs

LTCP Estimated Construction Cost (April 2009 dollars): $52M

Current Estimated Construction Cost: $132,159,719 [1]

[1] A Total of: Schedule A final payment of $19,606,842; Schedule B1 current contract $61,681,924M (awaiting final payment), not counting $983,280 in costs not related to the CSO Program; Schedule B2 current contract is $50,870,953.

Project Activities and Progress

CSO Capital Improvement Project(s) and Current Status (as of 9/30/2017):

City Project #	City Project Name	Status	Percent Complete
OPW 52200	Schedule A	Final Completion	100%
OPW 51875	Schedule B1	Final Completion	100%
OPW 52648	Schedule B2	In Construction	65%

The following is a brief synopsis of project activities and progress that has taken place during this period:

- OPW 52648 odor control basin, diaphragm wall for the chlorine contact basin and chemical building continue under construction during this period.

Anticipated Project Activity for Next Period

- OPW 52648 construction and testing of odor control facilities is expected to be complete.
- OPW 52648 Diaphragm wall for the chlorine contact basin is expected to be completed, construction of the chlorine contact basin will be underway and the chemical building construction will continue during this period.

Changes from the LTCP

There were no changes. Schedule is on target with LTCP Update.

Other Items of Interest

Bank Stabilization Construction on this project began in the spring of 2016. All elements have been installed and project achieved substantial completion on April 17, 2017 and final completion on July 5, 2017. The cost for Bank Stabilization of $7,055,316 is not part of the Missouri River WWTP Improvements project. It was paid for with CSO funds.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Saddle Creek CSO 205 Retention Treatment Basin (RTB)

CSOP.01.02.2C00 2C - Saddle Creek Retention Treatment Basin

LTCP Project Description:

The Saddle Creek RTB will be located at 64th Avenue and Dupont Street, and will provide treatment and disinfection of combined sewage prior to discharge to Little Papillion Creek. The RTB will provide an underground basin where combined sewage is stored during wet weather events and treated (grit and screenings removal, settling, chlorination, and dechlorination) before discharge.

The RTB is being designed to accept a peak-hour flow rate of 160 mgd to provide equivalent-to-primary treatment, with provisions to allow up to 320 mgd of peak wet weather flows for disinfection. The completion of this facility will result in a significant reduction in the volume of partially treated CSO, total suspended solids (TSS), and *E. coli* bacteria entering Little Papillion Creek. Flows in excess of the facility capacity will be routed around the RTB and discharged into Little Papillion Creek.

LTCP Phase: Phase 2 Major CSO Control Projects

CSO Permit Requirement:

CSO Permit reflects Operationally Complete by December 31, 2023.

LTCP Schedule:

Construction Complete by June 30, 2023

Operationally Complete by December 31, 2023

Compliance Report

This Long Term Permit Milestone was met by the bidding of Hitchcock Park Green Infrastructure project December 7, 2016.

Activity	LTCP Schedule Date	Actual or Anticipated Date
Final Design	7/1/2018	12/7/2016 (Actual)
End Construction	12/31/2023	*June 30, 2023 (Anticipated)*

Project Activities and Progress as of 9/30/2017:

CSO Permit reflects Operationally Complete by December 31, 2023.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

City Project #	LTCP Name	Activity	Date
52049	Saddle Creek CSO 205 Retention Treatment Basin (RTB)	Begin Preliminary Design	April 7, 2011
		Revised Final Design	*September 30, 2018*
		Re -Advertise	*October 1, 2018*
		Re-Bid Opening	*April 2, 2019*
		Begin Construction	*May 4, 2019*
		Substantial Completion	*June 30, 2023*
		Operationally Complete	*December 31, 2023*

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that has taken place during this period:

- Completed alternative analysis and value engineering review for the project to meet the EPA CSO Control Play at a more affordable cost.
- Change in the facility design criteria from 315 mgd to 160 mgd.
- Gained NDEQ acceptance on the new design criteria.
- Commenced redesign activities with Wade Trim in July 2017.
- Contractor Follow-Up/Engagement – Continued engagement with contractors towards bidding the future project.
- Omaha Bidding/Contracting Market – Continued tracking of metropolitan area construction contracts to determine trends in bid results, labor availability, and avoid projects bidding at the same time.
- Pre-Qualification of Bidders – Instituted a process to pre-qualify general contractors for bidding.

Anticipated Project Activity for Next Period

- Complete conceptual redesign of the project in the 4th quarter of 2017.
- Complete 60% redesign of the project in 1st quarter 2018.
- Complete 90% redesign of the project in 2nd quarter 2018.
- Finish redesign activities and advertise the project to bid in 3rd or 4th quarter of 2018.

Costs

LTCP Estimated Construction Cost (April 2009 dollars): $62,467,000

Current Estimated Construction Cost: *$87,000,000 (October 2017 dollars)*

Changes from the LTCP

The City and Program Management Team (PMT) worked with the designer, Wade Trim, to review the project and develop an alternative that will provide compliance with the EPA CSO Control Policy at a more affordable cost. The chosen alternative to be implemented is a RTB with a 160 MGD capacity. The RTB will fully provide retention, primary treatment, and disinfection of up to 160 MGD. This capacity will provide a percent capture of 89% of flow in the basin, meeting the requirements of the permit (85% minimum). Flow between 160 MGD and 320 MGD will receive disinfection but not 30 minutes of detention time, equivalent to primary treatment. Combined sewage flow greater than 320 MGD will bypass the RTB and discharge out CSO 2015.

The City and PMT worked with the NDEQ to modify the project's scheduled completion date to December 31, 2023, in the City's CSO NPDES permit and Long Term Control Plan Update (LTCP). In June, the City contracted with Wade Trim to provide redesign services for the facility, and the project kicked-off in July, 2017.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

JCB & Miami Sewer Separation Phases 1 and 2
CSOP.02.02.2I 2I - ML 105-1; JCB & Miami Ph1 and 2

LTCP Project Description:

John Creighton Blvd. (JCB) & Miami – This project is located in the southerly portion of the Minne Lusa Basin and provides separation to an area bounded south of Adams Park, from Maple St on the north to Hamilton St on the south and between 32nd St on the east and 40th St on the west. The conceptual plan for this project includes construction of storm sewers to allow for conversion of the existing combined sewers to sanitary sewers and provides separation in the entire JCB & Miami sub-basin.

This project would result in reduced flows in the downstream combined sewer system which results in a reduction in size of downstream controls at CSO 105.

LTCP Phase: Phase 2 Sewer Separation Projects

CSO Permit Requirement:

The CSO Permit Milestone date states all the Sewer Separation Phase 2 Projects shall complete construction by September 30, 2017.

LTCP Schedule:

Bid Date: 1/1/2014

Construction Complete: 9/30/2017

Compliance Report

The Long Term Permit Milestone for Phase 2 Sewer Separation Projects has been met by the completion of the JCB & Miami Sewer Separation Phase 1 & 2 projects (OPW-52165) on November 30, 2016.

Activity	LTCP Schedule Date	Actual or *Anticipated Date*
Bidding	1/1/2014	6/4/2014(actual)
End Construction	9/30/2017	11/30/2016 (actual)

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period:

City Project #	LTCP Project Name	Activity	Date
OPW 52165	JCB & Miami Sewer Separation Phases 1 & 2 and Adams Park Improvements	Begin Preliminary Design	5/12/2011
		Begin Final Design	1/31/2013
		Advertise	6/4/2014
		Bid Opening	7/16/2014
		Begin Construction	9/3/2014
		Substantial Completion	11/30/2016

Note: All dates are actual dates achieved.

Anticipated Project Activity for Next Period

The projects have been completed, and no activity is anticipated for the next period. This project will no longer be included in the Annual Report

Costs

Budgeted Construction Cost (September 2016): $21,989,045

Actual Construction Cost: $21,304,096

Changes from the LTCP

No changes have been made to the projects.

Other Items of Interest

No other items to report.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Gilmore Avenue Sewer Separation

CSOP.02.03.3G00 – OM 119-6; Gilmore Avenue Phases 1 & 2

LTCP Project Description:

This project is located along the southern boundary of the Ohern Monroe Basin and provides stormwater conveyance along Gilmore Avenue from Harrison Street to Railroad Avenue. The project provides sewer separation to an approximately 226-acre area in the Ohern/Monroe Basin and consists of abandonment of some existing pipes, rehabilitation, and construction of new storm and sanitary sewers. The newly constructed and rehabilitated sewers convey stormwater flow to the South Barrel and sanitary flows to the North Barrel. This separation directs the overland creek flow entering the system from Sarpy County to the South Barrel, which will convey stormwater to the Missouri River. The project incorporates green infrastructure (detention basin) that decreases the size of necessary downstream storm sewers and offers benefits to neighborhood residents.

LTCP Phase: Phase 3 Sewer Separation Projects

CSO Permit Requirement:

All of the Sewer Separation Phase 3 Projects shall complete construction by December 31, 2018.

LTCP Schedule:

Bid Date: 4/10/2015

Construction Complete: *12/31/2017 (Anticipated)*

Compliance Report

Construction of Gilmore Avenue Sewer Separation Phases 1 and 2 is currently on schedule for the original LTCP Construction Completion date of 12/31/2017.

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding	5/13/2015	4/10/2015 (Actual)
End Construction	12/31/2017	*12/31/2017 (Anticipated)*

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period:

City Project #	LTCP Project Name	Activity	Date
OPW 52184	Gilmore Avenue Sewer Separation Phase 1 and 2	Begin Preliminary Design	02/21/2012
		Begin Final Design	08/07/2013
		Advertise	3/11/2015
		Bid Opening	4/10/2015
		Begin Construction	8/3/2015
		Substantial Completion	*12/31/2017 (anticipated)*

During this reporting period construction continued on both the sanitary and storm sewer systems as well as the construction of the green infrastructure features.

Anticipated Project Activity for Next Period and

OPW 52184 – Gilmore Avenue Sewer Separation Project construction Substantial Completion date is anticipated to be December 31, 2017.

Final Completion date is estimated April 15, 2018.

Costs

Budgeted Construction Cost: $18,238,776, using ENR News-Record (ENR) Construction Cost Index (CCI) 9412 (December 2012).

Current Estimated Construction Cost : Total $10,390,000

Changes from the LTCP

There were no notable changes. Schedule is on target with LTCP Update.

Other Items of Interest

OPW 52184A – Gilmore Avenue Landscaping Improvements, was bid on July 27, 2016, is ongoing (concurrent with sewer construction contract) and anticipated to be complete by December 31, 2017.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Nicholas Street Phase 3

CSOP.02.04.4B00 4B-BI Basin 108-3

LTCP Project Description:

This project includes sewer separation upstream of the Nicholas Street Phase 1 and Nicholas Street Phase 2 project areas. It includes construction of storm and sanitary sewers. The project will begin near 16th and Charles Streets where Nicholas Phase 2 left a storm connection point and continue north. The separation areas include the 16th Street and Grant Street Sewer Separation and the 18th Street and Seward Street Sewer Separation areas. See the ***Changes from the LTCP*** section for additional information regarding the 18th & Seward project area.

The preliminary design contract includes design of Nicholas Phase 3 and 16th and Grant Street Sewer Separation projects. These two projects were combined in the amendment to the LTCP dated March 24, 2015. This moves the 16th and Grant project ahead in the schedule. It was originally part of Sewer Separation Phase 6.

LTCP Phase: Phase 4 Sewer Separation Projects

CSO Permit Requirement:

On or before December 31, 2016 the City of Omaha shall commence bidding on one of the Sewer Separation Projects in Phase 4.

LTCP Schedule:

Bid Date: 1/1/2018*

Construction Complete: 12/31/2019*

*The schedule for this project will be modified from that proposed in the LTCP. The Bid Date is scheduled for January 2020 and Construction completion is scheduled for December 2021.

Compliance Report

This Long Term Permit Milestone for Phase 4 Sewer Separation Projects was met by another project.

The Nicholas Phase 3 project revised project schedule meets the Phase 4 Sewer Separation milestones, but will not meet the project dates in the LTCP Update.

Activity	LTCP Schedule Date	Actual or *Anticipated Date*
Bidding	1/1/2018	*1/8/2020 (Anticipated)*
End Construction	12/31/2019	*12/31/2021 (Anticipated)*

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period: During the Study phase, the project team identified a number of alternatives to serve the project area and an expanded service area to maximize the flows in the system. Based on the estimated costs for the alternatives, the City decided on a reduced service area at a more economical cost. The 18th & Seward Separation project that is scheduled to be completed as one of the Sewer Separation Projects in Phase 6 has been combined with this project and will be tracked concurrently. It was determined during the preliminary design of the Nicholas Street Phase 3 project that much of the area originally identified as part of the 18th and Seward project is within the project limits for Nicholas Phase 3. It is anticipated that these improvements will be constructed as part of the Nicholas Phase 3 project because it will be more cost effective.

City Project #	City Project Name	Activity	Date
OPW 52721	Nicholas Street Sewer Extension Phase 3	Begin Preliminary Design	7/1/2016
		Begin Final Design	*12/19/2017**
		Advertise	*11/27/2019*
		Bid Opening	*1/8/2020*
		Begin Construction	*3/4/2020*
		Substantial Completion	*12/31/2021*

Anticipated Project Activity for Next Period

Next period to include work towards final design, which is planned to begin in December 2017. Advertising, bid opening and construction to be performed during future periods with substantial completion scheduled for December 2021.

Costs

Budgeted Construction Cost (September 2016): $13,965,000

Current Estimated Construction Cost: $16,050,500 Costs are based on 30% project deliverable.

Changes from the LTCP

The schedule for this project will be modified from that proposed in the LTCP. The revised project schedule will meet the Phase 4 Sewer Separation Milestones.

Other Items of Interest

No other items to report.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Forest Lawn Sewer Separation

CSOP.02.04.4G00 4G-ML 105-15; Forest Lawn Separation

LTCP Project Description: A brief summary of the project, as originally outlined in the LTCP, is listed in the following paragraph:

This project is located in the northerly portion of the Minne Lusa Basin and provides separation to an area bounded on the north by State Street, on the east by Pershing Drive and OPPD's Power Park, on the south by Ernst Street, and on the west by North 36th Street. The conceptual plan for this project includes construction of both sanitary and storm sewer to allow for conversion of the existing combined sewer to either storm or sanitary sewer, as appropriate. Existing creek flows are also eliminated from the combined system.

Stormwater detention is provided in upstream areas to reduce peak flows in the creek. This reduced the size of downstream stormwater conveyance facilities.

This project will result in reduced flows in the downstream combined sewer system which results in a reduction in size of downstream controls at CSO 105.

LTCP Phase: Phase 4 Sewer Separation Projects

CSO Permit Requirement:

On or before December 31, 2016 the City of Omaha shall commence bidding on one of the Sewer Separation Projects in Phase 4.

LTCP Schedule:

Bid Date: 7/1/2017

Construction Complete: 12/31/2019

Compliance Report

The LTCP schedule for bidding was not met due to the extensive gas and water utility relocations and upgrades in this Forest Lawn sewershed required by M.U.D. (Metropolitan Utilities District) in 2018 before the CSO project construction can be initiated. Construction start is anticipated for March 2019. The revised project schedule meets the Phase 4 milestones.

A Change Notification Request has been developed to reflect this change.

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding	7/1/2017	*8/1/2018 (Anticipated)*
End Construction	12/31/2019	*12/31/2021 (Anticipated)*

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period: The project team continued progress on the final design of the project. 60% Documents were submitted for review on December 21, 2016 followed by the 90% document submittal on August 7, 2017. Meetings were held with the affected utilities representatives to coordinate relocation efforts prior to and during construction. Extensive M.U.D. utility relocations were identified to replace the low-pressure gas system in the project area.

City Project #	LTCP Project Name	Activity	Date
OPW 52470	Forest Lawn Sewer Separation	Preliminary Design	05/29/2015
		Final Design	*03/31/2018 (anticipated)*
		Advertise	*8/1/2018 (anticipated)*
		Bid Opening	*9/12/2018 (anticipated)*
		Begin Construction	*3/1/2019 (anticipated)*
		Substantial Completion	*12/31/2021 (anticipated)*

Anticipated Project Activity for Next Period

The majority of 2018 will be spent on finishing final design, bidding the project , and waiting for M.U.D. to complete their gas and water relocation work in this area.

Costs

Budgeted Construction Cost (September 2016): $17,500.000.

Current Estimated Construction Cost : $19,100,000.

Changes from the LTCP

Advertisement, bidding, and construction start have all been delayed due to the M.U.D.'s extensive relocation effort in 2018.

Other Items of Interest

USACE performing 408 Permit technical reviews. A 405 permit will be needed for the green infrastructure.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Lake James to Fontenelle Park

CSOP.02.04.4M Lake James to Fontenelle Park

LTCP Project Description:

This project includes three separation areas located in the westerly portion of the Minne Lusa Basin and provides separation to 1) area bounded on the north by Boyd Street, on the east by 45th Street, on the south by NW Radial Highway Street, and on the west by 52nd Street (formerly referred to as 50th & Sigwart); 2) the area bounded on the north by Fort Street, on the east by 48th Street, on the south by Sprague Street, and on the west by 50th Street (formerly referred to as 49th & Fowler); 3) the area bounded on the north by Camden Avenue, on the east by 42nd Street, on the south by Fontenelle Park, and on the west by 49th Street (formerly referred to as 46th & Grand West).

The LTCP Update reduced the area of sewer separation and minimized stormwater piping to cost effectively and strategically reduce inflow to the combined sewer system while making full use of the downstream stormwater conveyance sewer. This was accomplished by incorporating improvements to the Fontenelle Park/Lagoon to attenuate stormwater flows prior to discharging into the existing downstream combined sewer system. This will result in reduced flows in the downstream combined sewer system which results in a reduction in size of downstream controls at CSO 105.

LTCP Phase: Phase 4 Sewer Separation Projects

CSO Permit Requirement:

On or before December 31, 2016 the City of Omaha shall commence bidding on one of the Sewer Separation Projects in Phase 4.

LTCP Schedule:

Bid Date: 1/1/2017

Construction Complete: 7/1/2019

Compliance Report

This Long Term Permit Milestone for Phase 4 Sewer Separation Projects was met by the bidding of the Lake James to Fontenelle Park - Fontenelle Park Lagoon Improvements project (OPW-52658) on November 1, 2016.

Activity	LTCP Schedule Date	Actual or *Anticipated Date*
Bidding	1/1/2017	11/1/2016 (actual)
End Construction	7/1/2019	*7/1/2019 (Anticipated)*

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Project Activities and Progress as of 9/30/2017

This project was broken into two construction packages. The Fontenelle Park Improvements Contract provides for the construction of the expanded and deepened lagoon construction as well as all improvements within Fontenelle Park. The second construction package, the Paxton Basin Upstream Sewer Separation, includes the sewer separation in the three separate areas south, west, and north of the Park to direct separated stormwater to the improved lagoon.

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period:

City Project #	LTCP Project Name	Activity	Date
OPW 52658	Lake James to Fontenelle Park – Fontenelle Park Lagoon Improvements	Begin Preliminary Design	8/14/2014
		Begin Final Design	12/8/2015
		Advertise	11/1/2016
		Bid Opening	12/8/2016
		Begin Construction	2/13/2017
		Substantial Completion	*07/01/2018 (Anticipated)*

City Project #	LTCP Project Name	Activity	Date
OPW 52659	Lake James to Fontenelle Park – Paxton Basin Upstream Sewer Separation	Begin Preliminary Design	8/14/2014
		Begin Final Design	12/8/2015
		Advertise	*11/1/2017 (Anticipated)*
		Bid Opening	*12/13/2017 (Anticipated)*
		Begin Construction	*4/2/2018 (Anticipated)*
		Substantial Completion	*7/1/2019 (Anticipated)*

Anticipated Project Activity for Next Period

OPW-52658 - The Fontenelle Park Lagoon Improvements construction package is anticipated to achieve substantial completion on or before July 1, 2018.

OPW-52659 – The Paxton Basin Upstream Sewer Separation package is anticipated to advertise, bid, and begin construction in the next period.

Costs

Budgeted Construction Cost (September 2016): $23,567,739 (50th & Sigwart - $5,789,009; 49th & Fowler - $4,084,522; 46th & Grand West - $1,627,882; Fontenelle Pond Improvements - $12,567,739)

Current Estimated Construction Cost: $13,648,074 (OPW-52658 actual construction bid = $7,631,317; OPW-52659 95% Engineer's Opinion of Probable Cost = $6,016,757).

Changes from the LTCP

Following the approval of the 2014 LTCP Update on January 23, 2015, a request was made to NDEQ to modify the LTCP Update to reflect several changes including combining the "Minne Lusa-105-4, 49th & Fowler", "Minne Lusa-105-3, 50th & Sigwart and Minne Lusa-105-5, 46th & Grand West projects into a single project titled, "Lake James to Fontenelle Park". The requested schedule was to start the bidding process on January 1, 2017 with the completion of construction on July 1, 2019 (as corresponded to the last project, Minne Lusa-105-3, 50th & Sigwart in LTCP Update). This new project is include in Phase 4 which calls for all projects to be complete by June 30, 2022.

Other Items of Interest

No other items to report.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

CSO 117 Missouri Avenue Sewer Separation Projects Phase 2 (aka Spring Lake Park)

CSOP.02.04.4N00 – 4N - Basin CSO 117; Missouri Avenue Ph 2

LTCP Project Description:

This Project is located in the South Interceptor Basin and is bounded on the north by Interstate 80; on the east by the Missouri River Levee; on the south by Missouri Avenue; and on the west by South 24th Street. The overall Phase 1 and Phase 2 projects will provide sewer separation to the entire 416-acre Missouri Avenue sub-basin through a combination of new storm and new sanitary sewers. Sanitary flows will be directed to the existing Missouri Avenue Lift Station while storm flows will be conveyed to the Missouri River through the existing combined sewer which will eventually be converted to a storm-only sewer following completion of the Missouri Avenue Phase 2 Sewer Separation project. The Phase 1 project included construction of a multi-use pond within Spring Lake Park to provide detention of stormwater runoff to reduce downstream flows and to allow the continued use of the combined sewer as a storm sewer following completion of the sewer separation. Phase 1 is complete and will no longer be reported on. The Phase 2 project provides for additional sewer separation north and east of the Spring Lake golf course and for sewer separation south of "F" Street and west of Spring Lake Park.

LTCP Phase:

South Interceptor-117-1, Missouri Avenue Phase 2 - Sewer Separation Phase 4

CSO Permit Requirement:

All of the Sewer Separation Phase 2 Projects shall be completed by September 30, 2017 and ONE of the Phase 4 Sewer Separation Projects shall commence bidding by December 31, 2016. Phase 4 milestone met with another project.

LTCP Schedule:

Bid Date Missouri Avenue Phase 2: 03/01/2017

Construction Complete Phase 2: 12/31/2019 (anticipated)

Compliance Report

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding (Phase 2)	06/30/2017	03/01/2017 (Actual)
End Construction (Phase 2)	12/31/2019	*12/31/2019 (Anticipated)*

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period:

City Project #	LTCP Project Name	Activity	Date
OPW 51997b	Missouri. Avenue Sewer Separation Phase 2	Begin Final Design	09/28/2015
		Advertise	01/18/2017
		Bid Opening	03/01/2017
		Begin Construction	*11/01/2017 (Anticipated)*
		Substantial Completion	*12/31/2019 (Anticipated)*

Anticipated Project Activity for Next Period

Construction of the Phase 2 project is anticipated to start on November 1, 2017 with the initial focus on work within Spring Lake Golf Course areas as this needs to be completed during the non-golfing portion of the year. Progress with Phase 2 construction throughout this period.

Costs

LTCP Budgeted Construction Cost (April 2009 dollars) $16 million (Phases 1 and 2)

Current Estimated Construction Cost : Phase 2: $6.5 Million. Cost is based on actual bids received.

Changes from the LTCP

There were no notable changes. Schedule is on target with LTCP Update.

Other Items of Interest

OPW 51997p – Mo. Avenue/Spring Lake Park Mitigation Plantings contract with Lanoha Nursery is ongoing. Mitigation Plantings costs are included in the Phase 1 costs noted above. Many replacement plants will be planted during the 2018 season.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

42nd Street & Q Street Sewer Separation

CSOP.02.04.4P00 4P-PCS 42 & Q (CSO 207/208)

LTCP Project Description:

This project will provide sewer separation to the area bounded by Orchard Avenue on the north, 39th Street on the east, R Street on the south, and 44th Street on the west. The conceptual plan for this project includes construction of both new sanitary sewer and storm sewer. New storm sewers will be constructed along 42nd Street, Q Street, and R Street. Sanitary sewer will be constructed to carry newly separated sanitary sewer flow into an existing combined sewer that will be converted to a sanitary sewer. Green Infrastructure will be constructed in Hitchcock Park on the west side of 42nd Street as part of the overall sewer separation project. This sewer separation project is being coordinated with the design and construction of a City transportation project to replace a railroad bridge and provide intersection improvements at 42nd and Q Streets. Construction of a portion of the storm sewer as part of the roadway/bridge project was completed in 2017. The project will separated storm flows from sanitary flows and allow for the deactivation of CSO 207 and 208.

LTCP Phase: Sewer Separation Phase 4 Projects

CSO Permit Requirement:

On or before December 31, 2016 the City of Omaha shall commence bidding on one of the Sewer Separation Projects in Phase 4.

LTCP Schedule:

Bid Date: 7/1/2018

Construction Complete: 7/1/2020

Compliance Report

This Long Term Permit Milestone was met by the bidding of Hitchcock Park Green Infrastructure project December 7, 2016.

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding	7/1/2018	12/7/2016 (Actual)
End Construction	7/1/2020	*6/30/2019 (Anticipated)*

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period:

Construction of the Hitchcock Park Green Infrastructure was initiated in the summer of 2017 and substantially completed during this reporting period.

City Project #	City Project Name	Activity	Date
OPW 52881	Hitchcock Park Green Infrastructure	Begin Preliminary Design	9/11/2012
		Final Design	8/25/2016
		Advertise	11/2/2016
		Bid Opening	12/7/2016
		Begin Construction	5/1/2017
		Substantial Completion	9/6/2017

City Project #	LTCP Project Name	Activity	Date
OPW 52257	42nd and Q Street area Sewer Separation (CSO207/208)	Begin Preliminary Design	9/11/2012
		Final Design	2/28/2017
		Advertise	5/3/2017
		Bid Opening	6/28/2017
		Begin Construction	*5/1/2018 (Anticipated)*
		Substantial Completion	*6/30/2019 (Anticipated)*

Anticipated Project Activity for Next Period

*OPW 52257 42nd and Q Street Area Sewer Separation project construction to begin with notice to proceed anticipated May 1, 2018.

The 42nd and Q Street Area sewer separation project was awarded to Roloff Construction in July 2017. It was important that the sewer separation project start after completion of the Green Infrastructure project. As a result, the construction on the sewer separation project will not start until May of 2018. Construction to be performed during next period with substantial completion anticipated to be June 2019.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Costs

Budgeted Construction Cost (September 2016): $3,118,500

Current Estimated Construction Cost : Total $2,827,000.52 Costs are based on actual bids received

Changes from the LTCP

There were no notable changes. Schedule is on target with LTCP Update.

Other Items of Interest

OPW 52881 Hitchcock Park Green Infrastructure planting was completed in the Fall of 2017. Two year warranty begins upon approval of final planting.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Cole Creek CSO 204 Sewer Separation Projects

CSOP.02.04.4Q00 4Q – CC CSO 204 Ph 2

CSOP.02.05.5B00 5C – CC CSO 204 Ph 3

LTCP Project Description:

The Cole Creek CSO 204 Sewer Separation project is a multi-phase project located in the Cole Creek Basin. The project covers a 522-acre area bordered on the north by Brown Street, on the east by 52nd Street, on the south by Northwest Radial Highway and on the west by Cole Creek. Current Projects under way include CSO 204 Phase 2 and CSO 204 Phase 3. CSO 204 Phase 2 is under design within the Cole Creek CSO 204 Basin and includes design and construction of new sanitary sewers along 63rd Street between Spaulding Streets (End of Phase 1) and Binney Street. CSO 204 Phase 3 is currently under design within the Cole Creek CSO 204 Basin and includes design and construction of new storm and sanitary sewers between the area bounded by Northwest Drive on the North, North 56th Street on the East, Sprague Street on the South and North 60th Street on the West. The City determined early in the preliminary design that an increase in the peak discharge of stormwater to Cole Creek would not be allowed by the City. The design of the CSO 204 area was modified from the conceptual plan in the 2009 LTCP, which called for new storm sewers sized for the 10-year design storm, to a design that would address sewer backups and localized street flooding without increasing the peak stormwater runoff flowrate from the area. This new concept relies more on a reuse of existing combined sewers converted to storm sewers. This change in concept, along with a determination that a portion of the area contributing to CSO 204 was already separated, allowed for the work schedule to be modified to be accomplished in six phases of work instead of the nine phases included in the 2009 LTCP. This was addressed in the LTCP Update. The projects will reduce flows in the sanitary collection system and will reduce the size of the storage tank at CSO 204.

LTCP Phase: Phase 4 Sewer Separation Projects – Phase 2

Phase 5 Sewer Separation Projects - Phase 3

CSO Permit Requirement:

CSO 204 – Phase 2 - On or before January 1, 2019 the City of Omaha shall commence bidding on one of the Sewer Separation Projects Phase 4.

CSO 204 – Phase 3 - On or before July 1, 2020 the City of Omaha shall commence bidding on one of the Sewer Separation Projects Phase 5.

LTCP Schedule: CSO 204 Phase 2

Bid Date: 1/1/2019

Construction Complete: 12/31/2020

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

LTCP Schedule: CSO 204 Phase 3

Bid Date: 7/1/2020

Construction Complete: 7/1/2022

Compliance Report

These Long Term Permit Milestones are listed in the tables below. CSO 204 Phase 2 - project will not meet the LTCP dates. It is anticipated that it may meet the milestone dates for completion of construction for Phase 4 projects.

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding	1/1/2019	*6/30/2020 (Anticipated)*
End Construction	12/31/2020	*6/30/2022 (Anticipated)*

CSO 204 Phase 3 -

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding	7/1/2020	*2/6/2019 (Anticipated)*
End Construction	7/1/2022	*12/31/2021 (Anticipated)*

Activities and Progress as of 9/30/2017

CSO 204 Phase 2 -

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period. The Phase 2 project has reach the 60% design level. The 60% design submittal included a substantial increase in the estimated cost of the project due to the extreme depth of the proposed sanitary sewers (up to 60-feet in depth) and concerns of the risks associated with the construction at such depths. The project would also have a substantial impact to the residences along the alignment. The project is currently on hold while an independent evaluation is performed to determine if there are any feasible alternatives that would reduce the current construction estimate and risk associated with the construction of the project and have less of an impact to the neighborhood. A new schedule will be developed at the conclusion of the evaluation.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

City Project #	City Project Name	Activity	Date
OPW 52814	Cole Creek CSO 204 Phase 2	Begin Preliminary Design	8/17/2015
		Final Design	Design progressed to 60% Submittal. Put on Hold
		Advertise	Project On Hold
		Bid Opening	Project On Hold
		Begin Construction	6/30/2020
		Substantial Completion	6/30/2022

CSO 204 Phase 3 -

Because the CSO 204 Phase 2 project was placed on hold, the City began design of the CSO 204 Phase 3 project. The design and construction of the Phase 3 project is not dependent on the construction of the CSO 204 Phase 2 project and the City wants to continue progress in the CSO 204 Basin. The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period. The Project Team completed the initial system investigations. The Phase 3 project is currently in the preliminary (30%) design phase.

City Project #	City Project Name	Activity	Date
OPW 53206	Cole Creek CSO 204 Phase 3	Begin Preliminary Design	11/01/2017
		Begin Final Design	06/11/2018
		Advertise	08/07/2019
		Bid Opening	09/18/2019
		Begin Construction	March 2020
		Substantial Completion	September 2021

Anticipated Project Activity for Next Period

Complete alternatives review for CSO 204 Phase 2 to determine the scope of re-design and schedule for the path forward for the Phase 2 project. Continue the design for the CSO 204 Phase 3 project, progressing the project toward the bidding of the project for construction.

Costs

CSO 204 PHASE 2 PROJECT

Budgeted Construction Cost CSO 204 Phase 2 (September 2015 ENRCCI 9668): $12,000,000

Current Estimated Construction Cost : Total $16,780,000 As of 60% submittal.

CSO 204 PHASE 3 PROJECT

Budgeted Construction Cost CSO 204 Phase 3 (September 2016 ENRCCI 10386): $3,840,000

Current Estimated Construction Cost : Total $3,840,000 Study Phase.

Changes from the LTCP

Anticipated CSO 204 Phase 2 dates will be modified due to alternatives evaluation. CSO 204 Phase 3 project was moved up in the schedule. No changes in the scope of the projects.

Other Items of Interest

Proceeding with CSO 204 Phase 3.

-ANNUAL PROJECT PROGRESS REPORT-
OCTOBER 1, 2016 THROUGH SEPTEMBER 30, 2017

Cole Creek CSO 202 Sewer Separation Phase 1 & 2

Cole Creek CSO 203 Sewer Separation

CSOP.02.05.5D00 5D – CC CSO 202 Ph 1 (Cole Creek)

CSOP.02.05.5E00 5E – CC CSO 202 Ph 2 (Cole Creek)

CSOP.02.05.5C00 5C – CC CSO 203 Sewer Separation (Cole Creek)

LTCP Project Description:

Cole Creek CSO 202 Sewer Separation (Phases 1 and 2) – Construct both sanitary sewer and storm sewer to allow for conversion of the existing combined sewer to either storm or sanitary sewer and to provide separation to this 101-acre area. This reduces flow to the collection system and allows for potential deactivation of CSO 202. It is anticipated that 202 Phase 1 and 202 Phase 2 will be constructed as a single project.

Cole Creek CSO 203 Sewer Separation – Similar to the Cole Creek CSO 202 Sewer Separation project, construct both sanitary sewer and storm sewer to allow for conversion of the existing combined sewer to either storm or sanitary sewer. This provides separation to the 125 acre area, reduces flows into the collection system and allows for potential deactivation of CSO 203.

LTCP Phase: Phase 5 Sewer Separation Projects

CSO Permit Requirement:

CSO Permit required that one of the Sewer Separation Phase 5 Projects shall commence bidding by July 1, 2020.

LTCP Schedule:

Bid Date: 7/1/2020

Construction Complete: 7/1/2022

Compliance Report

This Long Term Permit Milestones are anticipated to be met for the CSO 203 sewer separation. However, the Long Term Permit Milestones are not anticipated to be met for the CSO 202 Phases 1 and 2 sewer separation project because the CSO 202 project construction is dependent on the completion of a Transportation construction project completion within a portion of the project area. The CSO 202 Phase 1 and Phase 2 construction must be delayed by approximately 3 years.

CSO 203 Sewer Separation

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding	7/1/2020	*7/1/2020 (Anticipated)*
End Construction	7/1/2022	*12/31/2021 (Anticipated)*

CSO 202 Phases 1 and 2

Activity	LTCP Schedule Date	Actual or Anticipated Date
Bidding	7/1/2020	*7/1/2021 (Anticipated)*
End Construction	7/1/2022	*12/31/2023 (Anticipated)*

Project Activities and Progress as of 9/30/2017

The following is a brief synopsis of project activities and progress that have taken place prior to and during this reporting period:

A single consultant was selected for the study and design of all three projects.

A study/conceptual design (10%) was developed for the three project areas and is under review. Based on the results of the review it will be determined how the projects will be delivered.

A portion of the CSO 202 project is being coordinated with a City/State Transportation project at the intersection of 72nd Street and Maple Street and extending eastward in the CSO project area. This may result in a delay of the CSO 202 Project construction.

City Project #	zLTCP Project Name	Activity	Date
OPW 53059	Cole Creek CSO 202 Phase 1 and 2 and CSO 203	Begin Preliminary Design	3/20/2017
		Begin Final Design	*1/2/2019 (Anticipated)*
		Advertise	*7/1/2020 Anticipated*
		Bid Opening	*8/15/2020 Anticipated*
		Begin Construction	*10/1/2020 Anticipated*
		Substantial Completion	*7/1/2022 Anticipated*

Anticipated Project Activity for Next Period

Complete 30% design and proceed to final design for both CSO 202 Phase 1 and 2 or CSO 203.

Costs

Budgeted Construction Cost (September 2016):; CSO 202 Phase 1 - $5,002,000; CSO 202 Phase 2 - $4,762,000; CSO 203 - $4,178,000

Current Estimated Construction Cost CSO 202- $4,940,000 to $5,170,000; CSO 203 -$5,520,000 to $8,280,000.

Changes from the LTCP

There were no notable changes in the project. Schedule is on target with 2014 LTCP Update.

Other Items of Interest

Attachment 5 –CSO Program: Change Notification and Request (CNR)

Attachment 5

Attachment 5 contains Change Notification and Request Documentation for the period of 10/1/2016 to 9/30/2017. The CNRs have been sorted in order of WBS number. The WBS is the number code that serves as a common thread to all program controls systems with CSOP.01=Major Projects; CSOP.02=Sewer Separation.

Work Breakdown Structure (WBS)	Request Title
CSOP.02.04.4B	Nicholas Street Sewer Extension Phase 3
CSOP.02.04.4G	Forest Lawn Creek Inflow Removal and Outfall Storm Sewer Project
CSOP.02.04.4Q	Cole Creek CSO 204 Sewer Separation Phase 2
CSOP.02.04.4R	Nicholas & Webster Sewer Separation Phase 2 - CSO 108

CSO!
Clean Solutions for Omaha

Change Documentation Tracking Form

REQUEST TITLE:	BI 108-3 Nicholas Street Sewer Extension Phase 3	DISCOVERY DATE:	7/13/2017
INITIATED BY:	PMT	REQUEST DATE:	11/15/17
PREPARED BY:	Kay Dry	DECISION DATE DUE:	
WBS NUMBER:	CSOP.02.04.4B		

Change Effects: (Check all that apply)

Scope ☒ Schedule ☒ Cost ☐

Rehabilitation project ☐ Other ☐

Brief Summary from Change Description and Justification TM

SCOPE CHANGE:

The BI 108-3 Nicholas Street Sewer Extension Phase 3 Project was combined with the 18th and Seward Project (which was part of LTCP Phase 6.) Combining these two projects will provide a more efficient design and construction process for this area of the City of Omaha and reduce the overall cost.

SCHEDULE CHANGE:

Preliminary design for the BI 108-3 Nicholas Street Sewer Extension Phase 3 Project was originally to be complete by January 2, 2017 in order to meet the LTCP bidding date of January 1, 2018. Notice to Proceed for preliminary design was issued on July 1, 2016. The preliminary design is currently in progress and is anticipated to be completed by December 4, 2017.

The preliminary design was delayed to evaluate the Burt Izard basin in conjunction with the infrastructure constructed as part of Phases 1 and 2 of the Nicholas Street Sewer System to determine if the Nicholas Street Sewer Extension Phase 3 should be combined with other proposed LTCP projects in the area. As a result of this evaluation, this project was combined with the 18th and Seward Project (which was part of LTCP Phase 6). Combining these two projects will provide a more efficient design and construction process for this area of the City of Omaha and reduce the overall cost. This phase of the project will complete the planned extension of sewers as part of the Nicholas Street Extension projects. Note that the 18th and Seward Project is part of LTCP Phase 6, and was not scheduled for bidding until July 1, 2021, with construction completion by December 31, 2023. By combining this project with Nicholas Street Phase 3, it will be completed earlier than previously identified.

The current LTCP schedule indicates that construction completion is anticipated by December 30, 2019. The Nicholas Street Sewer Extension Phase 3 project is part of the LTCP Phase 4 projects group. The LTCP requires that all Phase 4 projects be complete by June 30, 2022. The revised project schedule for the Nicholas Street Sewer Extension Phase 3 project meets the Phase 4 schedule requirements of the LTCP. The Schedule dates for the referenced project are being modified as follows:

	Current LTCP Schedule	Actual Completion or *Scheduled Completion*
Design		
Study	12/31/2015	12/31/2015
Preliminary Design Completion	1/2/2017	*12/4/2017*
Final Design Completion	12/31/2017	*7/5/2019*
LTCP Bidding	1/1/2018	*12/27/2019*
Construction		
Construction Start Date	5/30/2018	*2/7/2020*
LTCP Construction Completion Date	12/30/2019	*12/31/2021*

PMT Review/Recommendation:

Team	Name	Recommended	Comments /Attachments	Date and Initial
COMPLIANCE	Pat Nelson	Yes		Pan 12/4/2017
SEWER SEPARATION	Roger Coffey	YES	See comments	RLC 11/30/17
PROJECT DELIVERY	Scott Aurit	YES	See comments	SAA 11/29/17
PROGRAM CONTROLS	Jack Woo	YES		JYW 11/30/2017
CONSTRUCTION	Ron Sova	YES		RS 11/30/2017
ASSURANCE	Kent Bienlien	Yes		kdb 11/30/17

Program Managers Approval/Disapproval:

	Approved	Comments	Date and Initial
CSO PROGRAM MANAGER	Tom Heinemann		TJH 12/4/17
CITY PROGRAM COORDINATOR	Jim Theiler		JET 12/5/17

Approval Date is date of the last signature by the Program Manager.

Change Description and Justification TM

OPW 52721 – Nicholas Street Phase III Extension

Introduction:

The purpose of this Technical Memorandum (TM) is to summarize a request for change to the schedule for the Nicholas Street Sewer Extension Phase 3 Project. The change description and justification was prepared by the Program Management Team (PMT) to document the scope change and schedule delay.

Description of Changes

Scope Changes

The Nicholas Street Sewer Extension Phase 3 project was combined with the 18th and Seward (which was part of LTCP Phase 6) and 16th and Grant Projects. Combining these two projects will provide a more efficient design and construction process for this area of the City of Omaha and reduce the overall cost for the City of Omaha.

Schedule Changes

Preliminary design for this Project was originally to be complete by January 2, 2017 in order to meet the LTCP bidding date of January 1, 2018. Notice to Proceed for preliminary design was issued on July 1, 2016. The preliminary design is currently in progress and is anticipated to be completed by December 4, 2017.

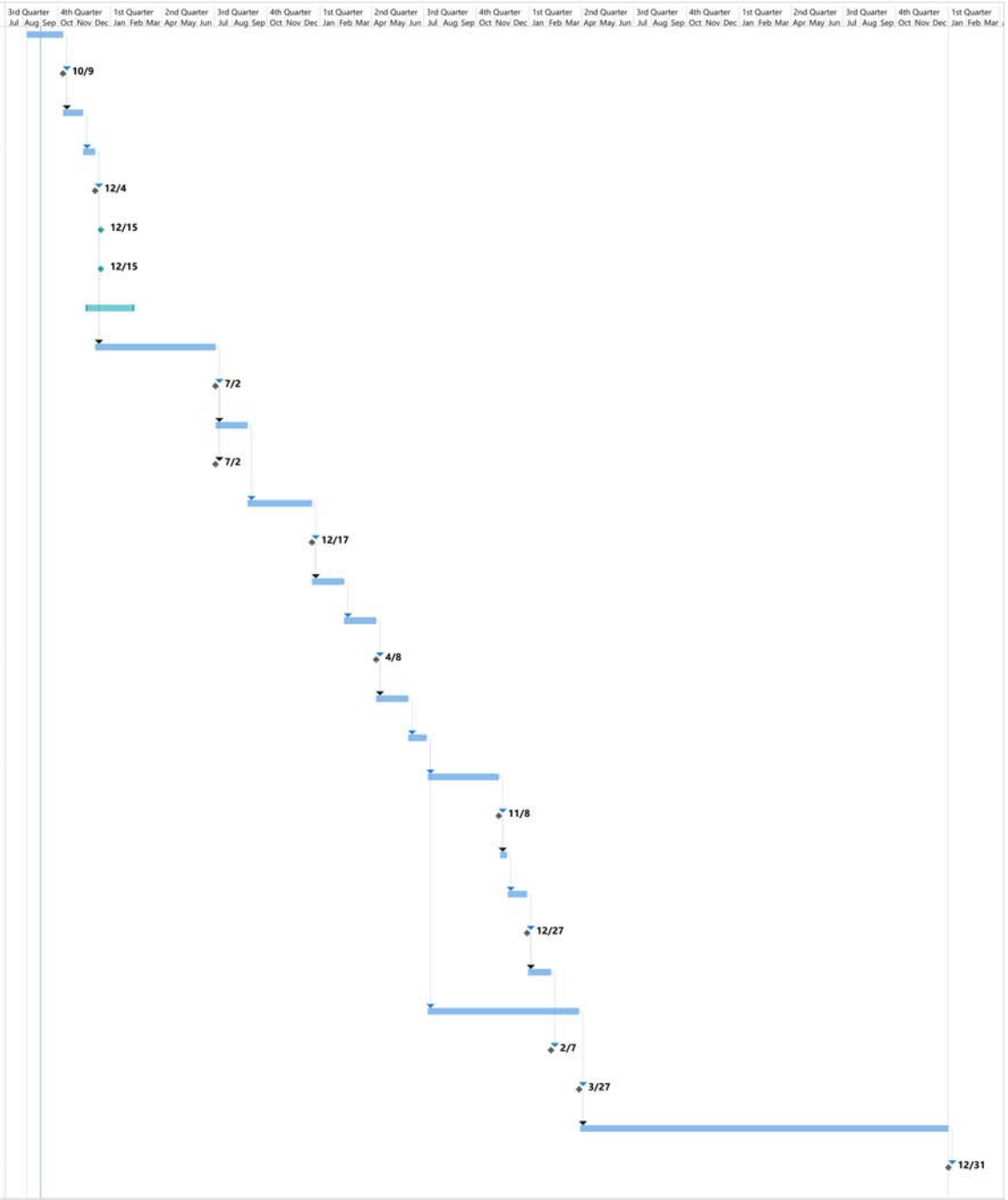
The preliminary design was delayed to evaluate the Burt Izard basin in conjunction with the infrastructure constructed as part of Phases 1 and 2 of the Nicholas Street Sewer System to determine if the Nicholas Street Sewer Extension Phase 3 should be combined with other proposed LTCP projects in the area. As a result of this evaluation, this project was combined with the 18th and Seward (which was part of LTCP Phase 6) and 16th and Grant Projects. Combining these two projects will provide a more efficient design and construction process for this area of the City of Omaha and reduce the overall cost for the City of Omaha. This phase of the project will complete the planned extension of sewers as part of the Nicholas Street Extension projects. Note that the 18th and Seward Project is part of LTCP Phase 6, and was not schedule for bidding until July 1, 2021, with construction completion by 12/31/2023, by combining this project with Nicholas Street Phase 3 it will be completed earlier than anticipated.

The current LTCP schedule indicates that construction completion is anticipated by December 30, 2019. The Nicholas Street Sewer Extension Phase 3 project is part of the LTCP Phase 4 projects group. The LTCP requires that all Phase 4 projects be complete by June 30, 2022. The revised project schedule for the Nicholas Street Sewer Extension Phase 3 project meets the Phase 4 schedule requirements of the LTCP.

Cost Changes

None at this time.

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		Address QRF Comments and Revise 30% Submittal	45 days	Tue 8/8/17	Mon 10/9/17	
2		Submit 30% Submittal for City/PMT Review	0 days	Mon 10/9/17	Mon 10/9/17	1
3		City / PMT 30% Review Period	25 days	Tue 10/10/17	Mon 11/13/17	2
4		Finalize 30% Submittal	15 days	Tue 11/14/17	Mon 12/4/17	3
5		Submit Final 30% Submittal	0 days	Mon 12/4/17	Mon 12/4/17	4
6		30% Utility Meeting	0 days	Fri 12/15/17	Fri 12/15/17	
7		30% Public Meeting	0 days	Fri 12/15/17	Fri 12/15/17	
8		LRA Final Design Contract Negotiations	60 days	Mon 11/20/17	Fri 2/9/18	
9		60% Design	150 days	Tue 12/5/17	Mon 7/2/18	5
10		Submit 60% Submittal for City/PMT Review	0 days	Mon 7/2/18	Mon 7/2/18	9
11		City / PMT 60% Review Period	40 days	Tue 7/3/18	Mon 8/27/18	10
12		60% Utility Meeting	0 days	Mon 7/2/18	Mon 7/2/18	10
13		90% Design	80 days	Tue 8/28/18	Mon 12/17/18	11
14		Submit 90% to City / PMT	0 days	Mon 12/17/18	Mon 12/17/18	13
15		City / PMT 90% Review Period	40 days	Tue 12/18/18	Mon 2/11/19	14
16		95% Design	40 days	Tue 2/12/19	Mon 4/8/19	15
17		Submit Plans to NDEQ	0 days	Mon 4/8/19	Mon 4/8/19	16
18		NDEQ Review Period	40 days	Tue 4/9/19	Mon 6/3/19	17
19		Final CD Design	24 days	Tue 6/4/19	Fri 7/5/19	18
20		ROW Aquistion	90 days	Mon 7/8/19	Fri 11/8/19	19
21		Submit Final CD for Project Advertisement	0 days	Fri 11/8/19	Fri 11/8/19	20
22		General Service Review	10 days	Mon 11/11/19	Fri 11/22/19	21
23		Advertising	25 days	Mon 11/25/19	Fri 12/27/19	22
24		Bid Opening	0 days	Fri 12/27/19	Fri 12/27/19	23
25		Award Contract	30 days	Mon 12/30/19	Fri 2/7/20	24
26		MUD Relocation Work (Unknown)	190 days	Mon 7/8/19	Fri 3/27/20	19
27		Pre-Construction Public Meeting	0 days	Fri 2/7/20	Fri 2/7/20	25
28		Start Construction	0 days	Fri 3/27/20	Fri 3/27/20	26
29		Construction (Estimated)	460 days	Mon 3/30/20	Fri 12/31/21	28
30		Final Project Completion	0 days	Fri 12/31/21	Fri 12/31/21	29



Project: Nicholas Street Phase 3
Date: Fri 9/1/17

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Progress
Manual Progress

OPW 52470 Forest Lawn Creek Inflow Removal and Outfall Storm Sewer Project (CSO) - Change Documentation Tracking Form

REQUEST TITLE:	OPW 52470 Forest Lawn Creek Inflow Removal and Outfall Storm Sewer Project (CSO)	DISCOVERY DATE:	9/18/2017
INITIATED BY:	PMT	REQUEST DATE:	10/18/2017
PREPARED BY:	Pat Nelson	DECISION DATE DUE:	
WBS NUMBER:	CSOP.02.04.4G00		

Change Effects: (Check all that apply)

Scope ☐ Schedule ☒ Cost ☐

Change Description and Justification TM

SCHEDULE CHANGE:

Final design for this project was originally to be complete on June 28, 2016, according to the LTCP schedule. A Change Notification Request was approved on October 28, 2016 which modified the final design date to September 11, 2017 and subsequent dates with a construction completion date of December 31, 2020.

On September 25, 2017, a meeting was held with the Metropolitan Utilities District (M.U.D.) to discuss the scheduling of M.U.D. utility relocations in advance of the construction of the Forest Lawn Project. Due to the extent of relocations required by M.U.D. and the duration required to complete these relocations, a decision was made by the City of Omaha to delay the construction start of the Forest Lawn project. The dates were subsequently modified in a Project Progress Meeting on October 11, 2017. The result is that the Forest Lawn project delivery plan is to bid the project about September 30, 2018 and issue a notice to proceed to the selected contractor by March 31, 2019. This will result in a construction completion date of May 30, 2021. This is well in advance of the milestone date for Sewer Separation Phase 4 of June 30, 2022.

To reflect possible delays that may occur to the schedule as the result of M.U.D. work six months has been added to the project delivery dates for the LTCP dates.

	New LTCP Schedule	Actual Completion *(Scheduled completion)*
Additional Study and Analysis	4/30/2015	7/21/2015

Preliminary Design	9/1/2015	7/21/2015
Completion of Final Design	3/31/2018	*3/31/2018*
Advertisement for Bid	3/31/2019	*9/31/2018*
Start of Construction	09/01/2019	*03/31/2019*
Substantial Completion	12/31/2021	*5/31/2021*

Red notes the changed dates.

PMT Review /Recommendation:

Team	Recommended	Comments/Attachments	Date and Initial
COMPLIANCE	Yes		Pan 10/31/17
PROJECT DELIVERY	Yes		SAA 11/01/2017
SEWER SEPARATION	YES		RLC 10/27/2017
PROGRAM CONTROLS	YES		JYW 10/31/17
CONSTRUCTION	YES		RS 10/27/2017
ASSURANCE	Yes		KDB 10/31/17

Program Managers Approval/Disapproval:

	Approved	Comments	Date and Initial
CSO PROGRAM MANAGER	Yes		TJH 11/10/17
CITY PROGRAM COORDINATOR			JET 11/30/2017

Approval Date is date of the last signature by the Program Manager

Change Description and Justification TM
OPW 52470 Forest Lawn Creek Inflow Removal and Outfall Storm Sewer Project (CSO)

Introduction

The purpose of this Technical Memorandum (TM) is to summarize a request for change to the schedule for the Forest Lawn Creek Inflow Removal and Outfall Storm Sewer Project. The change description and justification was prepared by the Program Management Team (PMT) to document the delay.

Description of the Change

Final design for this project was originally to be complete on June 28, 2016, according to the LTCP schedule. A Change Notification Request was approved on October 28, 2016 which modified the final design date to September 11, 2017 and subsequent dates with a construction completion date of December 31, 2020.

On September 25, 2017, a meeting was held with the Metropolitan Utilities District (M.U.D.) to discuss the scheduling of M.U.D. utility relocations in advance of the construction of the Forest Lawn project. A copy of the M.U.D. Meeting notes is attached. A decision was made by the City of Omaha in the meeting to delay the project due to the extent of relocations required by M.U.D. and the duration required to complete these relocations. It was agreed in the meeting with M.U.D.to bid the project mid 2018 with a NTP January 2019. During the Project Progress Meeting on October 11, 2017 these dates were again modified. The project delivery plan currently calls for the project to the bid by September 30, 2018 with issuance of a notice to proceed to the contractor for start of construction by March 31, 2019. This will result in a construction completion date of May 30, 2021. This is well in advance of the milestone date for Sewer Separation Phase 4 of June 30, 2022.

To reflect possible modifications to the schedule as the result of M.U.D. and other project delays, six months have been added to the project delivery dates to establish the new LTCP dates.

MEETING MINUTES

OPW 52470 – Forest Lawn Sewer Separation (CSO)
MUD Coordination Meeting Minutes

ATTENDEES:	See attached sign in sheet
Location:	Public Works North Conference Room
Date:	September 18, 2017
Time:	9:00am

Purpose of the Meeting: Coordination of the North Omaha Station Gas Line Relocation with MUD and OPPD.

Jeremy stated that the relocation of the gas line serving OPPD's North Omaha Station is scheduled to be performed the last week of October. He also stated that there are not any anticipated issues based on the hurricanes.

Dennis anticipates two days of preparation for the replacement followed by one long day of replacing the line. MUD crews will stay on site until the gas is back on.

Jeremy thinks the Sarpy County power plant is offline in October; he is not overly concerned about it at this point

Dennis and Jeremy are planning on talking weekly about schedule and look at the weather until construction.
Jeremy stated one week out is the bare minimum regarding schedule because OPPD must do certain steps, publish the outage ahead of time, etc., prior to the outage.

All agreed a site meeting prior to the outage is a good idea – attendees will be City of Omaha, MUD, and OPPD at a minimum.

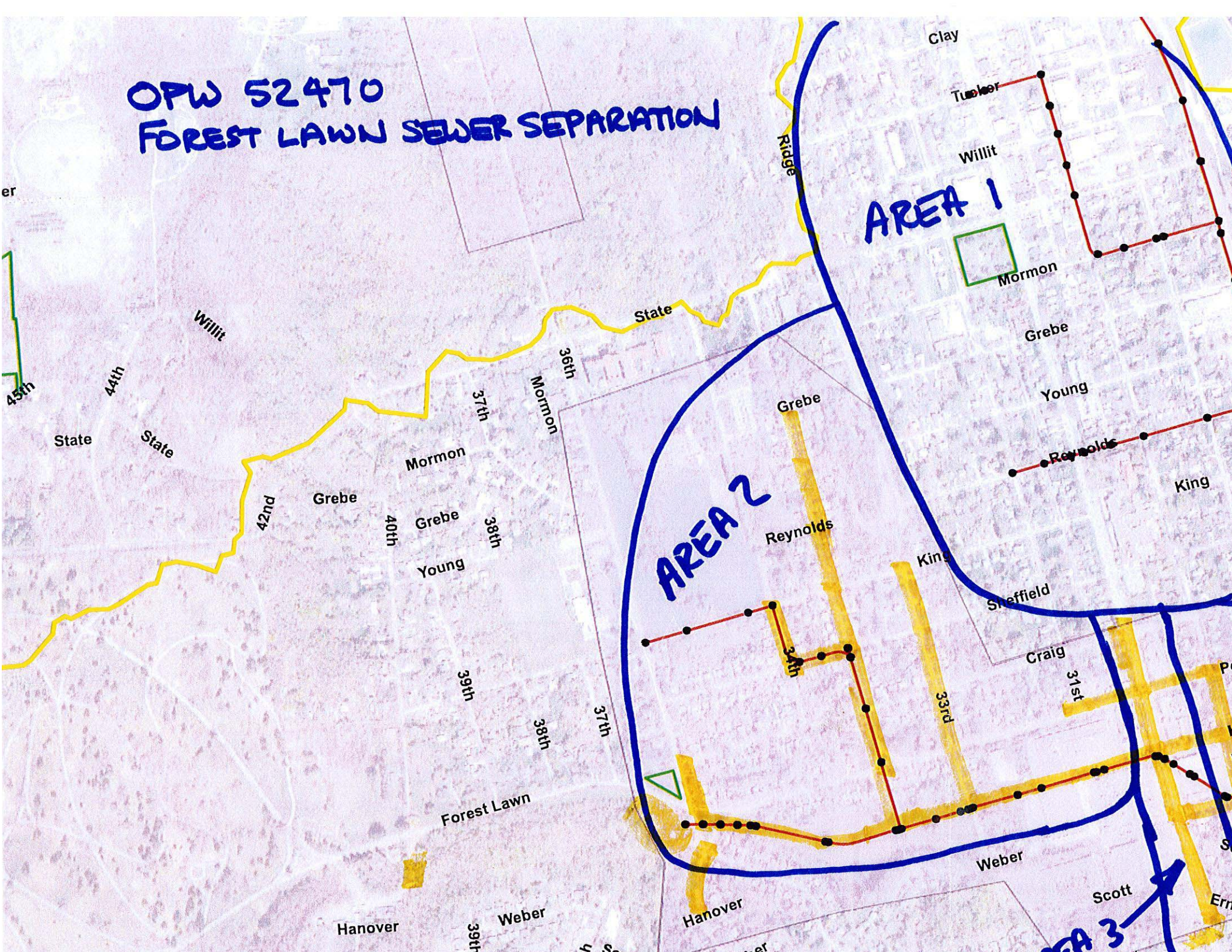
There will be street closures associated with the work, most likely the street will be closed for at least a week.

Separation Discussion – See attached Figure for reference
The MUD schedule is to work on the gas infrastructure north of the project site (Area 1 on Figure) to change the gas from low pressure to high pressure – this work is anticipated to take from January 2018 until May of 2018.

Per discussion, the next area of MUD work will be north and west of Forest Lawn Avenue and 30th Street (Area 2 on Figure). Crews will then work on 30th Street (Area 3 on Figure), followed by the area east of 30th Street (Area 4 on Figure).
Once MUD's full work plan is developed Burns & McDonnell and MUD will work together to discuss phasing to meet the project needs and keep MUD and the Contractor out of each other's way. If possible, it would be ideal for MUD and the Forest Lawn general contractor to work in tandem along 30th Street (Area 3 on Figure) to minimize the time of disturbance to the area along 30th Street/HWY 75.

Gabe stated that Mike Kleffner suggested pushing the construction back; Roger suggested to bid the project mid 2018 with a NTP January 2019. This option gives MUD time to get ahead of the contractor. All in the meeting agreed that this would be a good idea, therefore the bid is shifted from January 2018 until mid-2018.

CSO! Program Office: Central Park Plaza, 222 S. 15TH St., Suite 1406S, Omaha, NE 68102
(402) 341-0235 • webmail@omahacso.com • www.omahacso.com


OPW 52470
FOREST LAWN SEWER SEPARATION
AREA 1
AREA 2
AREA 3
Clay
Tucker
Willit
Ridge
Mormon
Grebe
Young
Reynolds
King
Sheffield
Craig
31st
33rd
34th
Weber
Scott
Hanover
Forest Lawn
State
Willit
45th
44th
42nd
40th
39th
38th
37th
36th
Mormon
Grebe
Young
Hanover
Weber


Grebe
Young
Reynolds
King
Sheffield
Craig
Potter
Hanover
Weber
Scott
Ernst
Martin
Summit
Read
Iowa
Quest
Vane
Whitmore
Ida
Titus
Lusa
Minne
Sharon
Wyoming
Idledale
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29th
31st
33rd
34th
35th
36th
36th Avenue
25th
24th
CSO 105

CSO!
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UTILITY MEETING SIGN-IN SHEET

Subject:	**Forest Lawn Sewer Separation (CSO) – OPW 52470**	**Meeting Date/Time:**	**Sept. 18, 2017; 9:00 AM**
Facilitator:	**Ned Tramp**	**Place/Room:**	**PWKS – 6th Floor North Conference Room**

Name *(please print)*	Title	Company	Phone	E-Mail
Ned Tramp	City PM	City	402 444-4966	ned.tramp@cityofomaha.org
Gabe Astorino	City of Omaha CM	City	402-444-5279	gabe.astorino@cityofomaha.org
Jeremy Bowers	OPPD Fuels Supply Manager	OPPD	402-636-2427	jbowers@oppd.com
Sarah Campbell	Utilization Engineer	MUD	402-504-7127	sarah_campbell@mudnebr
ALEX EVANS	~~CHIEF~~ PROJECT ENGINEER	BURNS & MCDONNELL	402-408-3014	alevans@burnsmcd.com
Rick Besancon	PROJECT MANAGER	BMCD	402-408-3010	Rbesancon@burnsmcd.com
Dennis Rinkol	Design Engineer	M.U.D.	402-504-7906	dennis_rinkol@mudnebr
Masa Niiya	Sr. Design Engineer	MUD	402-504-7913	masa_niiya@mudnebr.com
Roger Coffey	Omah CSO SS. Team Mtg	Omaha CSO	402-690-0449	roger.coffey@hdrinc.com
SHAWN OVENDEN	PMT COORD.	OMAHA CSO	402-708-5824	shawn.ovenden@hdrinc.com

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Change Documentation Tracking Form

REQUEST TITLE:	Cole Creek CSO 204 Sewer Separation Phase 2	DISCOVERY DATE:	12/5/2017
INITIATED BY:	PMT	REQUEST DATE:	12/5/2017
PREPARED BY:	Emily Holtzclaw	DECISION DATE DUE:	
WBS NUMBER:	Phase 4: CSOP.02.04.4Q00		

Change Effects: (Check all that apply)

Scope ☐ Schedule ☒ Cost ☐

Change Description and Justification TM

SCHEDULE CHANGE:

Due to the escalating construction cost estimates and assessment of construction risks associated with the construction of the deep sewers and use of trenchless technologies in a confined residential area construction corridor, the completion of the Final Design was put on hold while a Value/Alternative Engineering evaluation was conducted by a third party entity. The conclusion of this independent evaluation validated the concerns of the City and PMT regarding the current design and concluded that the least cost and best design for the long-term sewer maintenance of the system is to select an alignment parallel to the existing combined sewer in the existing valley that will require purchasing several residential properties adjacent to the existing combined sewer. Due to the amount of time anticipated to purchase these properties, hopefully through a voluntary buy-out process, the Cole Creek CSO 204 Phase 2 Final Design Long Term Control Plan (LTCP) Completion date will not be met and will be adjusted, in consultation with NDEQ, to be completed later in the LTCP schedule. The LTCP schedule for the Bidding and Construction for Phase 2 will also not be met. The City has contracted with the Consultant to begin design on the subsequent CSO 204 phases 3 and 4 that will continue on schedule, as they are not dependent upon completion of construction of the Phase 2 project.

The LTCP schedule identified for the Final Design, Bidding and Construction of the Cole Creek CSO 204 Sewer Separation Phase 2 Project is shown in the table below. The anticipated revised schedule is shown for comparison.

	LTCP Schedule	Anticipated Schedule
Completion of Final Design	12/23/2016	*Anticipated 06/30/2020*
Advertisement for Bid	7/2/2018	*Anticipated 06/30/2020*
Start of Construction	1/1/2019	*Anticipated 10/01/2020*

Substantial Completion	6/30/2021	*Anticipated 06/30/2022*

PMT Review/Recommendation:

Team	Name	Recommended	Comments /Attachments	Date and Initial
COMPLIANCE	Pat Nelson	Yes		PAN
PROJECT DELIVERY	Scott Aurit	Yes	See comments	**SAA**
SEWER SEPARATION	Roger Coffey	Yes		12/06/2017 RLC
PROGRAM CONTROLS	Jack Woo	Yes		11/30/2017 JYW
CONSTRUCTION	Ron Sova	Yes		12/06/2017 RS
ASSURANCE	Kent Bienlien	Yes		11/30/2017 kbd

Program Managers Approval/Disapproval:

Title	Name	Approved	Comments	Date and Initial
CSO PROGRAM MANAGER	Tom Heinemann			12/6/17 TJH
CITY PROGRAM COORDINATOR	Jim Theiler			12/7/17 JET

The Approval Date is the date of the last signature by the Program Managers.

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Change Documentation Tracking Form

REQUEST TITLE:	CSOP.02.04.4R00 4R – BI Nicholas & Webster Separation Ph 2 (CSO 108)	DISCOVERY DATE:	9/13/2017
INITIATED BY:	PMT	REQUEST DATE:	11/15/2017
PREPARED BY:	Tiffany McEachen/PMT	DECISION DATE DUE:	11/15/2017
WBS NUMBER:	CSOP .02.04.4G00		

Change Effects: (Check all that apply)

Scope ☐ Schedule ☒ Cost ☐

Rehabilitation project ☐ Other ☐

Brief Summary from Change Description and Justification TM

SCOPE: No scope changes proposed at this time.

SCHEDULE: As noted in the attached memorandum, the LTCP Schedule dates for the referenced project are being modified as follows, as evaluations are ongoing to determine whether this project will be necessary as part of implementing the LTCP.

Construction: LTCP Dates

LTCP Bidding Start: 1/1/2019 changing to 1/1/2020

LTCP Substantial Completion: 6/30/2021 changing to 6/30/2022

COST: No cost changes proposed at this time, though delaying project could result in higher construction costs due to inflation.

OTHER: No other changes proposed.

PMT Review/Recommendation:

Team	Name	Recommended	Comments /Attachments	Date and Initial
COMPLIANCE	Pat Nelson	YES ~~/ NO / NA~~		PAN
PROJECT DELIVERY	Scott Aurit	**YES** / NO / NA		**SAA**

SEWER SEPARATION	Roger Coffey	**YES** / NO / NA		11/30/2017 RLC
PROGRAM CONTROLS	Jack Woo	**YES** / ~~NO / NA~~		11/30/2017 JYW
CONSTRUCTION	Ron Sova	**YES** / NO / NA		11/30/2017 RS
ASSURANCE	Kent Bienlien	**YES** / NO / NA		11/30/2017 kdb

Program Managers Approval/Disapproval:

Title	Name	Approved	Comments	Date and Initial
PROGRAM MANAGER	Tom Heinemann	YES / NO		TJH 11/30/2017
CITY PROGRAM COORDINATOR	Jim Theiler	YES / NO		JET 11/30/2017

The Approval Date is the date of the last signature by the Program Manager.

Change Description and Justification TM

CSOP.02.04.4R00 4R – BI Nicholas & Webster Separation Ph. 2

Introduction:

As part of continual adaptive management practices of the CSO Program, an update to the Long Term Control Plan (LTCP) was prepared in 2014. The schedules for many LTCP projects were adjusted based on this update. In addition, in 2016-2017, the CSO Program performed various Technical Assessments for Cost Savings (TACS), including, reviewing alternatives to reach 85% wet weather volume capture in the representative year within the Missouri River Watershed while minimizing costs.

Description of Changes

Additional analyses and modeling of the City's combined sewer system were performed as part of updating the CSO LTCP, and as part of the TACS. The goal of these additional analyses was to determine the water quality benefits already achieved through implementation of CSO LTCP projects to date, and to reassess and confirm the need, priority, and phasing for remaining LTCP projects.

As a result of these analyses, at this time, the Webster Nicholas Phase II project has been deferred, until approximately the 2020 for bidding and 2022 for completion of construction. It may later be determined through ongoing analyses that the project is not necessary to achieve the goals of the LTCP.

Scope Changes

Scope changes have not been identified for this project at this time.

Schedule Changes

As a result of the LTCP Update and TACS analyses:

- The LTCP Task 5 - Bidding Start date (previously submitted to NDEQ as 1/1/2019) is proposed to change from 1/1/2019 to 1/1/2020.
- The LTCP Task 7 – Substantial Completion date (previously submitted to NDEQ as 6/30/2021) is proposed to change from 6/30/2021 to 6/30/2022.

Cost Changes

Cost changes have not been determined at this time, though due to inflation, if the project is constructed at the later date, costs would be higher than originally anticipated in the LTCP

Attachment 6 – Wet Weather CSO Occurrences Report

Attachment 6

CSO Inspection Report

CSO Number 105

CSO Name Minne Lusa Avenue

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:23	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:26	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:19	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:17	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:40	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/4/2016	12:34	Dickes, Erik	Snow Melt	Yes	Yes	12/4/2016	Tim O'Brien notified, determined CSO was still overflowing due to intial melt. Rechecked on 12/5/2016	0.424
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:46	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	15:48	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017.Also.	0.32
4/26/2017	15:18	Sitzman, Steve	Rain	Yes	No	4/25/2017	This is to inform you that a levee station by-pass was initiated at 10:52 PM on Tuesday, April 25, 2017.This is to inform you that a levee station by-pass has ended at 12:49 AM on Wednesday, April 26, 2017.	0.06

CSO Inspection Report

CSO Number 105

CSO Name Minne Lusa Avenue

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	10:50	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:07	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:45	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/2/2017	7:51	Sitzman, Steve	Rain	Yes	No	6/2/2017		0.364
6/14/2017	11:47	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:47	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:30	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/28/2017	15:09	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/5/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/4/2017		0.26
7/12/2017	14:33	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/18/2017	7:43	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:48	Sitzman, Steve	Rain	Yes	No	7/26/2017	Will check on 7-27-2017	0.57
7/27/2017	15:24	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/5/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/5/2017		0.09
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:02	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59

CSO Inspection Report

CSO Number 105

CSO Name Minne Lusa Avenue

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	14:37	Sitzman, Steve	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/26/2017	12:45	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 106

CSO Name North Interceptor

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:23	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:26	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:19	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:40	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/4/2016	12:34	Dickes, Erik	Snow Melt	Yes	Yes	12/4/2016	Tim O'Brien notified, determined CSO was still overflowing due to intial melt. Rechecked on 12/5/2016	0.424
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:46	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
5/1/2017	10:51	Sitzman, Steve	Rain	Yes	Yes	5/1/2017	Bypass initiated at 12:45 AM on Monday, May 01, 2017.Returned to CSO 106 because it was still going on 5-1-2017. Overflow had stopped but there was river intrusion occuring.on 5-2-2017.	0.17
5/17/2017	13:08	Sitzman, Steve	Rain	Yes	No	5/16/2017	River intrusion was occuring at time of check	1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017	River Intrusion	0.53
5/20/2017	15:46	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017	River Intrusion	0.28
6/2/2017	7:52	Sitzman, Steve	Rain	Yes	No	6/2/2017		0.364

CSO Inspection Report

CSO Number 106

CSO Name North Interceptor

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/14/2017	11:48	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:47	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:31	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:51	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	15:09	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/12/2017	14:34	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/26/2017	14:49	Sitzman, Steve	Rain	Yes	No	7/26/2017	Will check on 7-27-2017	0.57
7/27/2017	15:24	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:03	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:14	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	14:37	Sitzman, Steve	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/26/2017	12:46	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 107

CSO Name Grace Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:24	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:26	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:20	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:40	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/4/2016	12:34	Dickes, Erik	Snow Melt	Yes	Yes	12/4/2016	Tim O'Brien notified, determined CSO was still overflowing due to intial melt. Rechecked on 12/5/2016	0.424
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
5/1/2017	10:52	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/17/2017	13:09	Sitzman, Steve	Rain	Yes	No	5/16/2017	River intrusion was occuring at time of check	1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:47	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017	River Intrusion	0.28
6/2/2017	7:52	Sitzman, Steve	Rain	Yes	No	6/2/2017		0.364
6/14/2017	11:48	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:47	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22

CSO Inspection Report

CSO Number 107

CSO Name Grace Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/17/2017	11:31	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:51	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	15:09	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/26/2017	14:50	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
7/27/2017	15:25	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:03	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:14	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	14:37	Sitzman, Steve	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/26/2017	12:46	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 108

CSO Name Burt Izard Street Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:47	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:40	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/6/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/5/2016		0.068
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:46	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64

CSO Inspection Report

CSO Number 108

CSO Name Burt Izard Street Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
5/17/2017	13:10	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:47	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
5/23/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/22/2017		0.012
5/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/23/2017		0.05
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/2/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/2/2017		0.364
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:47	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:32	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:52	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/12/2017	14:34	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/13/2017	11:42	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/18/2017	7:44	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:50	Sitzman, Steve	Rain	Yes	No	7/26/2017	Will check on 7-27-2017	0.57
7/27/2017	15:25	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/5/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/5/2017		0.09
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:03	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59

CSO Inspection Report

CSO Number 108

CSO Name Burt Izard Street Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:46	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 109

CSO Name 1st and Leavenworth Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:48	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:40	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/2/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/2/2017		0.06
4/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/3/2017	Covers 4/3 and 4/4	0.04
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:11	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/20/2017	15:48	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:48	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22

CSO Inspection Report

CSO Number 109

CSO Name 1st and Leavenworth Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/17/2017	11:32	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:52	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.74
7/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/30/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.09
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.16
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.164
7/5/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/4/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.26
7/12/2017	14:35	Sitzman, Steve	Rain	Yes	No	7/12/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.186
7/13/2017	11:42	Sitzman, Steve	Rain	Yes	No	7/13/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.15
7/26/2017	14:51	Sitzman, Steve	Rain	Yes	No	7/26/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.57
7/27/2017	15:25	Sitzman, Steve	Rain	Yes	No	7/26/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.24

CSO Inspection Report

CSO Number 109

CSO Name 1st and Leavenworth Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
8/15/2017	16:04	Sitzman, Steve	Rain	Yes	No	8/15/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.59
8/20/2017	11:15	Sitzman, Steve	Rain	Yes	No	8/20/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017	Device not active due to diverted flows to new Leavenworth lift station - New diverson structure levels indicated that bypass occurred.	1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017	New Leavenworth diversion structure indicated by-pass. Notification sent out. Device out of service.	0.26
9/26/2017	12:48	Sitzman, Steve	Rain	Yes	No	9/25/2017	New Leavenworth diversion structure indicated by-pass. Notification sent out. Device out of service.	1.05
9/26/2017	3:04	Sitzman, Steve	Rain	Yes		9/24/2016	A overflow on 9/24/2017 was verifed using level data from Leavenworth diversion structure. Inspection was performed on 9/26/17.	1.19

CSO Inspection Report

CSO Number 110

CSO Name Pierce Street Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:48	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:40	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:48	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:12	Sitzman, Steve	Rain	Yes	No	5/16/2017	River intrusion was occuring at time of check	1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:49	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28

CSO Inspection Report

CSO Number 110

CSO Name Pierce Street Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/16/2017	14:49	Sitzman, Steve	Rain	Yes	No	6/15/2017	River intrusion was occurring at time of check.	0.22
6/17/2017	11:33	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017. River intrusion was occurring at time of check.	1.13
6/26/2017	14:53	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:49	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 111

CSO Name Hickory Street Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:48	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:40	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:12	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017	River Intrusion	0.53
5/20/2017	15:50	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:50	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:33	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:53	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14

CSO Inspection Report

CSO Number 111

CSO Name Hickory Street Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/12/2017	14:51	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/26/2017	12:49	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 112

CSO Name Martha Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:49	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:11	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/18/2017	15:19	Sitzman, Steve	Rain	Yes	No	5/17/2017		0.1
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:48	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94

CSO Inspection Report

CSO Number 112

CSO Name Martha Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
5/23/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/22/2017		0.012
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:49	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:33	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:53	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/12/2017	14:50	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/13/2017	11:43	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/27/2017	15:26	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:05	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:16	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26

CSO Inspection Report

CSO Number 112

CSO Name Martha Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
9/26/2017	12:48	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 114

CSO Name Grover Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:49	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/17/2017	13:13	Sitzman, Steve	Rain	Yes	Yes	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017	River Intrusion	0.53
5/20/2017	15:51	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017	River Intrusion	0.28
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:50	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:33	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13

CSO Inspection Report

CSO Number 114

CSO Name Grover Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/26/2017	14:53	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/12/2017	14:51	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:49	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 115

CSO Name Riverview Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:49	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	Yes	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:14	Sitzman, Steve	Rain	Yes	Yes	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017	River Intrusion	0.53
5/20/2017	15:51	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017	River Intrusion	0.28
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28

CSO Inspection Report

CSO Number 115

CSO Name Riverview Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/16/2017	14:51	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:34	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:53	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/12/2017	14:52	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/26/2017	14:54	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
7/27/2017	15:27	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/15/2017	16:06	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:17	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:49	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 117

CSO Name Missouri Avenue Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:50	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/4/2016	12:34	Dickes, Erik	Snow Melt	Yes	Yes	12/4/2016	Tim O'Brien notified, determined CSO was still overflowing due to intial melt. Rechecked on 12/5/2016	0.424
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:49	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/11/2017	12:34	Fagerquist, Dylan	Snow Melt	Yes	No	2/10/2017		0
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
4/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/25/2017	Covers event for 4/25 and 4/26	0.06

CSO Inspection Report

CSO Number 117

CSO Name Missouri Avenue Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/3/2017		0.066
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:14	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:51	Sitzman, Steve	Rain	Yes	No	5/19/2017	River intrusion was occurring at time of check.	0.94
5/23/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/22/2017		0.012
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/2/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/2/2017		0.364
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:51	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:34	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:54	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/12/2017	14:52	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/13/2017	11:44	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/18/2017	7:54	Dickes, Erik	Rain	Yes	Yes	7/18/2017	Debris buildup on gate. Tim O. notified.	0.03
7/26/2017	14:54	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
7/27/2017	15:27	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/5/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/5/2017		0.09
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24

CSO Inspection Report

CSO Number 117

CSO Name Missouri Avenue Lift Station

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
8/15/2017	16:06	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:50	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 118

CSO Name South Omaha (Ohern Street)

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:50	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:15	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53

CSO Inspection Report

CSO Number 118

CSO Name South Omaha (Ohern Street)

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
5/20/2017	15:52	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/2/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/2/2017		0.364
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:51	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:35	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:54	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/30/2017		0.09
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/12/2017	14:53	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/13/2017	11:44	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/18/2017	7:54	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:55	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
7/27/2017	15:27	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:06	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:17	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64

CSO Inspection Report

CSO Number 118

CSO Name South Omaha (Ohern Street)

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:50	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 121

CSO Name Jones Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:50	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:11	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:48	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
6/2/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/2/2017		0.364
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:48	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:32	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:52	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14

CSO Inspection Report

CSO Number 121

CSO Name Jones Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/12/2017	14:35	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/26/2017	14:51	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:03	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:47	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 202

CSO Name 72nd & Bedford

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:24	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:26	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:20	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:45	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	15:46	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017.Also.	0.32
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	10:49	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:05	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:45	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28

CSO Inspection Report

CSO Number 202

CSO Name 72nd & Bedford

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/14/2017	11:48	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:45	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:29	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:50	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	15:08	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/18/2017	7:30	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:47	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/5/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/5/2017		0.09
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:01	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	14:36	Sitzman, Steve	Rain	Yes	No	8/25/2017		0.64
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:43	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 203

CSO Name 69th & Evans

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:24	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:26	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:20	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:45	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/11/2017	12:34	Fagerquist, Dylan	Snow Melt	Yes	No	2/10/2017		0
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	Yes	3/24/2017	Tim O. Notified, sample taken, Levee crew to handle notification.	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	15:46	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017.Also.	0.32
5/1/2017	10:49	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64

CSO Inspection Report

CSO Number 203

CSO Name 69th & Evans

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
5/17/2017	13:06	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:45	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/14/2017	11:48	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:45	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:29	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/28/2017	15:08	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/12/2017	14:33	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/13/2017	11:40	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/18/2017	7:41	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:48	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
7/27/2017	15:23	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:02	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:13	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	14:36	Sitzman, Steve	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05

CSO Inspection Report

CSO Number 203

CSO Name 69th & Evans

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:45	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 204

CSO Name 63rd & Ames

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:24	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:27	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:20	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:41	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:45	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	Yes	3/6/2017	Gate sensor failed causing bypass. See bypass memorandum: 3240	0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	15:47	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017.Also.	0.32
4/26/2017	15:17	Sitzman, Steve	Rain	Yes	No	4/25/2017	This is to inform you that a levee station by-pass was initiated at 10:52 PM on Tuesday, April 25, 2017.This is to inform you that a levee station by-pass has ended at 12:49 AM on Wednesday, April 26, 2017.	0.06
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45

CSO Inspection Report

CSO Number 204

CSO Name 63rd & Ames

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
5/1/2017	10:49	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:06	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/18/2017	15:15	Sitzman, Steve	Rain	Yes	No	5/17/2017		0.1
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:45	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/14/2017	11:48	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:46	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:30	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:51	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	15:08	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/12/2017	14:33	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/13/2017	11:41	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/18/2017	7:42	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:48	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
7/27/2017	15:23	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:02	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59

CSO Inspection Report

CSO Number 204

CSO Name 63rd & Ames

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:13	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	14:36	Sitzman, Steve	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:45	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 205

CSO Name 64th & Dupont

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:24	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:27	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:20	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:42	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:42	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/2/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/2/2017		0.06
4/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/3/2017	Covers 4/3 and 4/4	0.04
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	15:41	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017. Also	0.32

CSO Inspection Report

CSO Number 205

CSO Name 64th & Dupont

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
4/26/2017	15:12	Sitzman, Steve	Rain	Yes	No	4/25/2017	This is to inform you that a levee station by-pass was initiated at 10:52 PM on Tuesday, April 25, 2017.This is to inform you that a levee station by-pass has ended at 12:49 AM on Wednesday, April 26, 2017.	0.06
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	10:45	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:02	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:42	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
5/24/2017	14:00	Sitzman, Steve	Rain	Yes	No	5/23/2017		0.05
5/24/2017	7:13	Sitzman, Steve	Rain	Yes	No	5/22/2015		0.01
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/2/2017	7:47	Sitzman, Steve	Rain	Yes	No	6/2/2017		0.364
6/14/2017	11:48	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:41	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:24	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:48	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	15:06	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/30/2017		0.09
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/12/2017	14:28	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186

CSO Inspection Report

CSO Number 205

CSO Name 64th & Dupont

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
7/13/2017	11:37	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/18/2017	7:19	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:45	Sitzman, Steve	Rain	Yes	No	7/26/2017	Will check on 7-27-2017	0.57
7/27/2017	15:05	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	15:59	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:10	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	14:34	Sitzman, Steve	Rain	Yes	Yes	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:41	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 207

CSO Name 44th & Y Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/10/2016		0.24
10/20/2016	7:50	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:42	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/3/2017	Covers 4/3 and 4/4	0.04
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/1/2017	Covers events from 4/30 and 5/1	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:15	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35

CSO Inspection Report

CSO Number 207

CSO Name 44th & Y Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/23/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/22/2017		0.012
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/14/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:51	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:36	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:54	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/12/2017	14:53	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
7/13/2017	11:44	Sitzman, Steve	Rain	Yes	No	7/13/2017		0.15
7/18/2017	7:55	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
7/26/2017	14:55	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
7/27/2017	15:27	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/5/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/5/2017		0.09
8/15/2017	16:06	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:18	Sitzman, Steve	Rain	Yes		8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64

CSO Inspection Report

CSO Number 207

CSO Name 44th & Y Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:50	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 208

CSO Name 45th & T Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/4/2016		0.61
10/7/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	10/6/2016		0.59
10/20/2016	7:51	Dickes, Erik	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
11/28/2016	11:42	Nusser, Jacob	Rain	Yes	No	11/27/2016		0.28
12/5/2016	12:34	Fagerquist, Dylan	Snow Melt	Yes	No	12/4/2016	Rechecked due to snow melt potential from 12/4/2016.	0.424
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/18/2017	Covers event for 4/18 and 4/19	0.32
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:15	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/18/2017		0.53
5/20/2017	15:53	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
6/16/2017	14:52	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:36	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:54	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/28/2017		0.18

CSO Inspection Report

CSO Number 208

CSO Name 45th & T Street

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/12/2017	14:53	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/25/2017		0.64
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/26/2017	12:50	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 210

CSO Name 72nd and Mayberry

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:25	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:27	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:20	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
11/23/2016	12:34	Dickes, Erik	Rain	Yes	No	11/22/2016	Also Covers Pay Day Checks.	0.47
12/6/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/5/2016		0.068
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/10/2017		0.12
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:45	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
2/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/20/2017		0.21
2/25/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	2/23/2017		0.5
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
3/24/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017		0.6
3/26/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/24/2017	Covers rain event for 3-24 and 3-25	0.6
3/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/29/2017	Covers rain event for 3-29 and 3-30	1.21
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	15:45	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017.Also.	0.32
4/26/2017	15:16	Sitzman, Steve	Rain	Yes	No	4/25/2017	This is to inform you that a levee station by-pass was initiated at 10:52 PM on Tuesday, April 25, 2017.This is to inform you that a levee station by-pass has ended at 12:49 AM on Wednesday, April 26, 2017.	0.06

CSO Inspection Report

CSO Number 210

CSO Name 72nd and Mayberry

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
4/29/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/28/2017		0.45
5/1/2017	10:48	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	Yes	5/3/2017	Overflowing at time of inspection, memorandum sent.	0.066
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	Yes	5/10/2017	Overflowing at time of inspection, memorandum sent.	0.64
5/17/2017	13:05	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
5/20/2017	15:44	Sitzman, Steve	Rain	Yes	No	5/19/2017		0.94
5/27/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/27/2017		0.28
6/14/2017	11:48	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/16/2017	14:45	Sitzman, Steve	Rain	Yes	No	6/15/2017		0.22
6/17/2017	11:29	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/26/2017	14:50	Sitzman, Steve	Rain	Yes	No	6/26/2017		0.14
6/28/2017	15:08	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/3/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/2/2017		0.16
7/4/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	7/3/2017		0.164
7/26/2017	14:47	Sitzman, Steve	Rain	Yes	No	7/26/2017		0.57
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:01	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:12	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
8/22/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07

CSO Inspection Report

CSO Number 210

CSO Name 72nd and Mayberry

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
8/25/2017	14:35	Sitzman, Steve	Rain	Yes	No	8/25/2017		0.64
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/19/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/18/2017		0.26
9/26/2017	12:43	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

CSO Inspection Report

CSO Number 211

CSO Name 69th & Pierce

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/7/2016	10:27	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/19/2017	15:45	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017.Also.	0.32
5/1/2017	10:48	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/17/2017	13:04	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
6/2/2017	7:49	Sitzman, Steve	Rain	Yes	No	6/2/2017		0.364
6/17/2017	11:29	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:01	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:12	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05

CSO Inspection Report

CSO Number 212

CSO Name 69th & Woolworth

Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
10/5/2016	10:25	Nusser, Jacob	Rain	Yes	No	10/4/2016		0.61
10/7/2016	10:27	Nusser, Jacob	Rain	Yes	No	10/6/2016		0.59
10/11/2016	12:20	Nusser, Jacob	Rain	Yes	No	10/10/2016		0.24
10/20/2016	13:18	Nusser, Jacob	Rain	Yes	No	10/20/2016		0.682
12/24/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/23/2016		0.13
12/26/2016	12:34	Fagerquist, Dylan	Rain	Yes	No	12/25/2016		0.77
1/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	1/16/2017	Covers precip dates 1/15/17 and 1/16/17	0.38
1/21/2017	9:44	Nusser, Jacob	Rain	Yes	No	1/20/2017		0.04
3/7/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	3/6/2017		0.198
4/13/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/12/2017		0.06
4/15/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	4/14/2017	Covers rain for 4/14 and 4/15(am)	0.33
4/19/2017	15:44	Sitzman, Steve	Rain	Yes	No	4/18/2017	This is to inform you that a levee station by-pass was initiated at 8:29 AM on Tuesday, April 18, 2017.Also.	0.32
5/1/2017	10:47	Sitzman, Steve	Rain	Yes	No	5/1/2017	This is to inform you that a levee station by-pass was initiated at 1:48 AM on Sunday, April 30, 2017.This is to inform you that a levee station by-pass was initiated at 12:45 AM on Monday, May 01, 2017.	0.17
5/10/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	5/10/2017		0.64
5/17/2017	13:04	Sitzman, Steve	Rain	Yes	No	5/16/2017		1.35
6/2/2017	7:49	Sitzman, Steve	Rain	Yes	No	6/2/2017		0.364
6/14/2017	11:49	Nusser, Jacob	Rain	Yes	No	6/14/2017		0.28
6/17/2017	11:28	Sitzman, Steve	Rain	Yes	No	6/16/2017	For rain events on 6-16-2017 and 6-17-2017.	1.13
6/28/2017	15:07	Sitzman, Steve	Rain	Yes	No	6/28/2017		0.18
6/30/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	6/29/2017		0.74
7/12/2017	14:31	Sitzman, Steve	Rain	Yes	No	7/12/2017		0.186

CSO Inspection Report

CSO Number 212

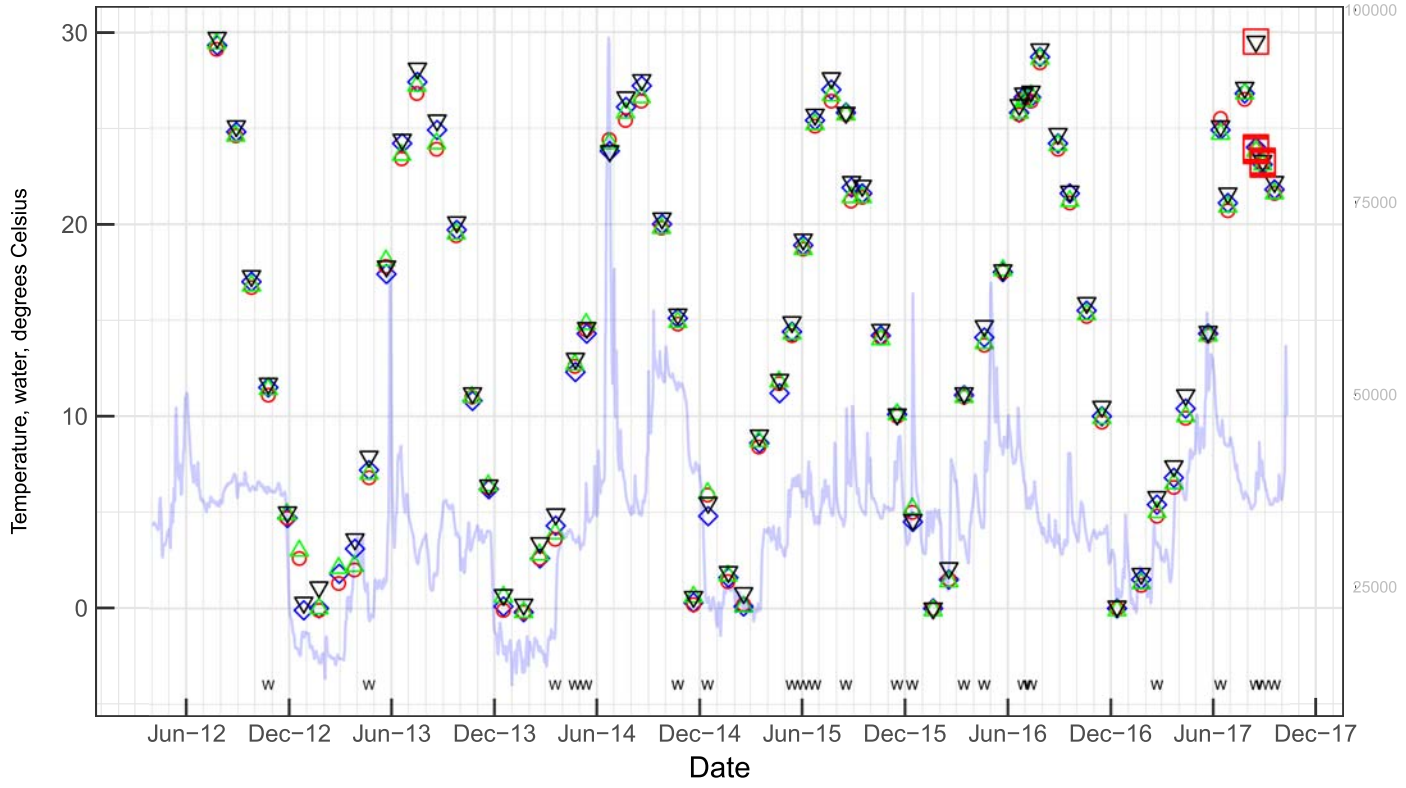
CSO Name 69th & Woolworth

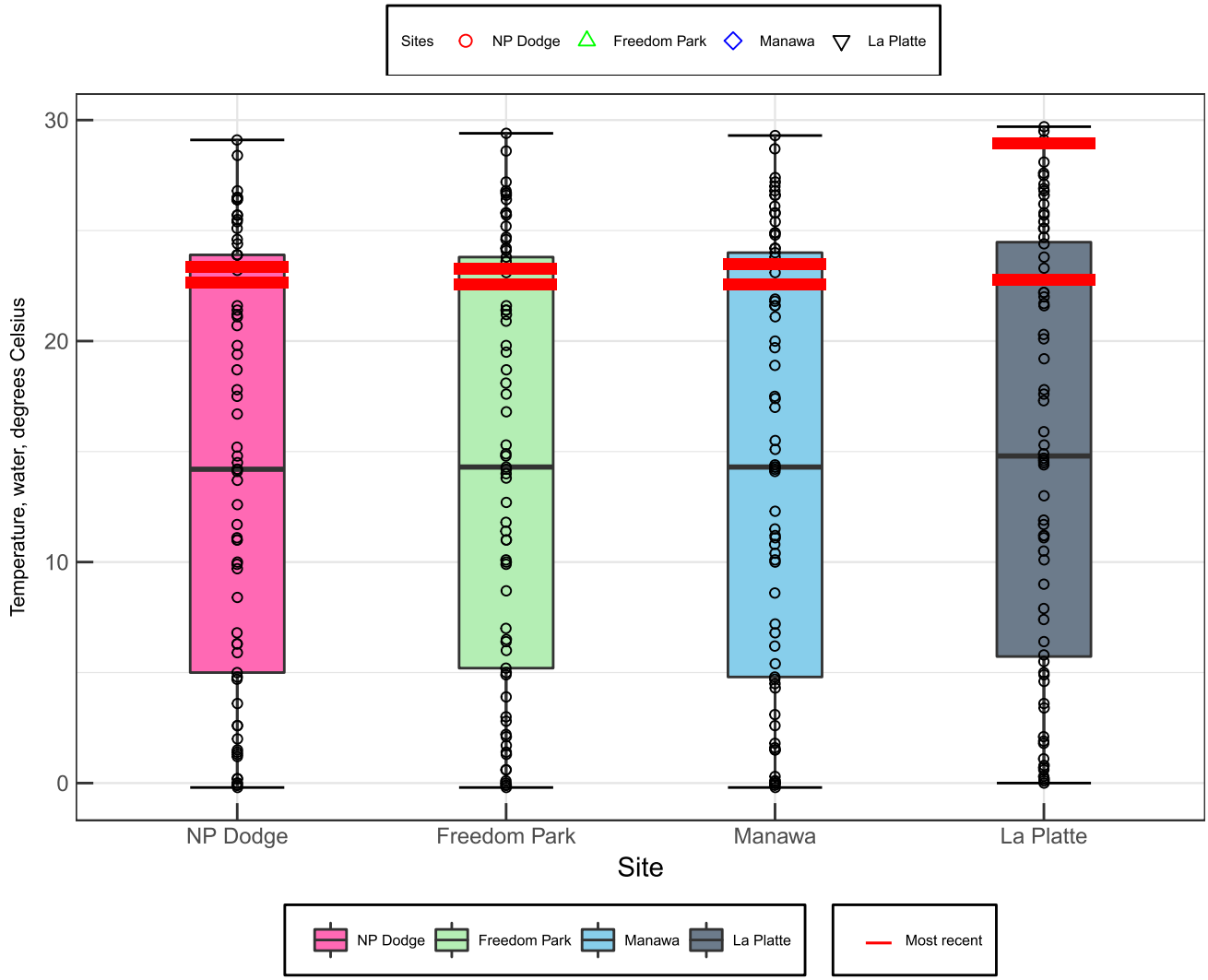
Inspection Date	Time	Inspected by	Reason	Overflow	Overflow at inspection?	Date of Precipitation	Comments	Rain (in)
7/18/2017	7:23	Dickes, Erik	Rain	Yes	No	7/18/2017		0.03
8/11/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/10/2017		0.24
8/15/2017	16:01	Sitzman, Steve	Rain	Yes	No	8/15/2017		0.59
8/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/15/2017		0.59
8/20/2017	11:12	Sitzman, Steve	Rain	Yes	No	8/20/2017		0.5
8/21/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	8/21/2017		1.07
9/16/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/17/2017	12:34	Fagerquist, Dylan	Rain	Yes	No	9/16/2017		1.05
9/26/2017	12:42	Sitzman, Steve	Rain	Yes	No	9/25/2017	For rain events on 9-24-2017 and 9-25-2017	1.05

Attachment 7 – USGS Missouri River Monitoring Provisional Data

Attachment 7

Temperature

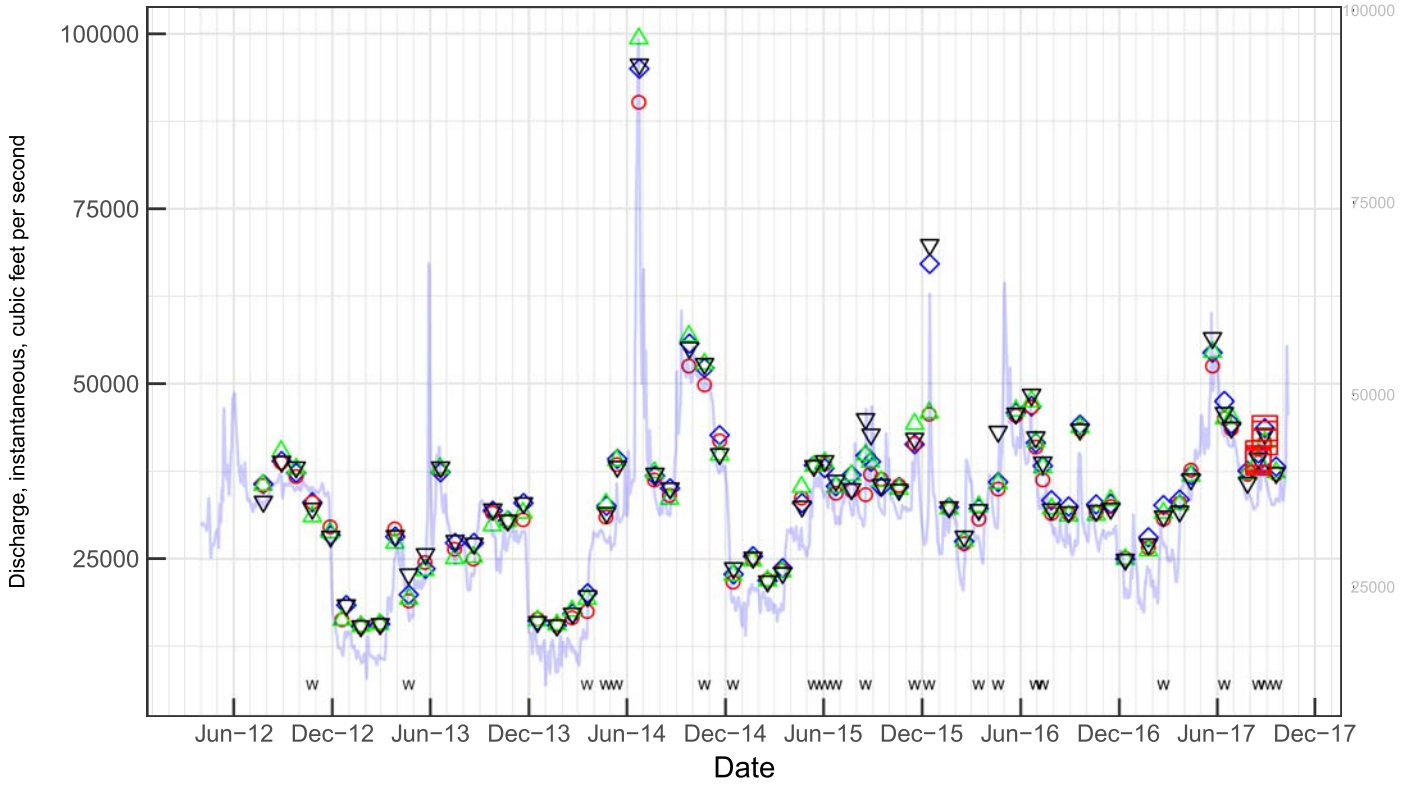


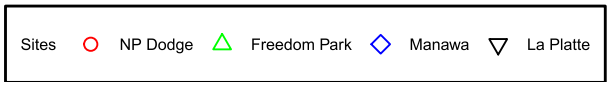


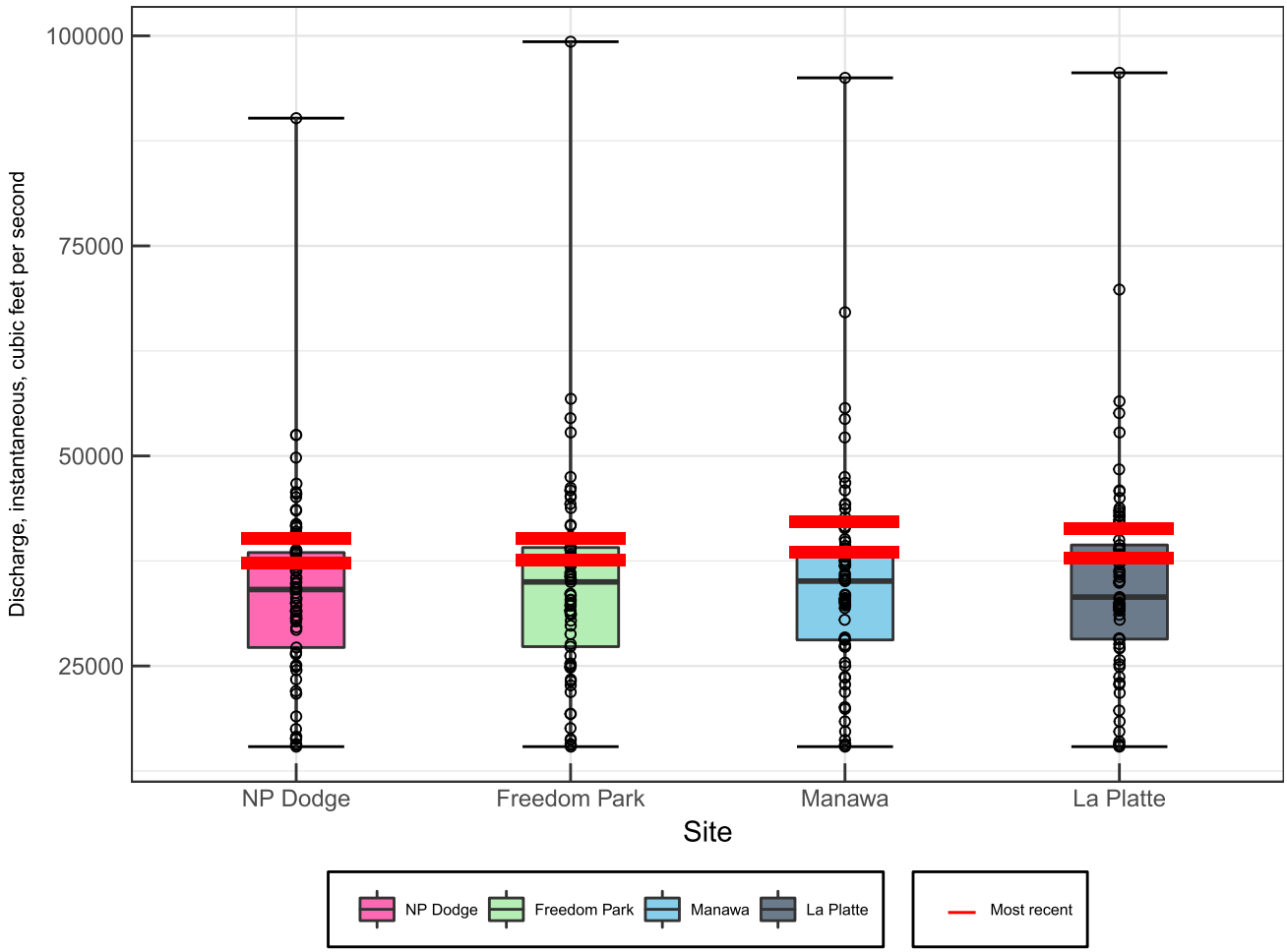
−−PRELIMINARY DATA SUBJECT TO REVISION−−

data retrieved 10/11/2017

Discharge



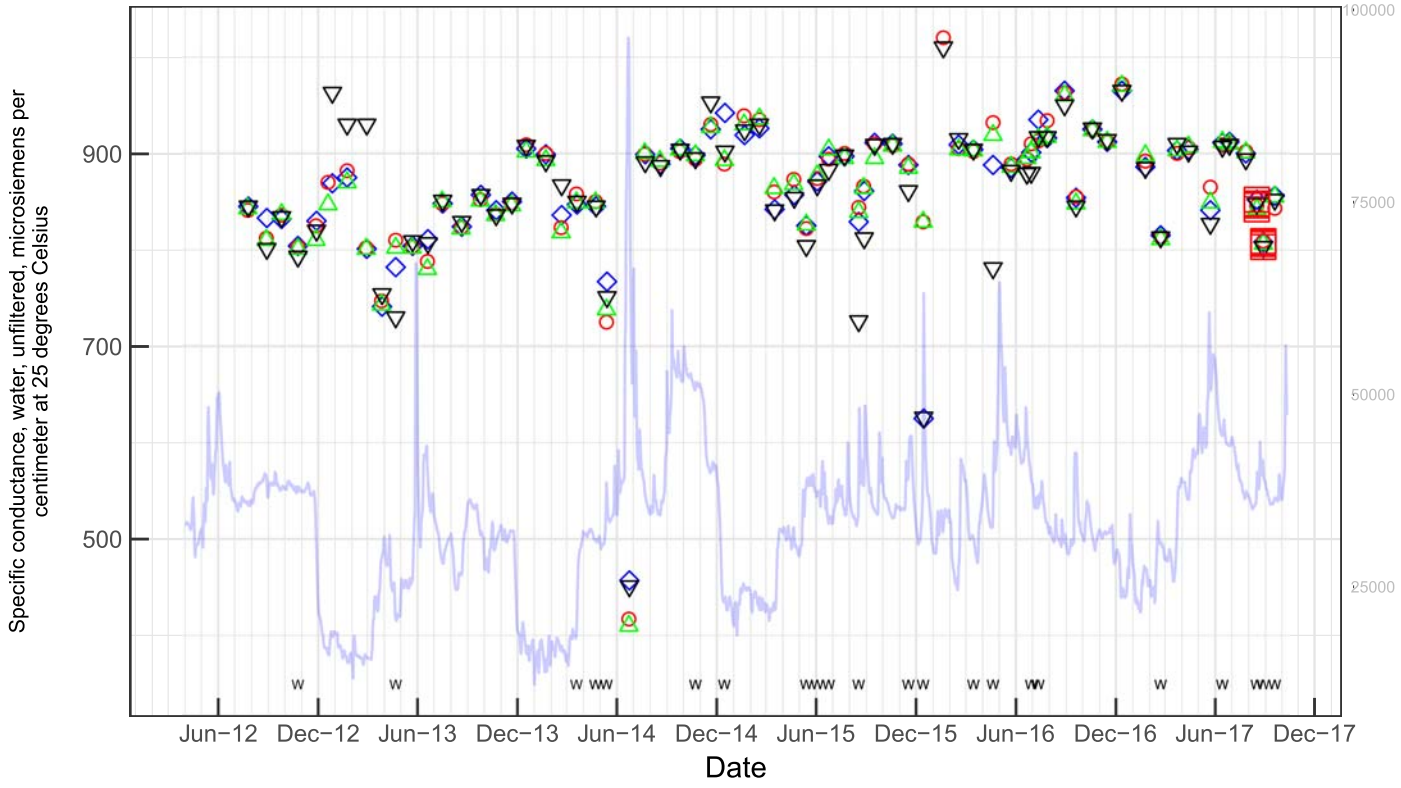


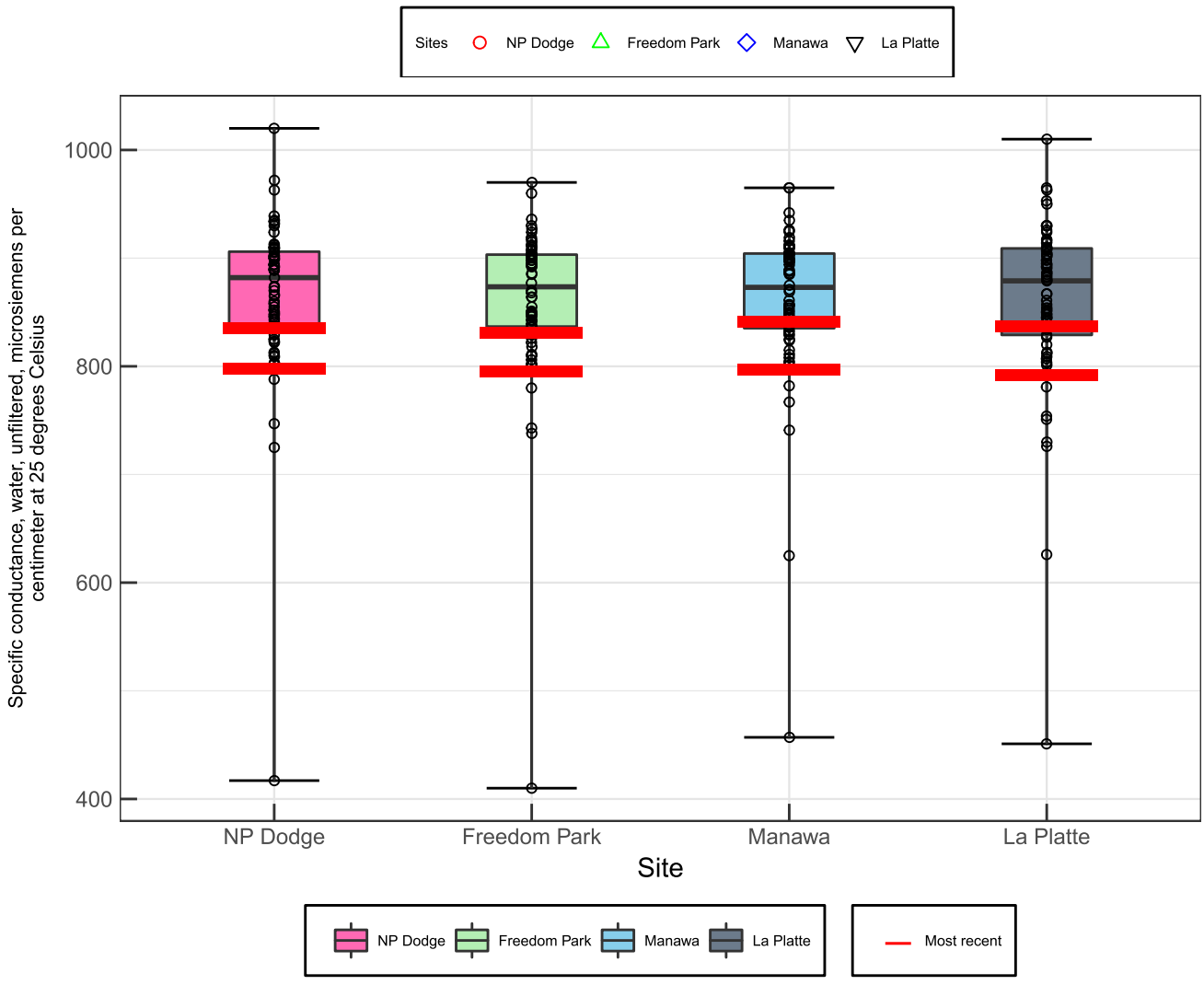


−−PRELIMINARY DATA SUBJECT TO REVISION−−

data retrieved 10/11/2017

Specific conductance





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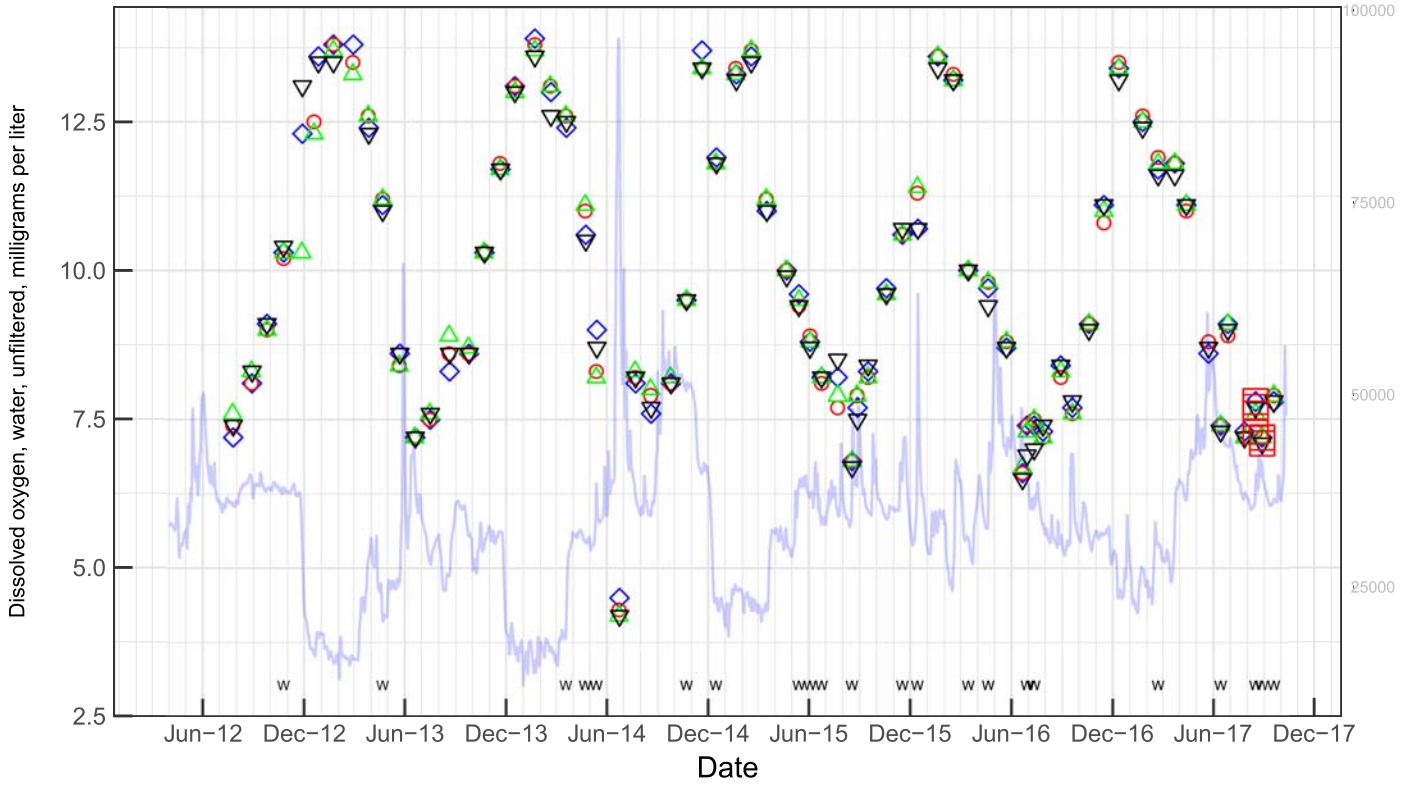
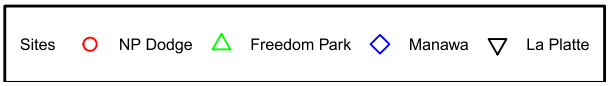
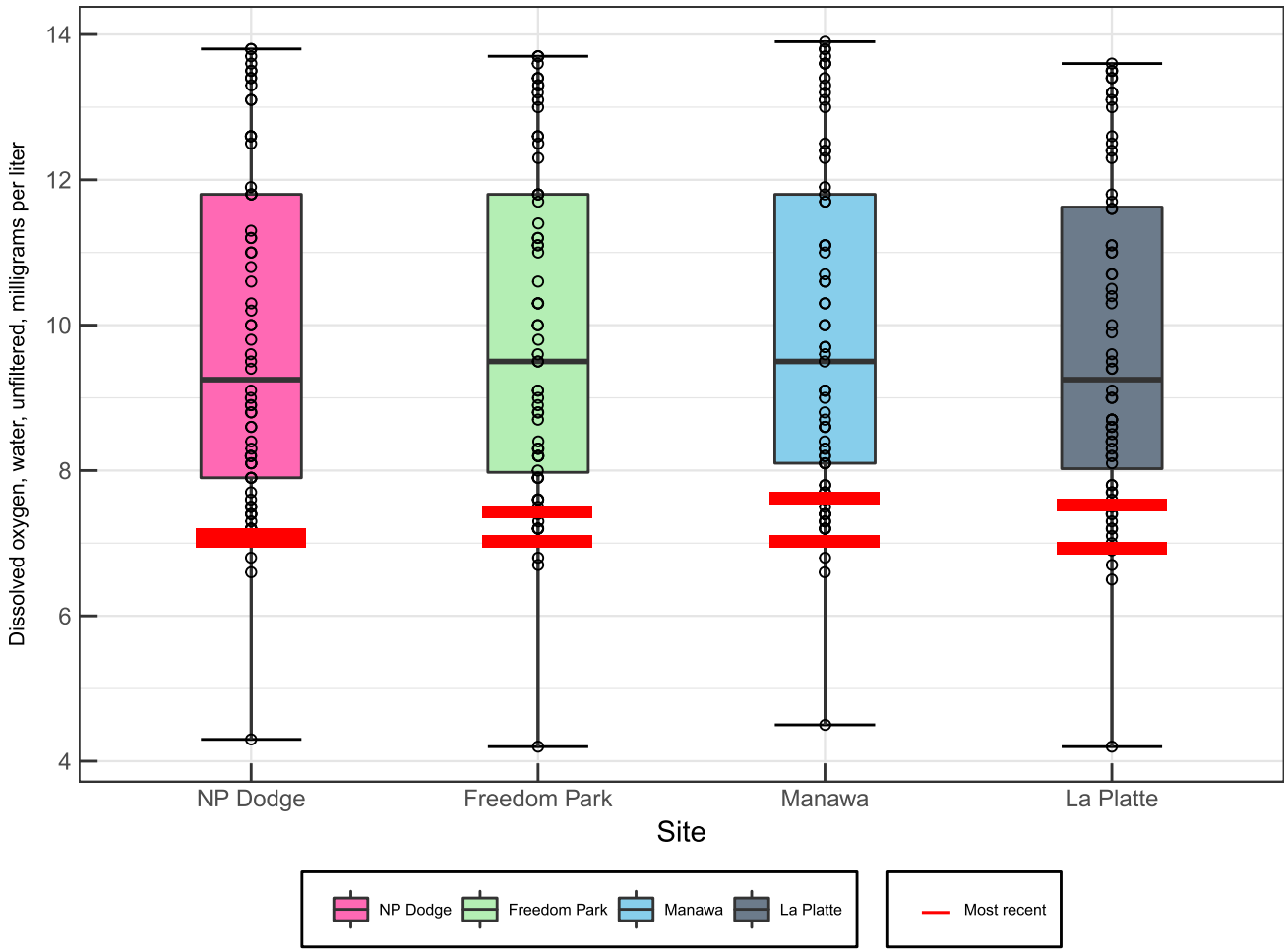
data retrieved 10/11/2017

Dissolved oxygen







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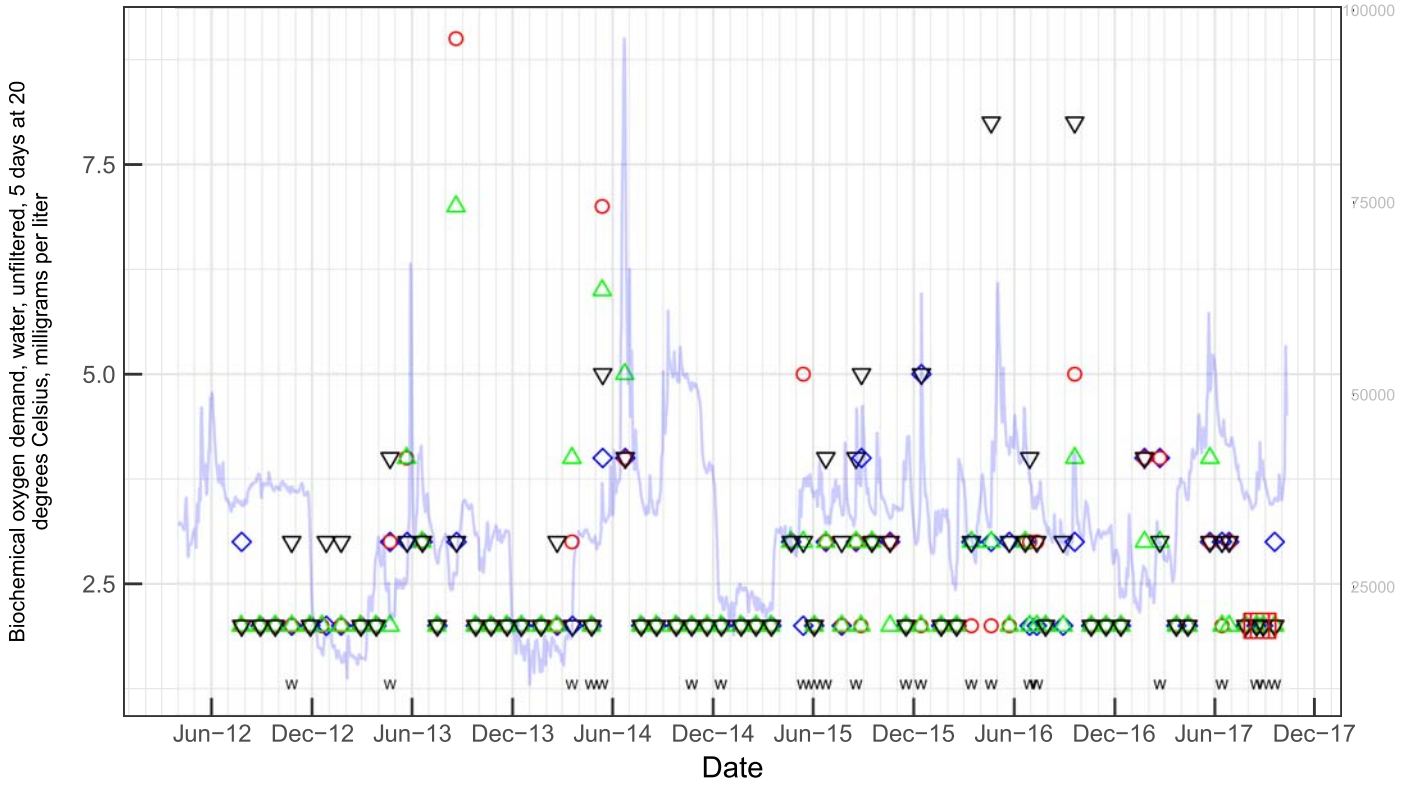
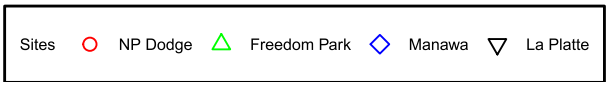
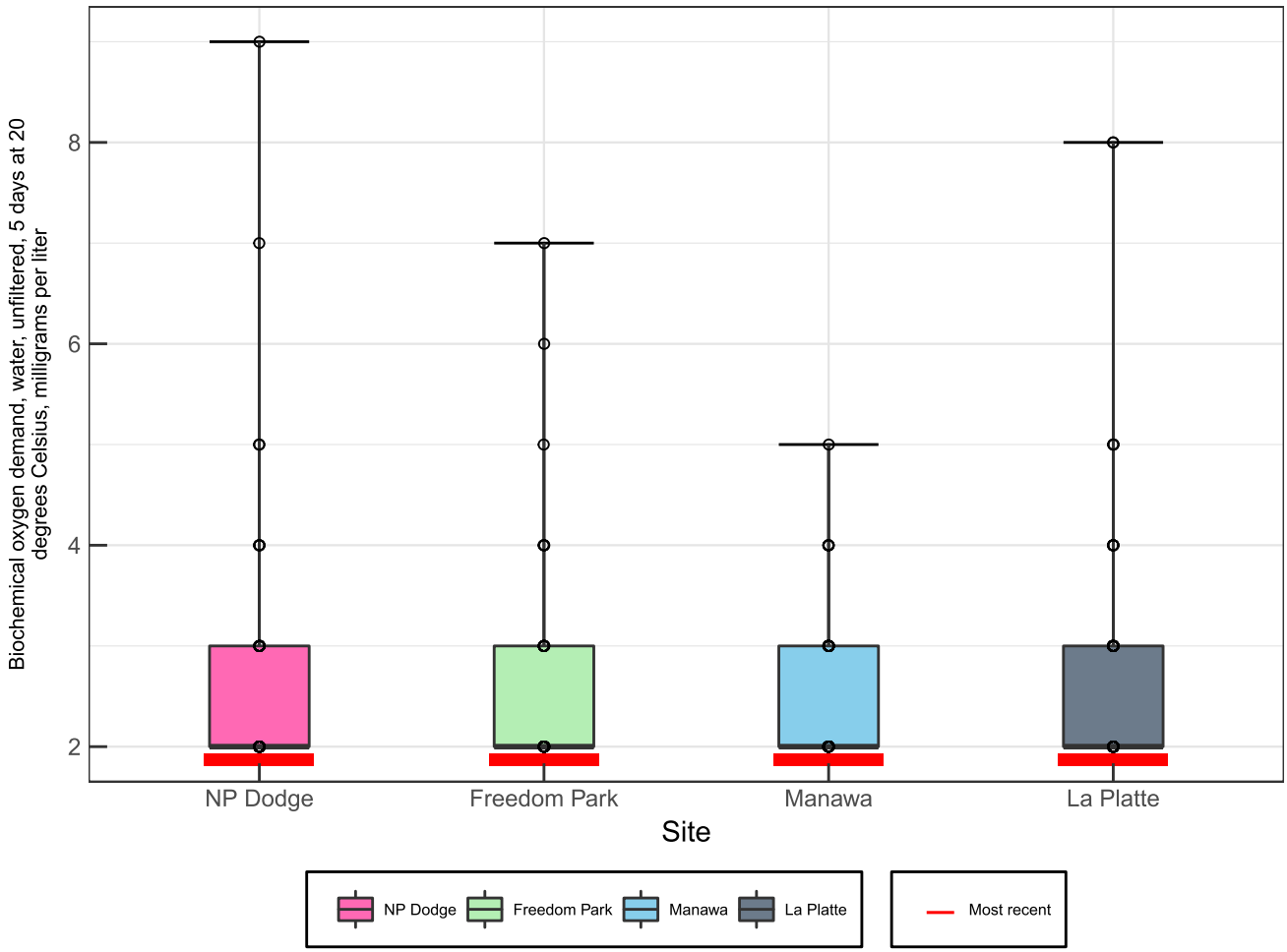
data retrieved 10/11/2017

Biochemical oxygen demand

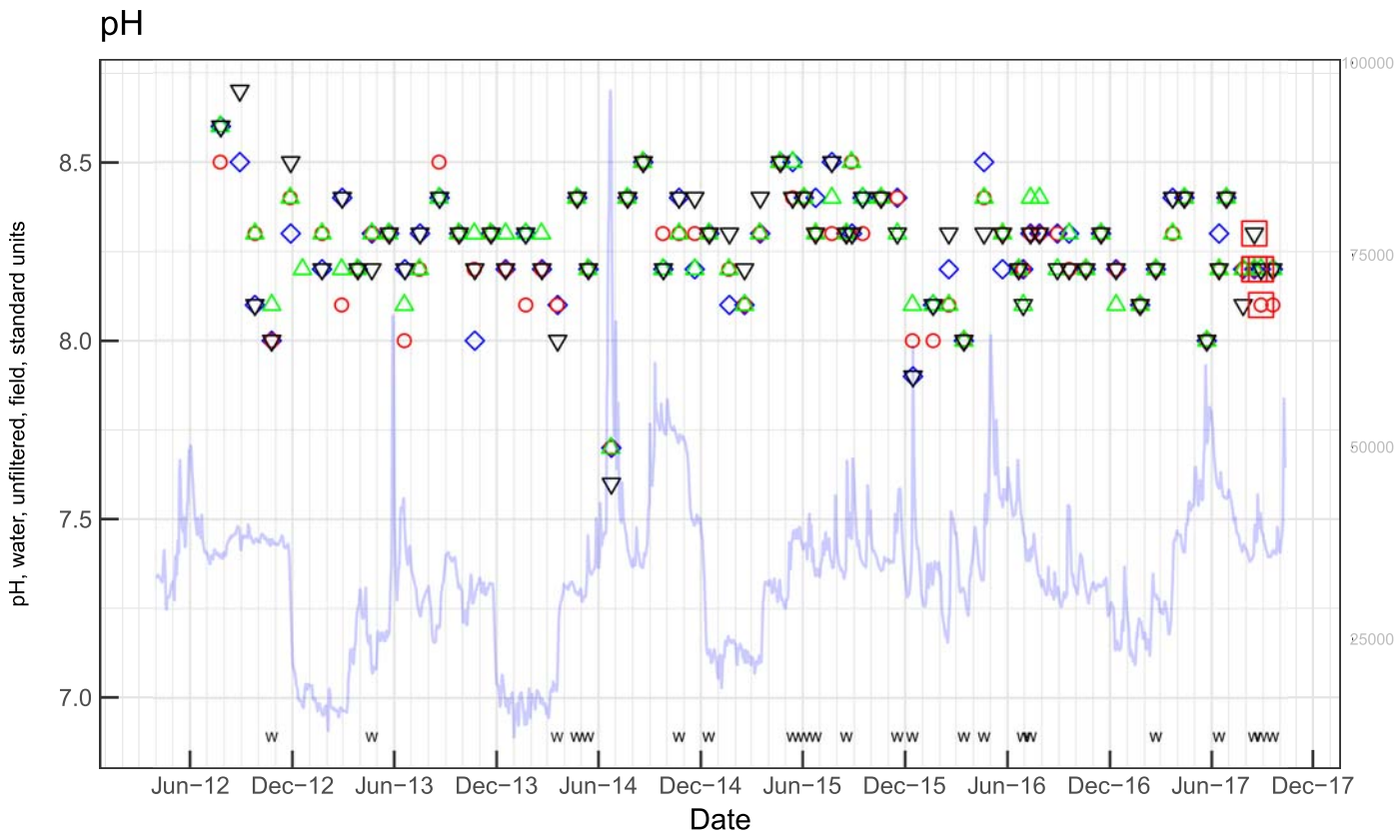


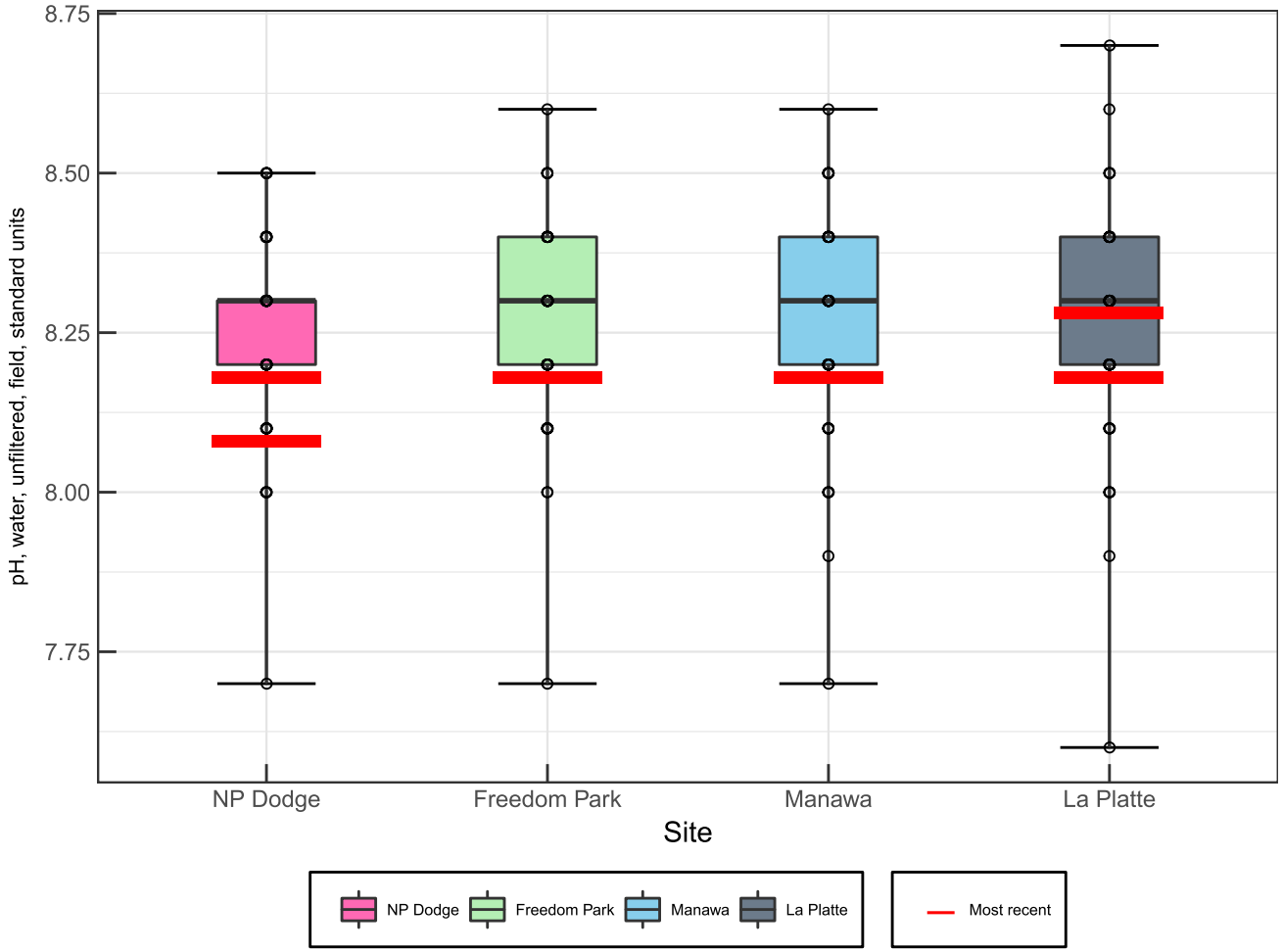




−−PRELIMINARY DATA SUBJECT TO REVISION−−

data retrieved 10/11/2017

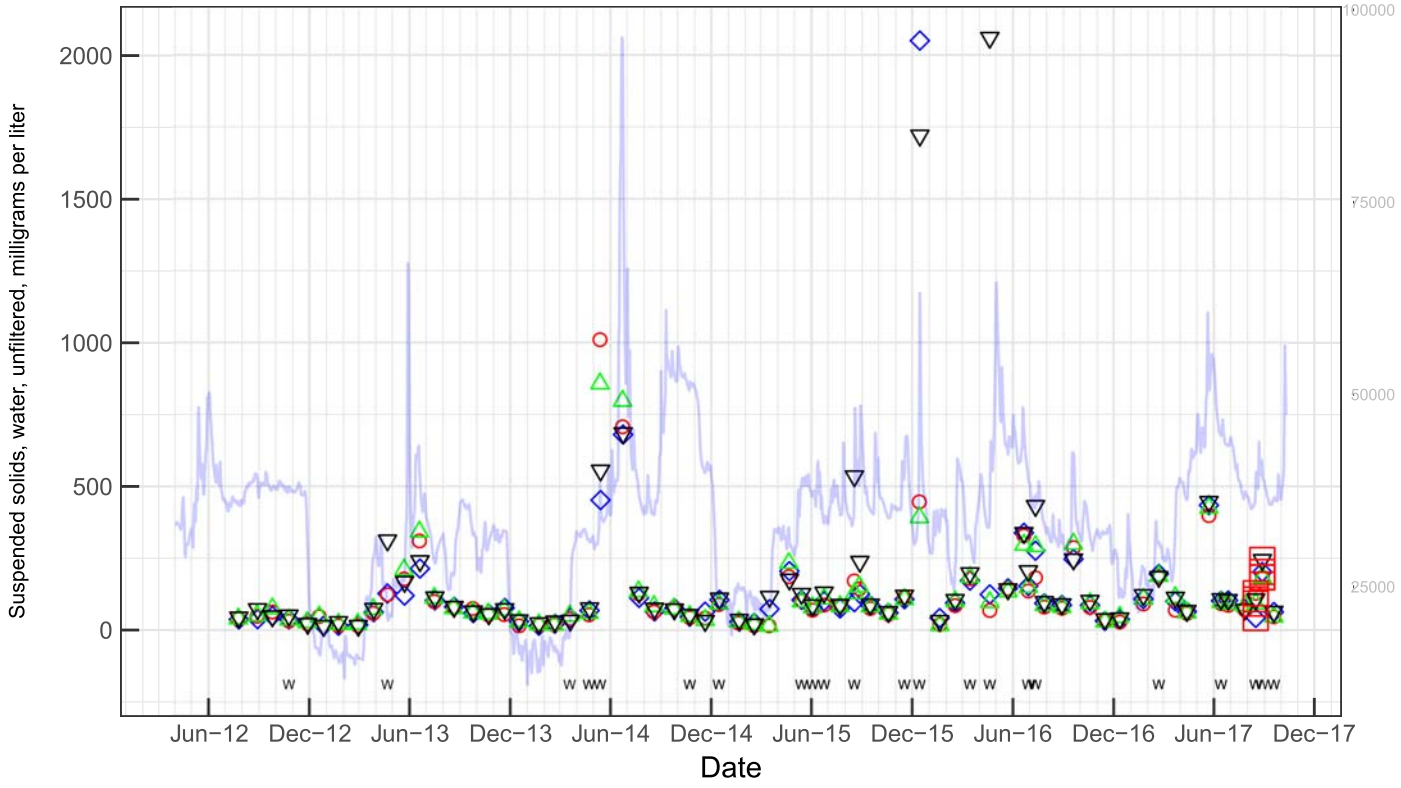


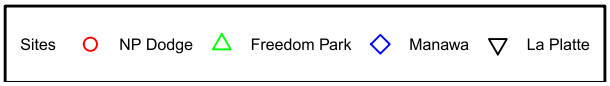


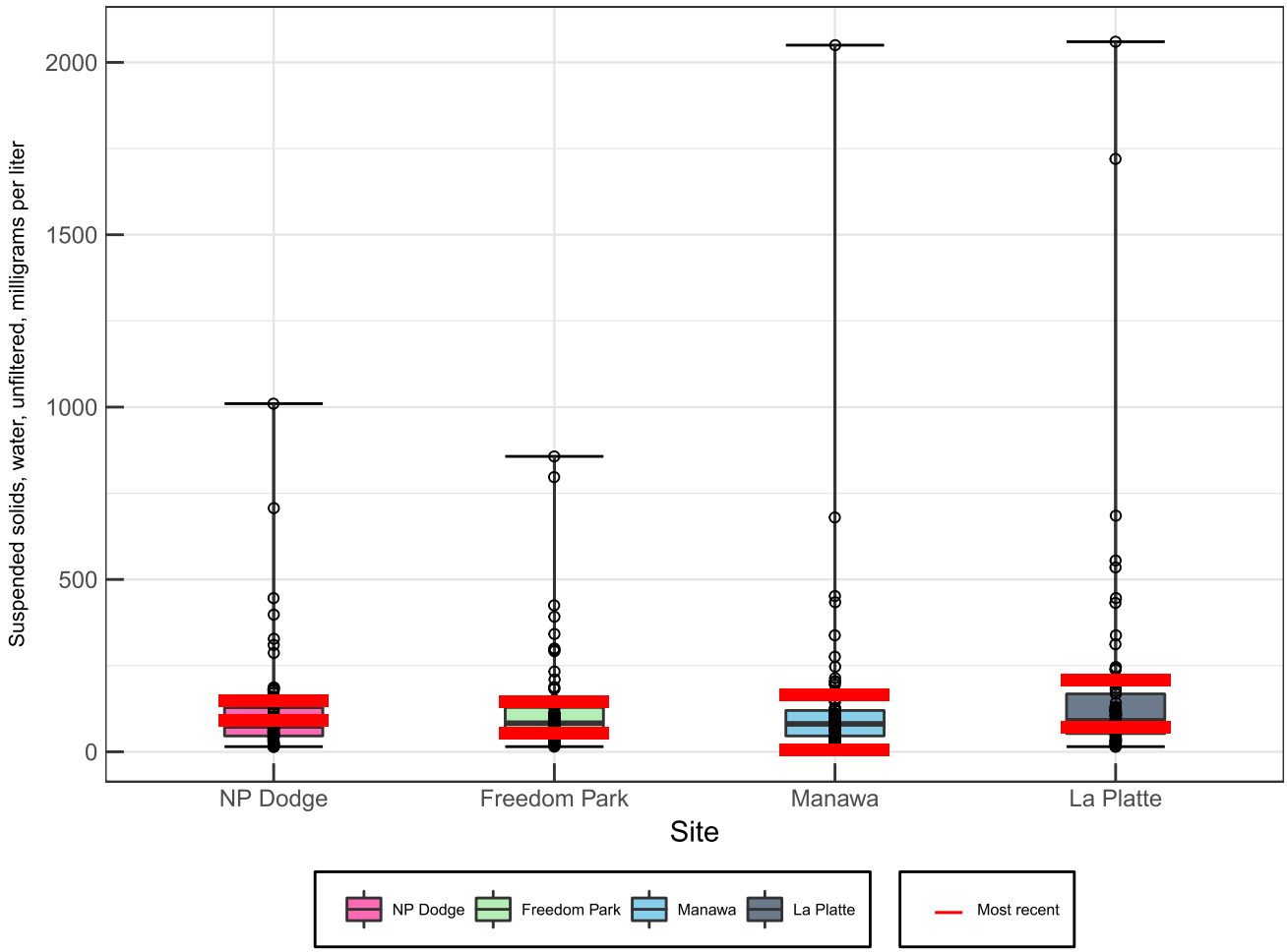
−−PRELIMINARY DATA SUBJECT TO REVISION−−

data retrieved 10/11/2017

Suspended solids



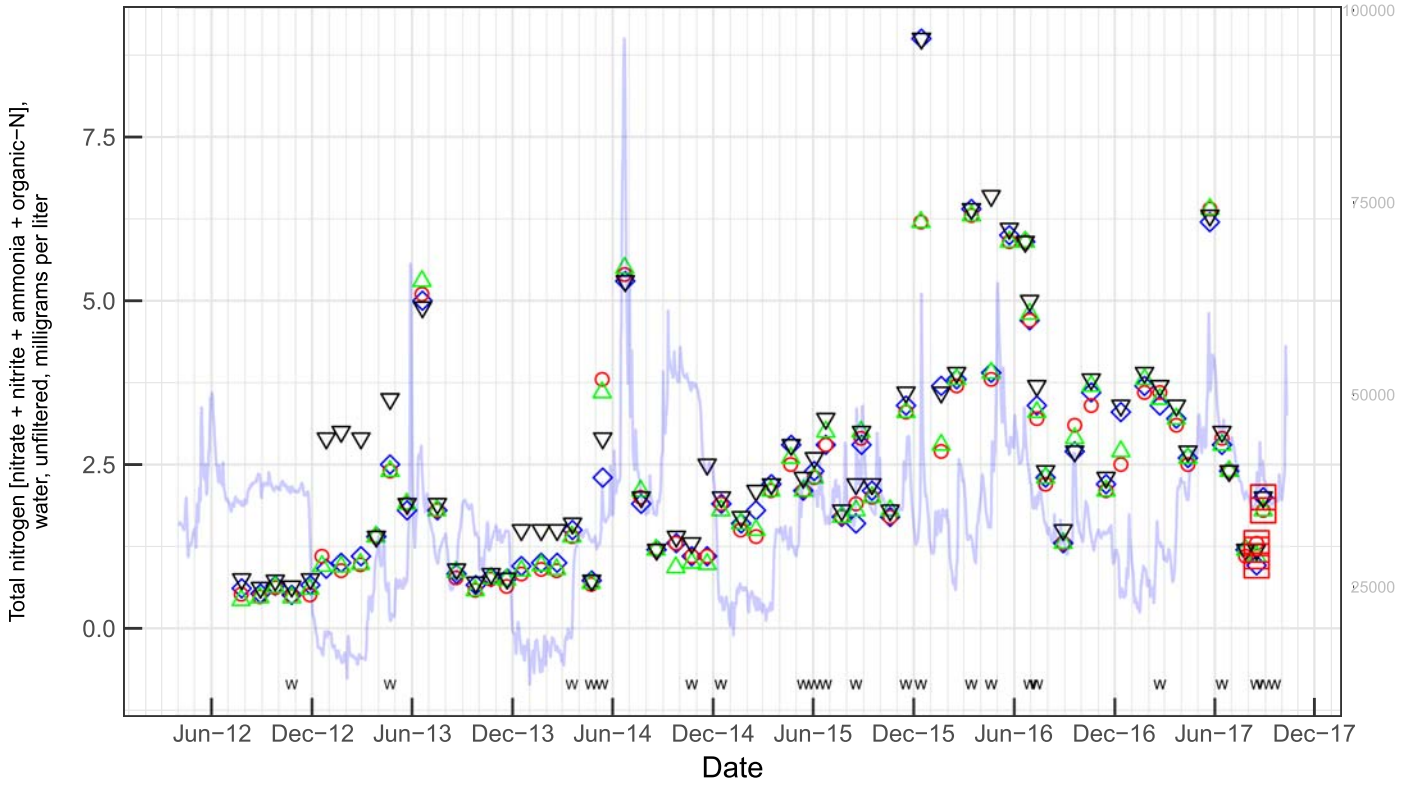


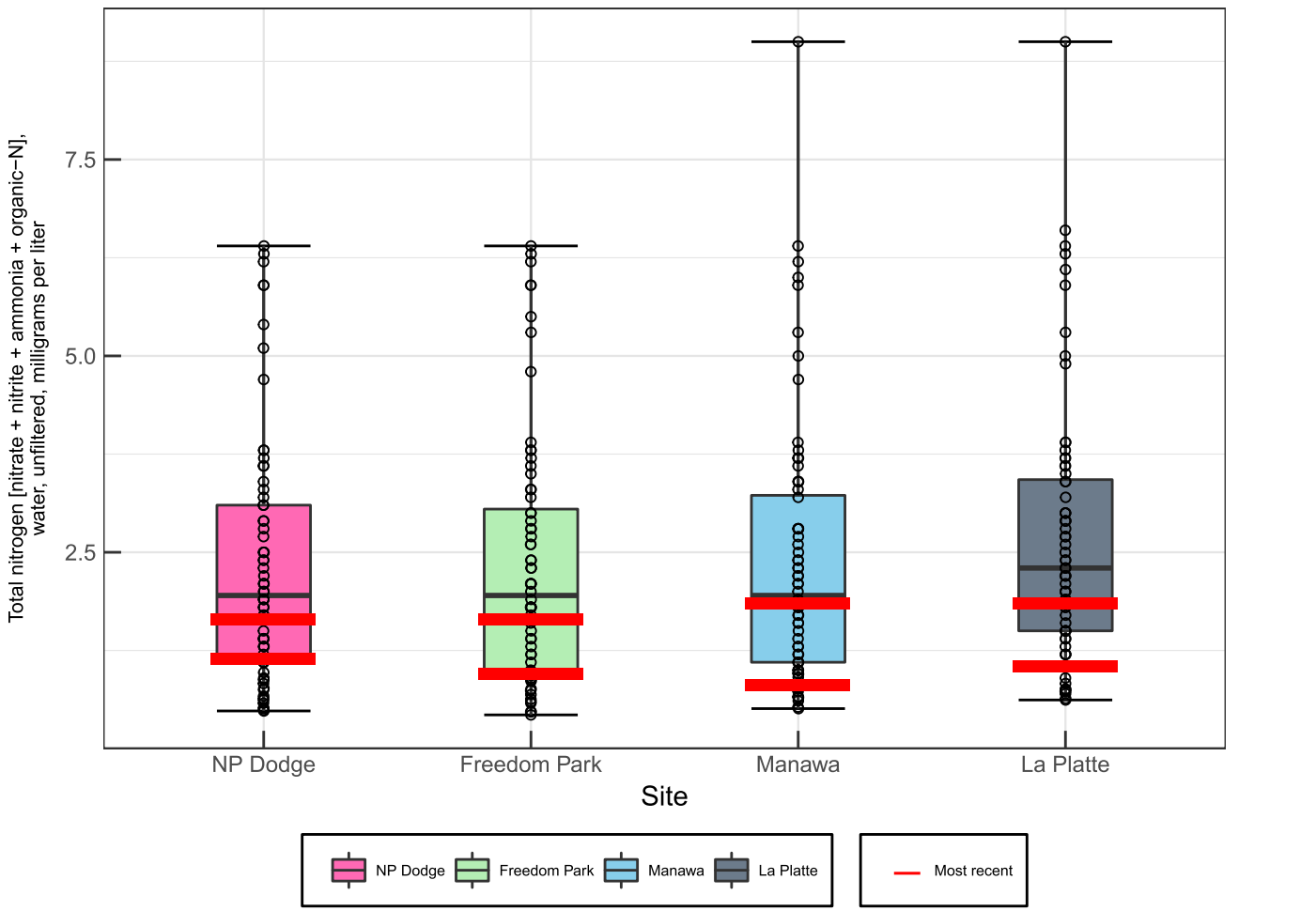


−−PRELIMINARY DATA SUBJECT TO REVISION−−

data retrieved 10/11/2017

Total nitrogen [nitrate + nitrite + ammonia + organic−N]





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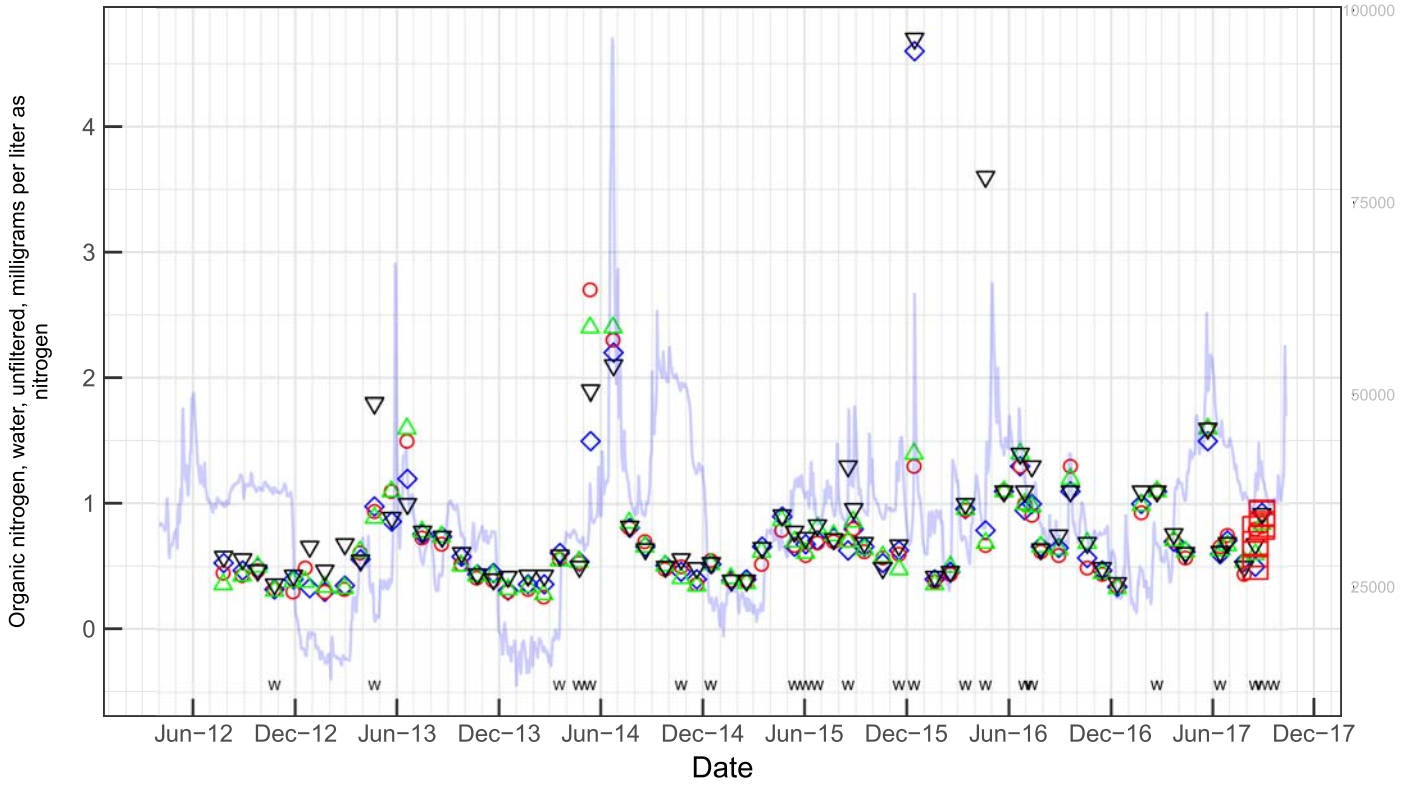
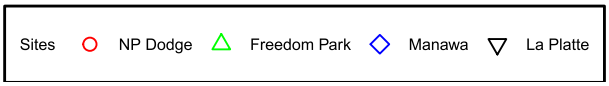
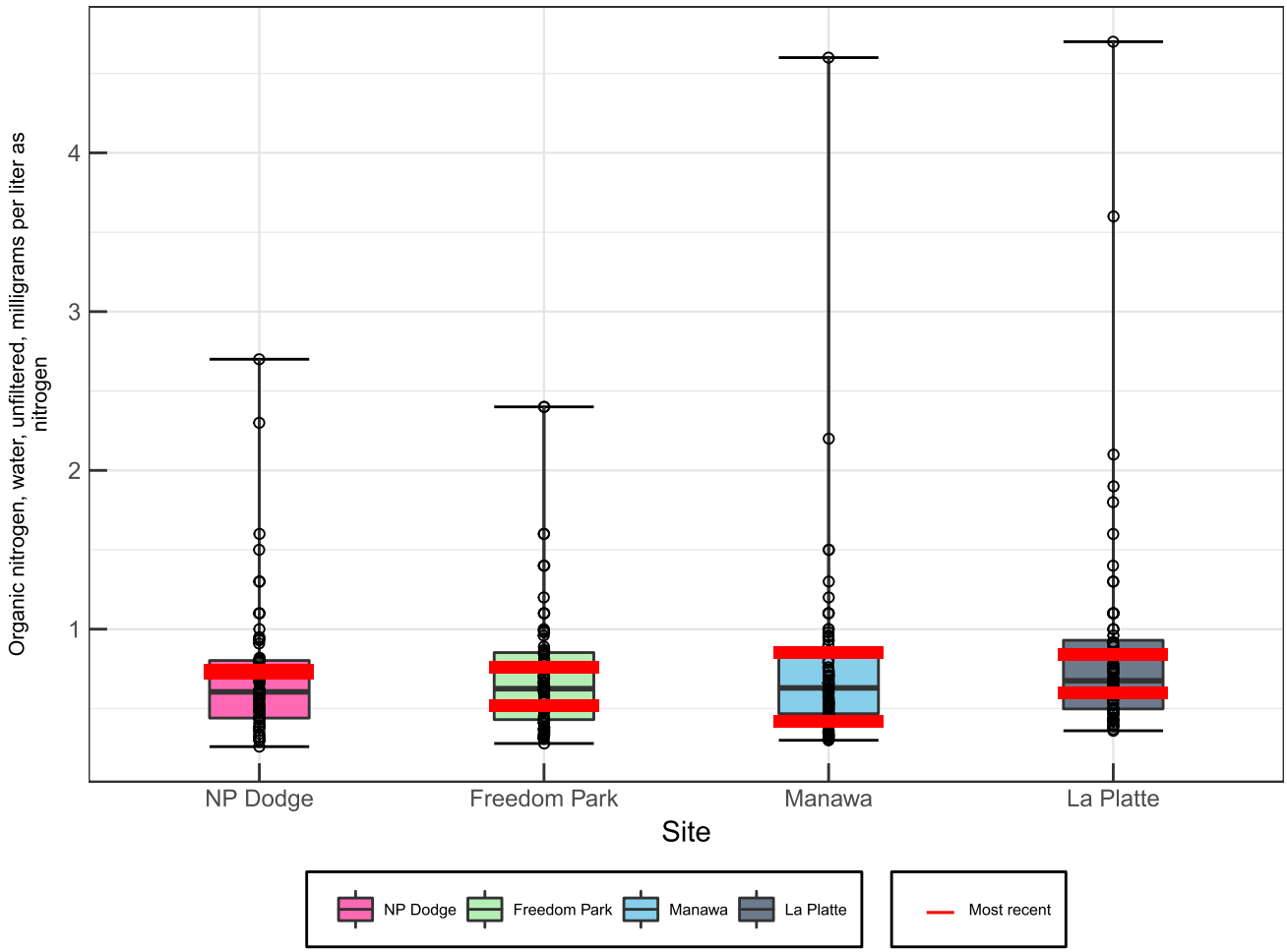
data retrieved 10/11/2017

Organic nitrogen







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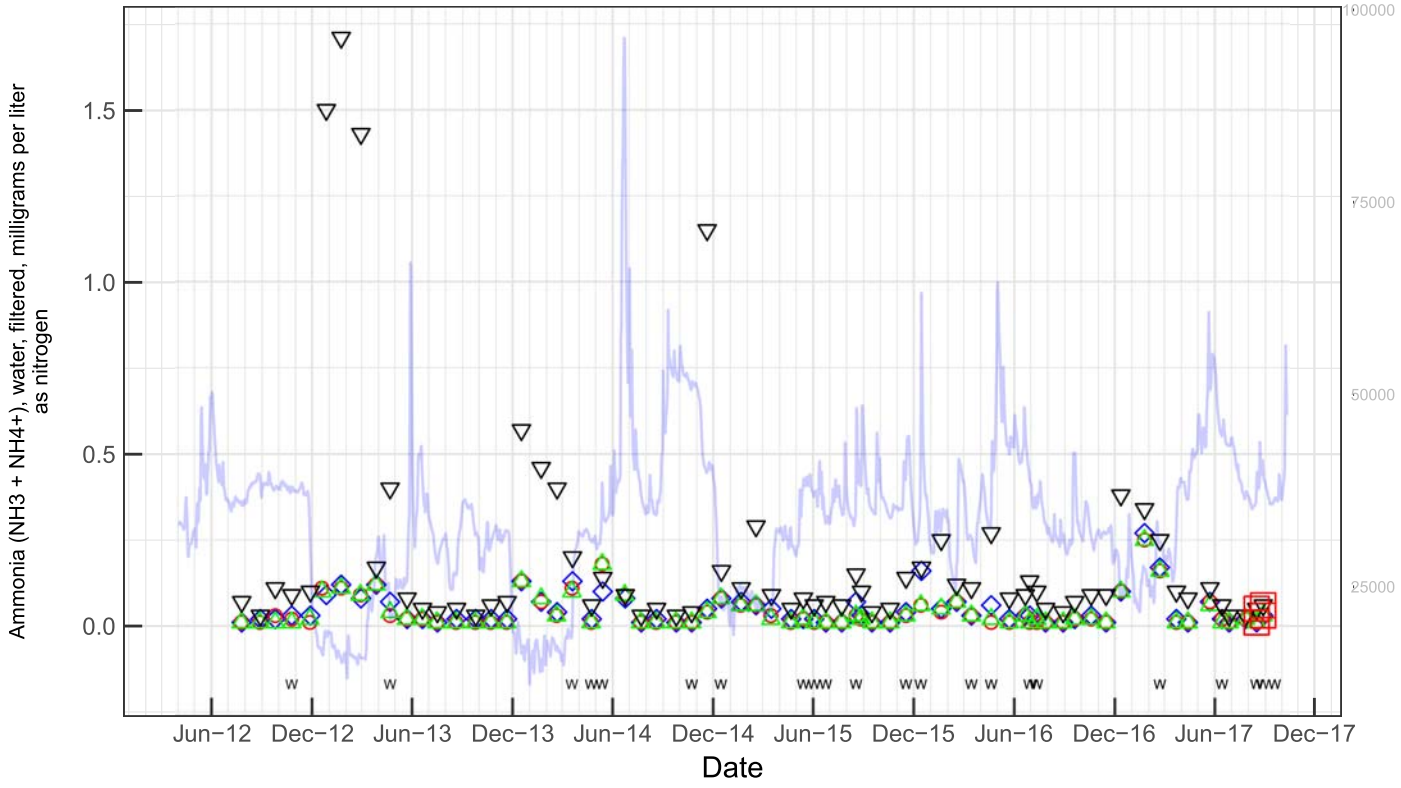
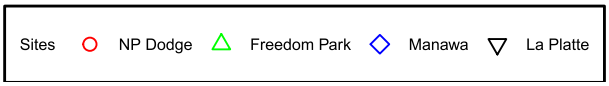
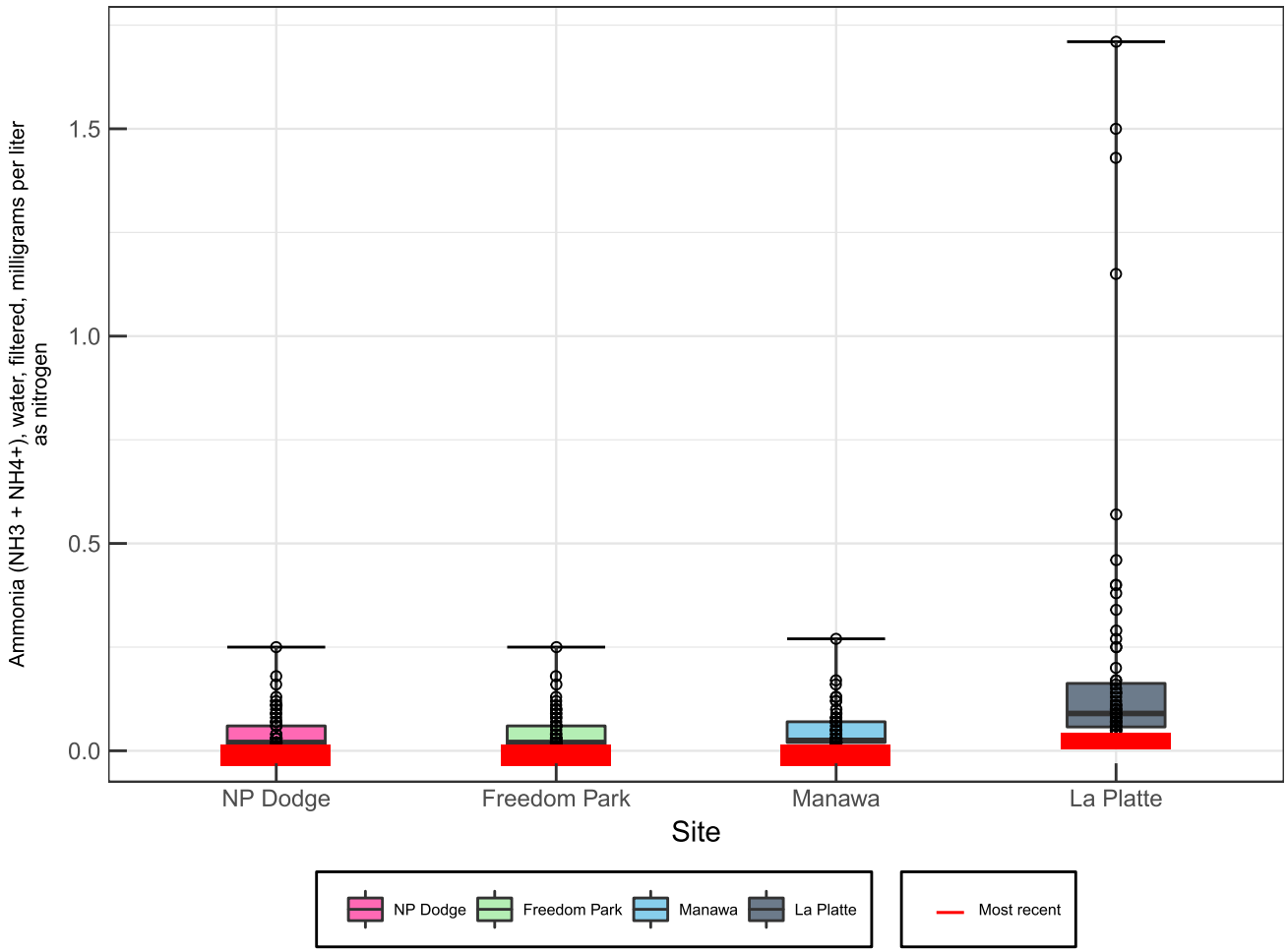
data retrieved 10/11/2017

Ammonia (NH3 + NH4+)







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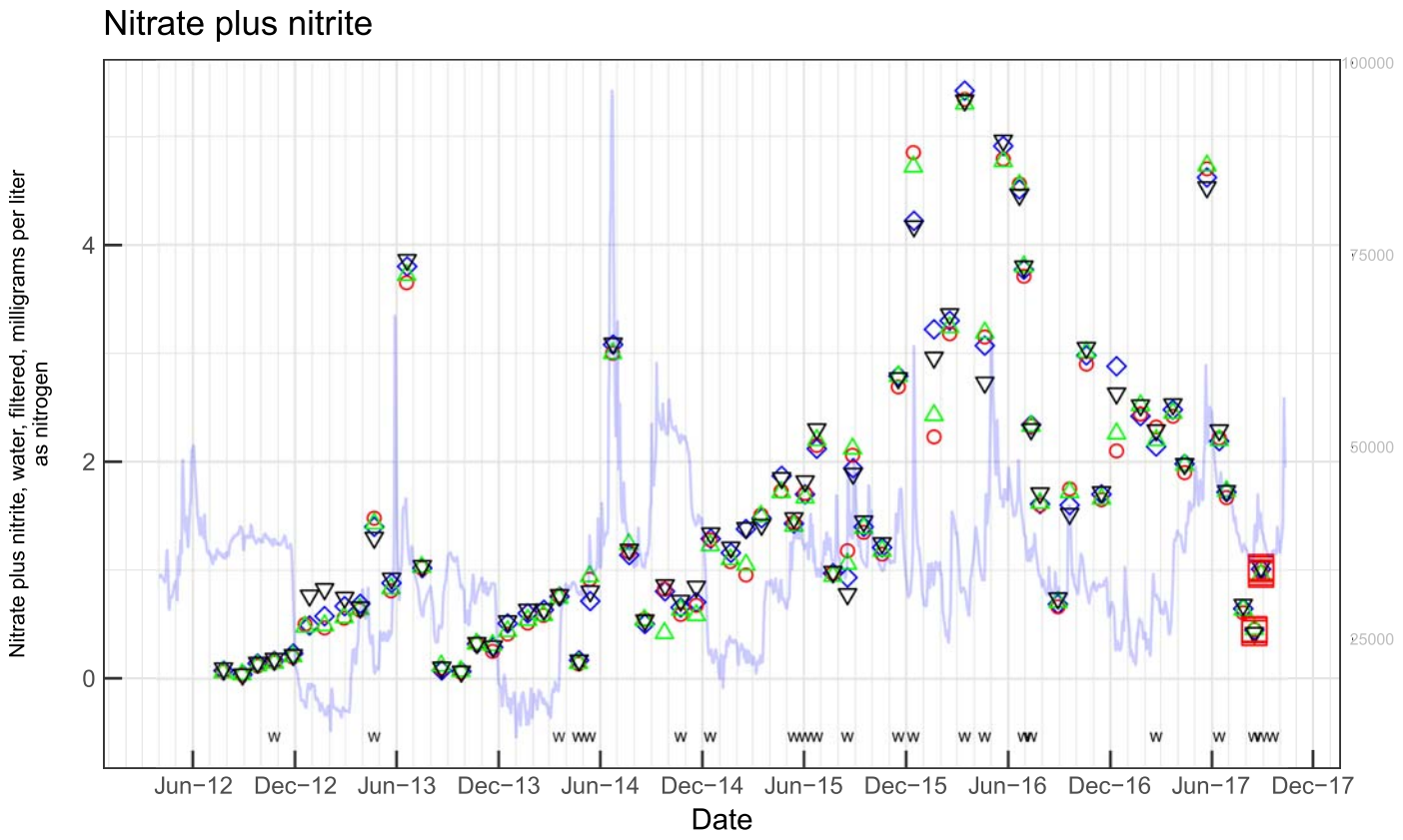

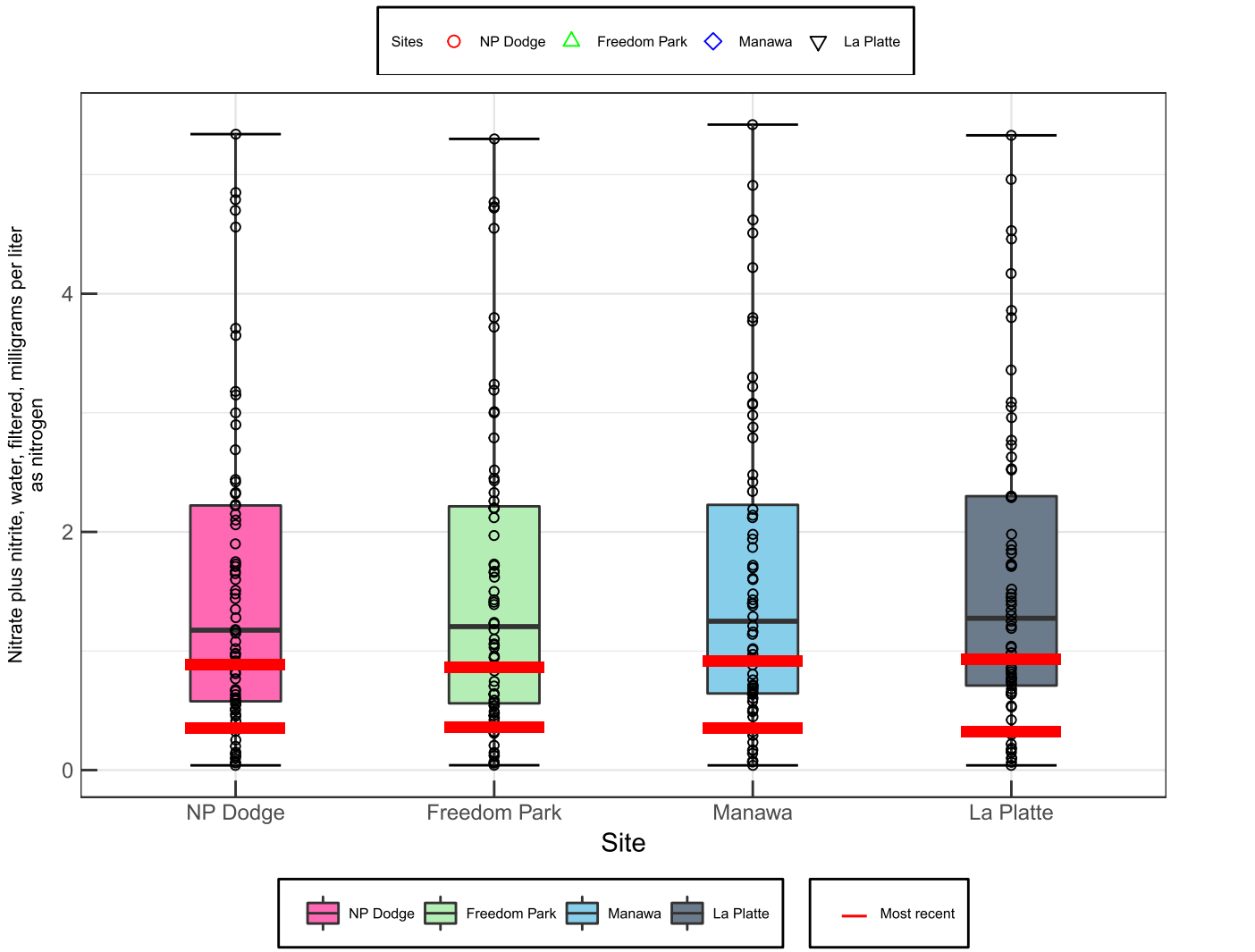

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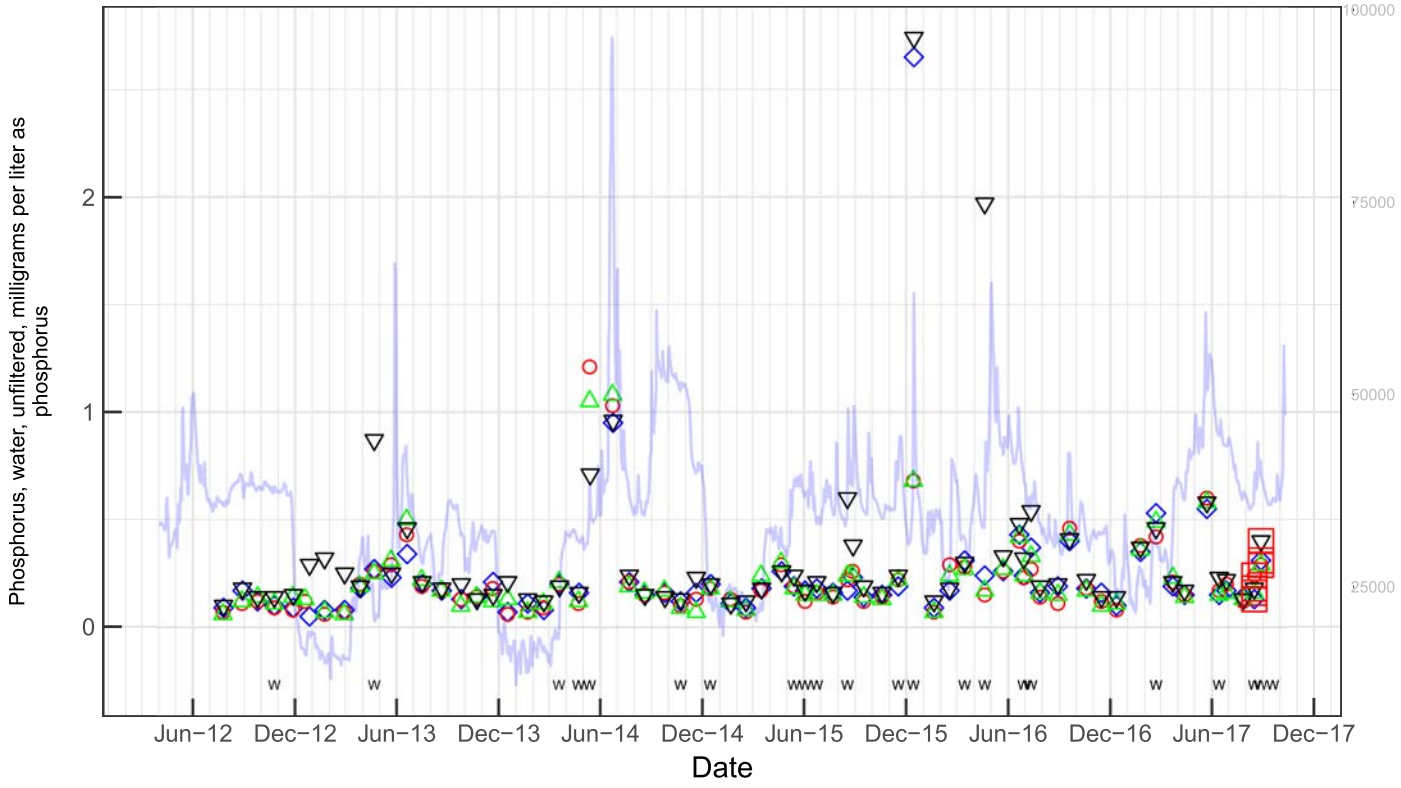
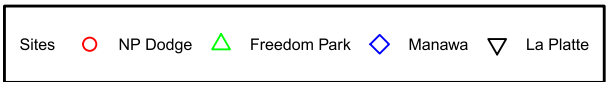
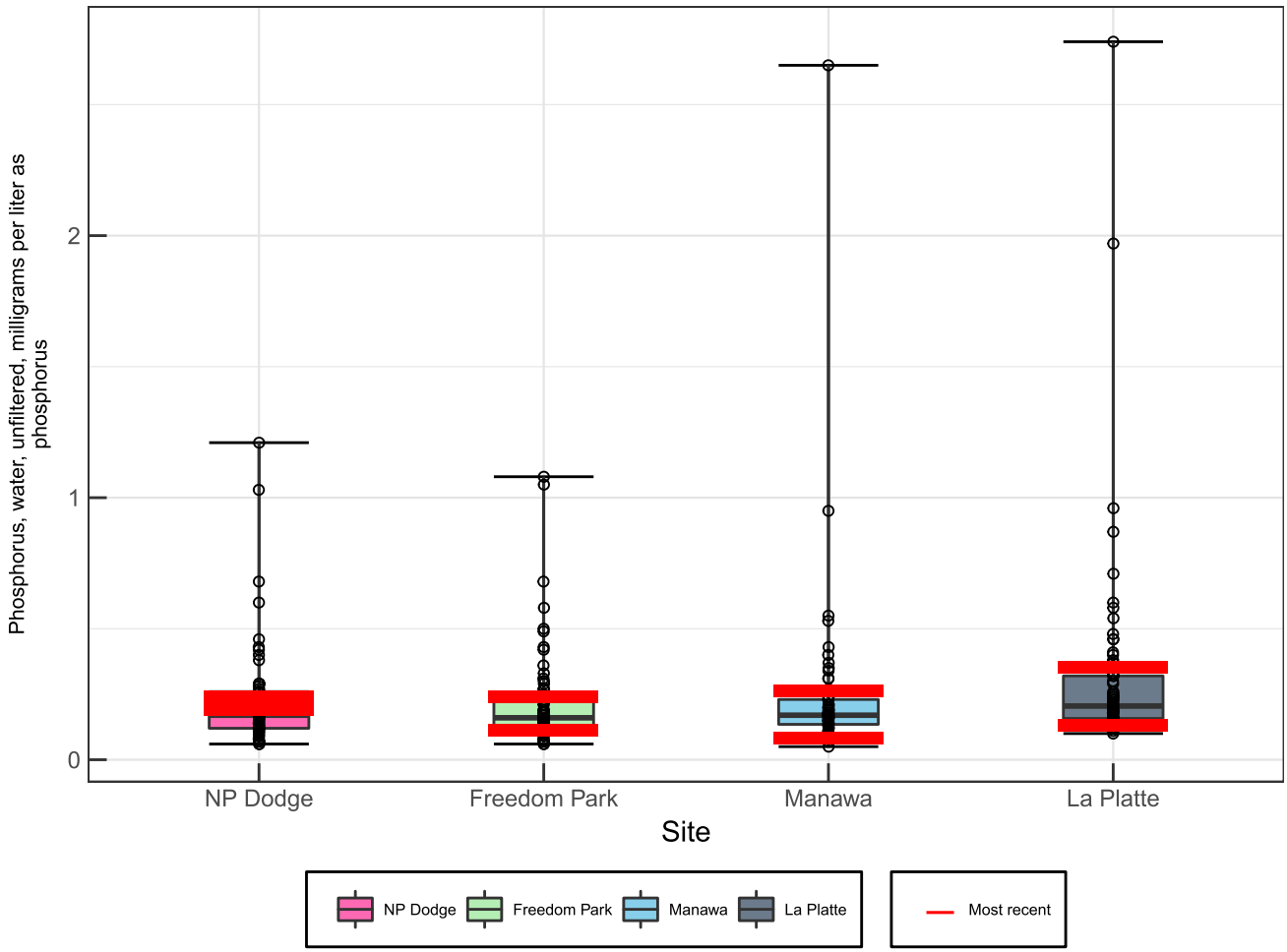
data retrieved 10/11/2017

Phosphorus







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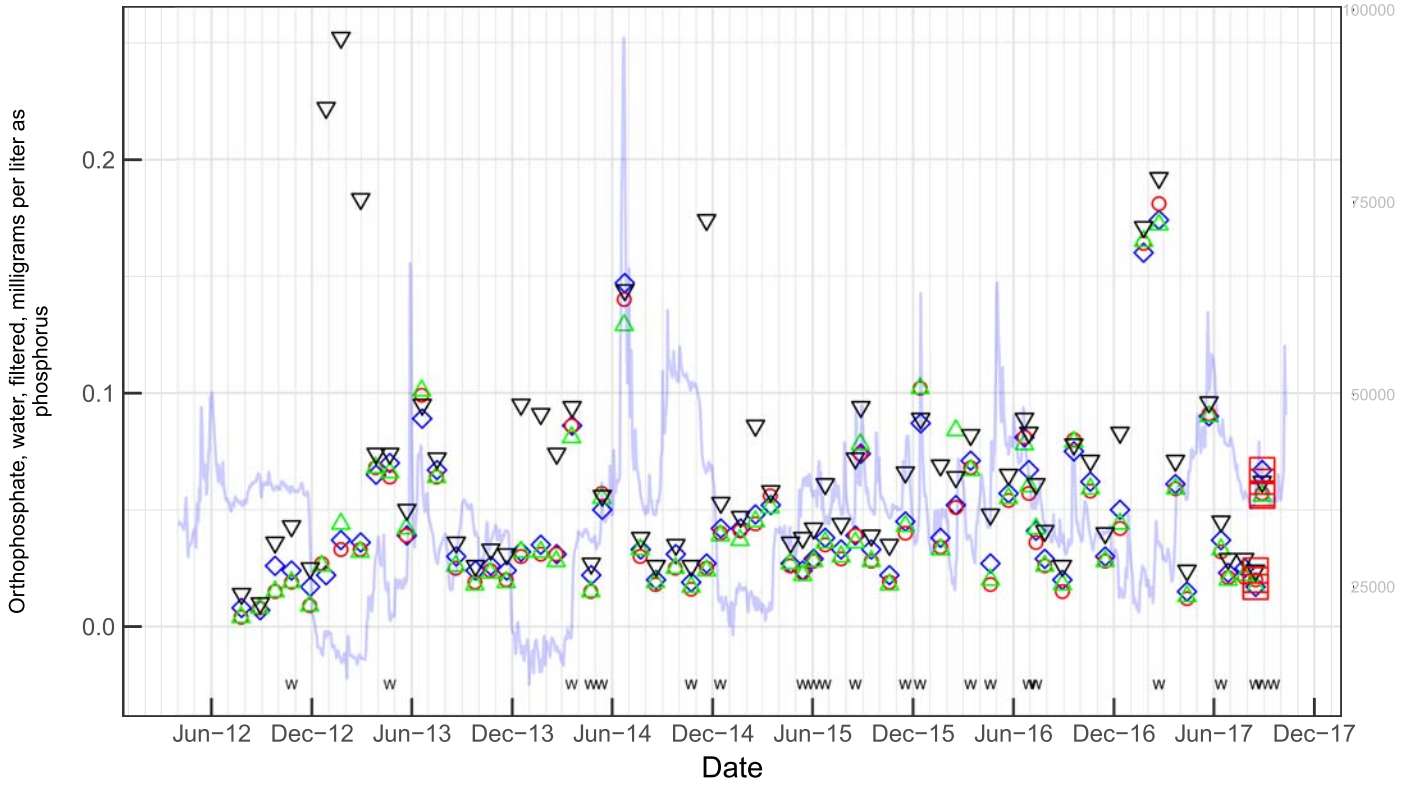
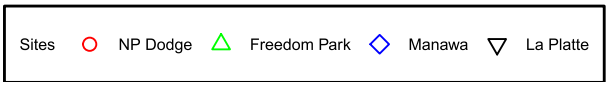
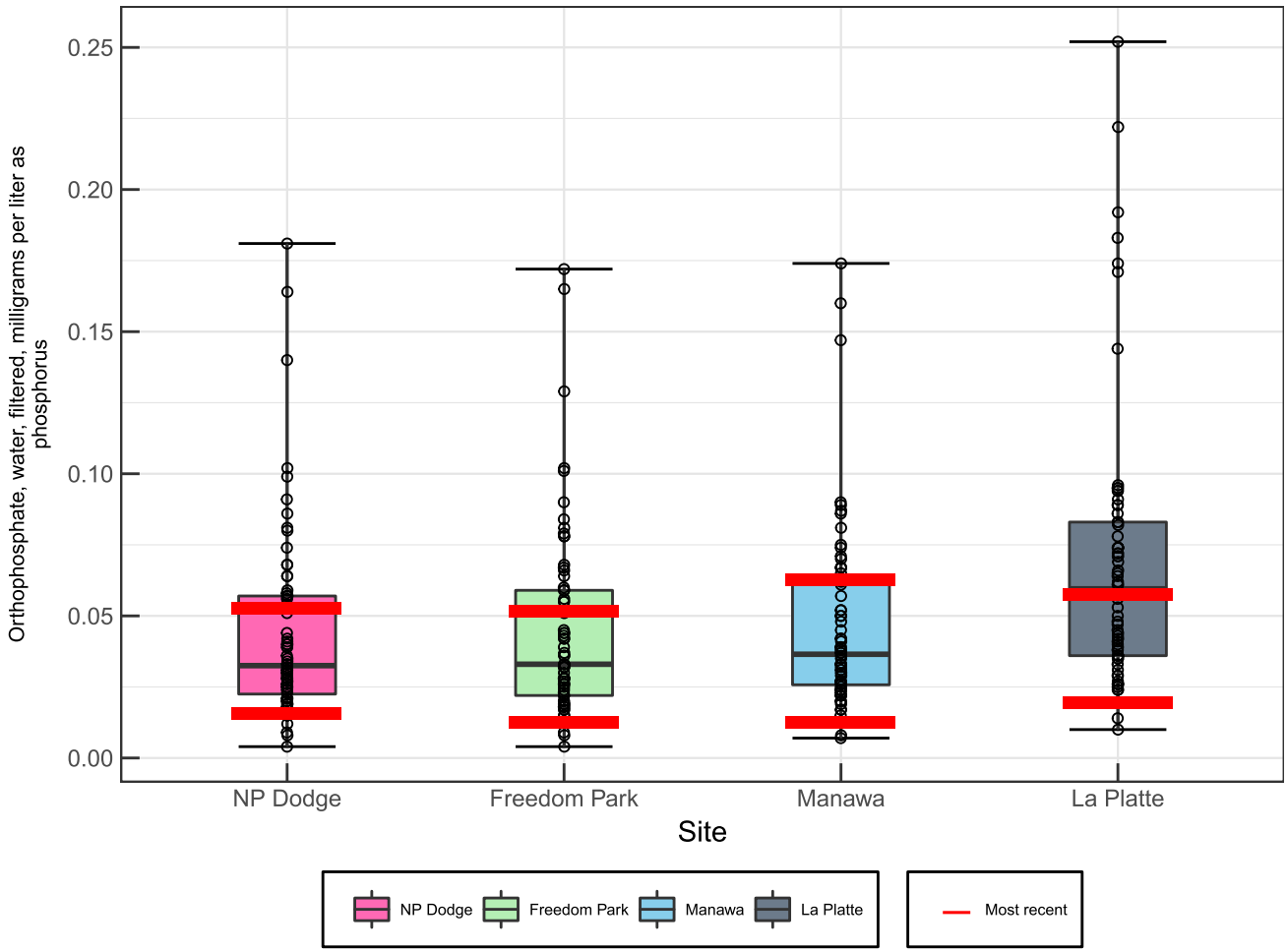
Orthophosphate







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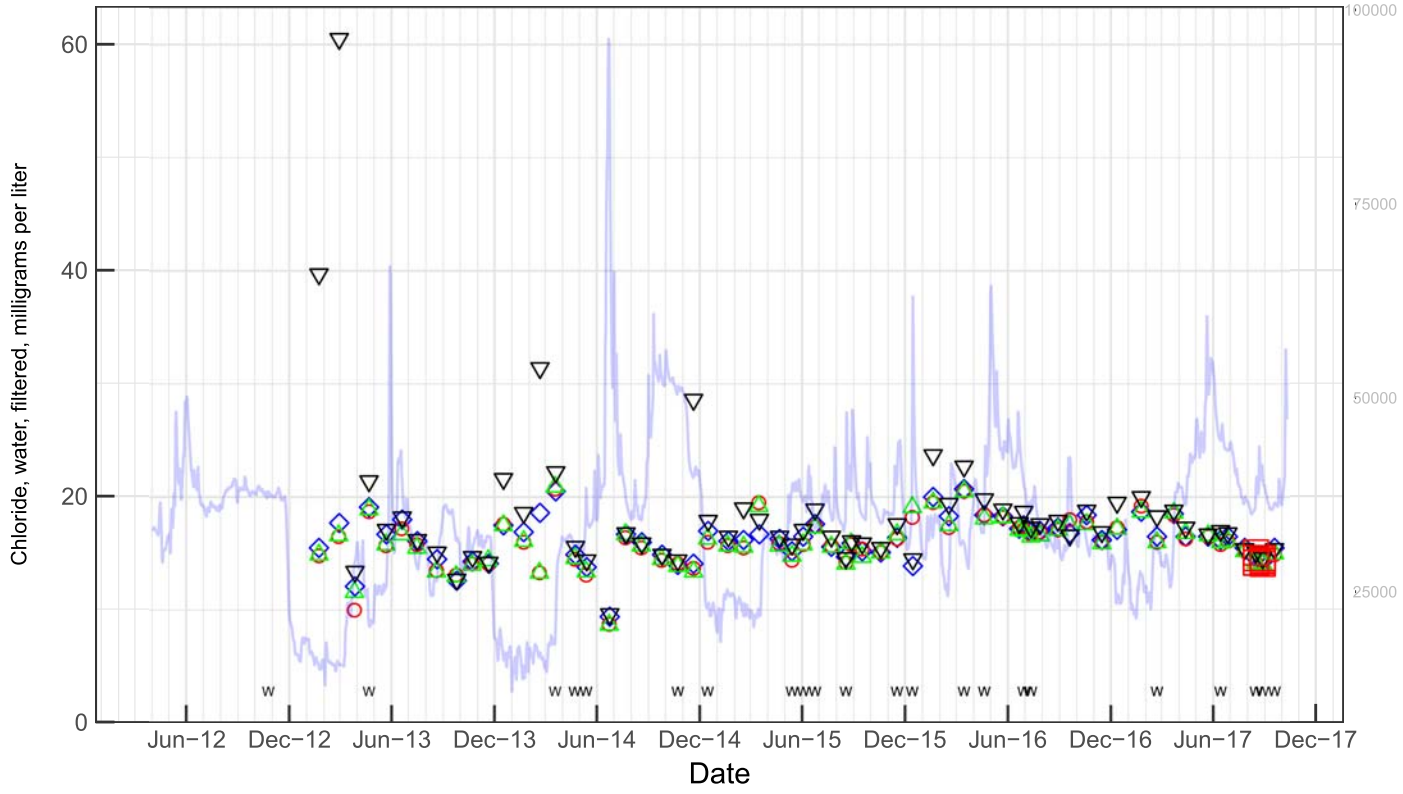
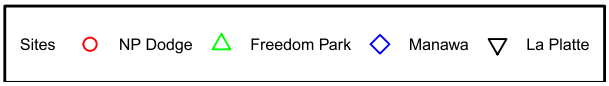
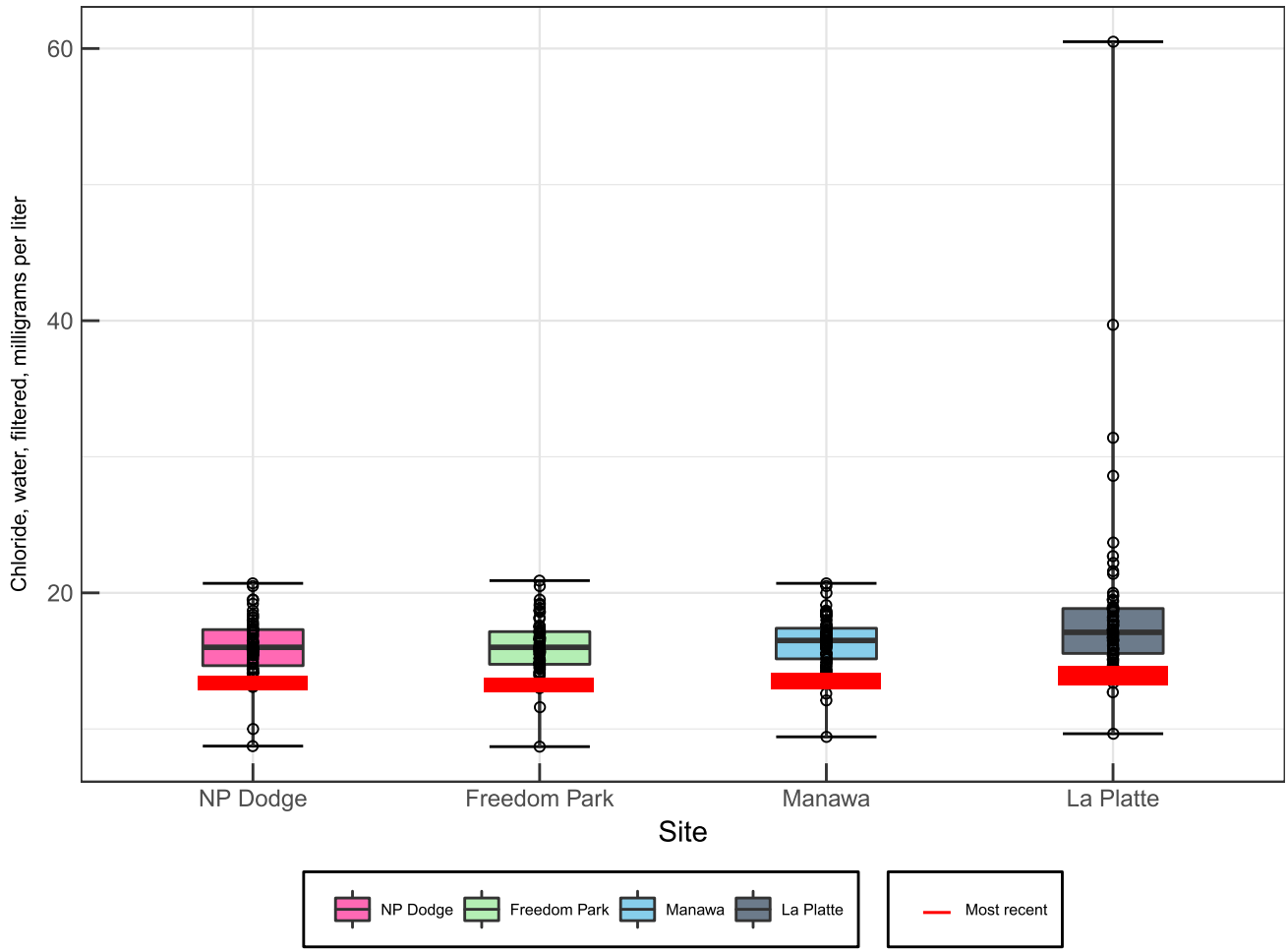
data retrieved 10/11/2017

Chloride







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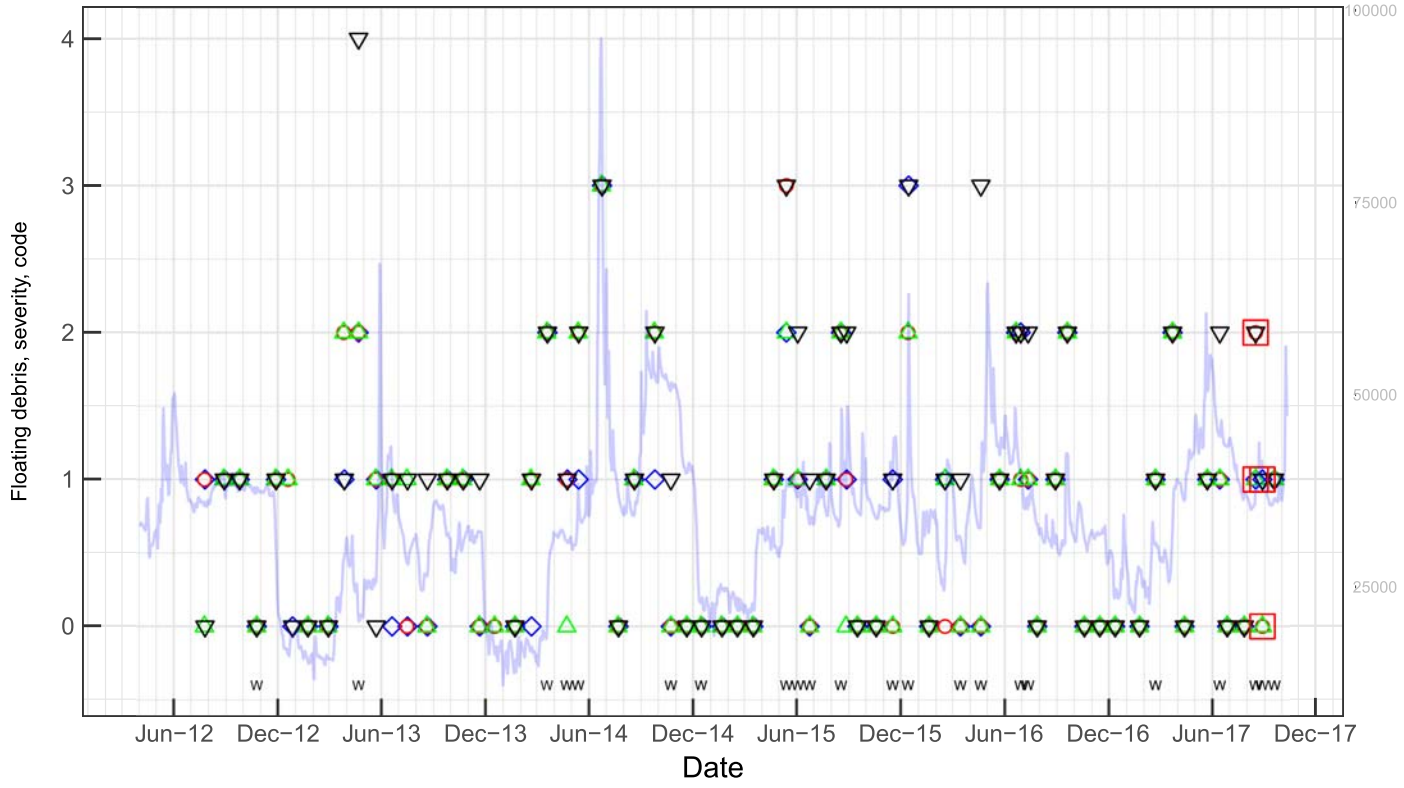
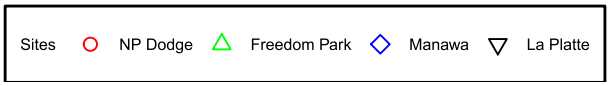
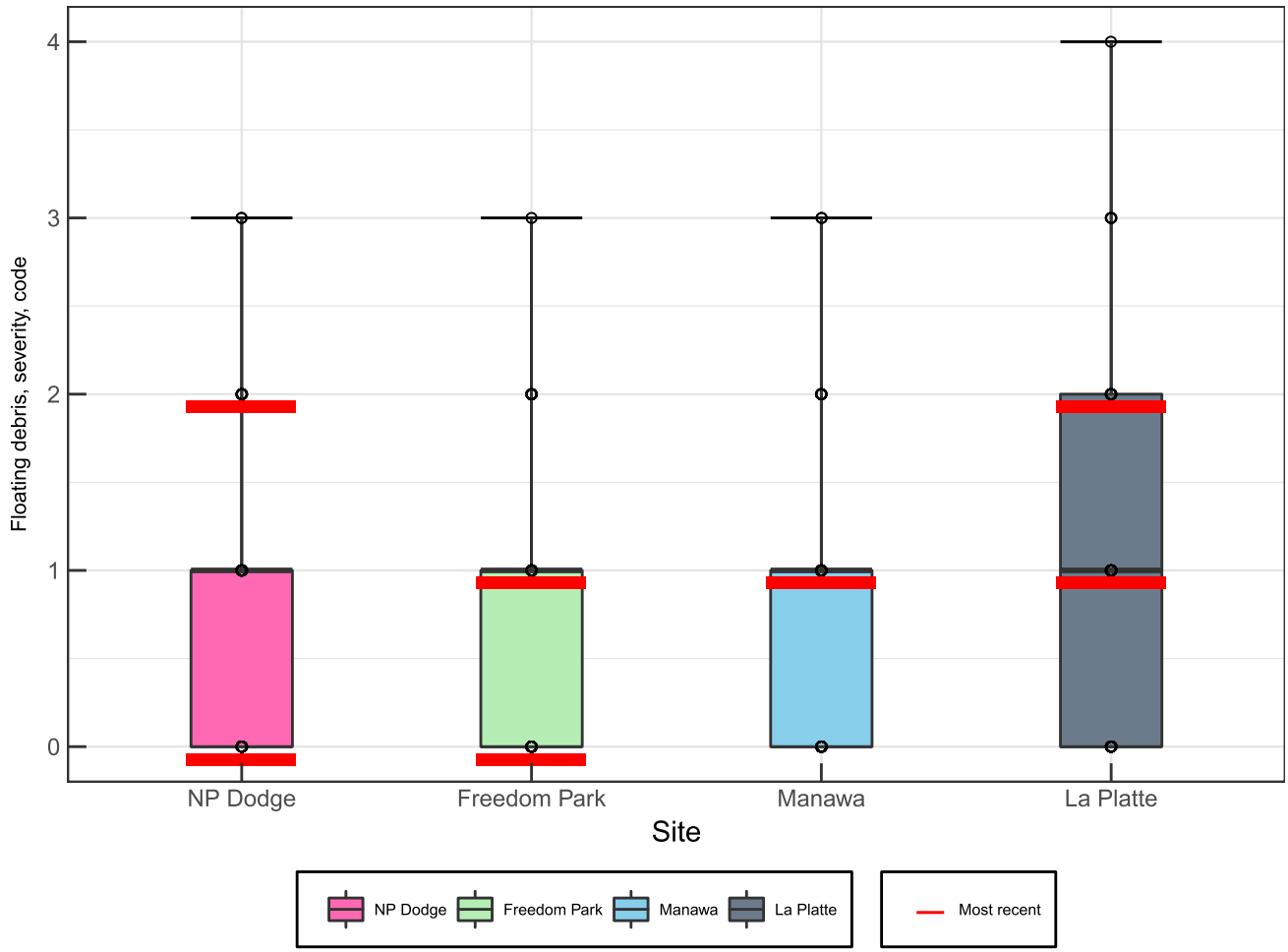
data retrieved 10/11/2017

Floating debris







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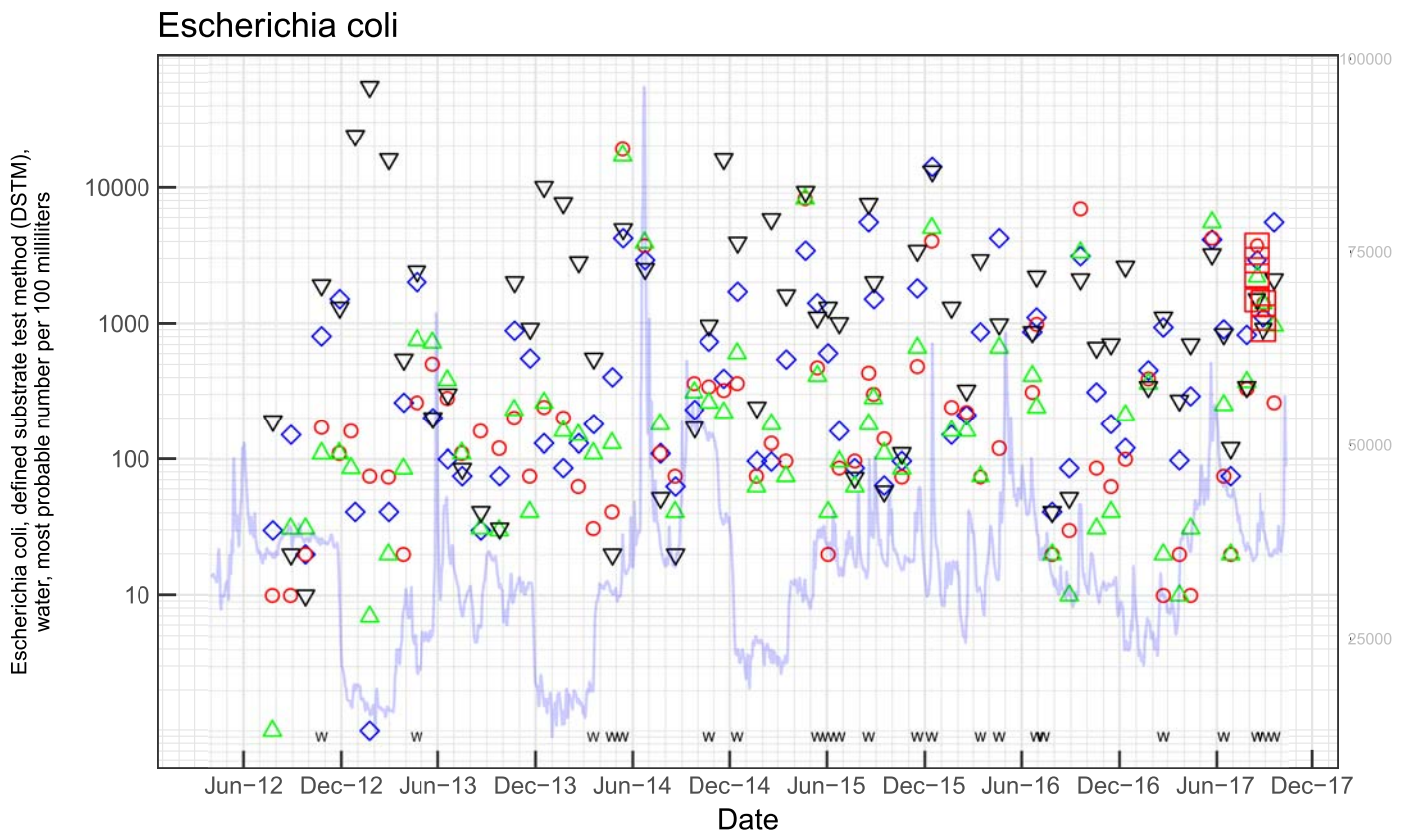

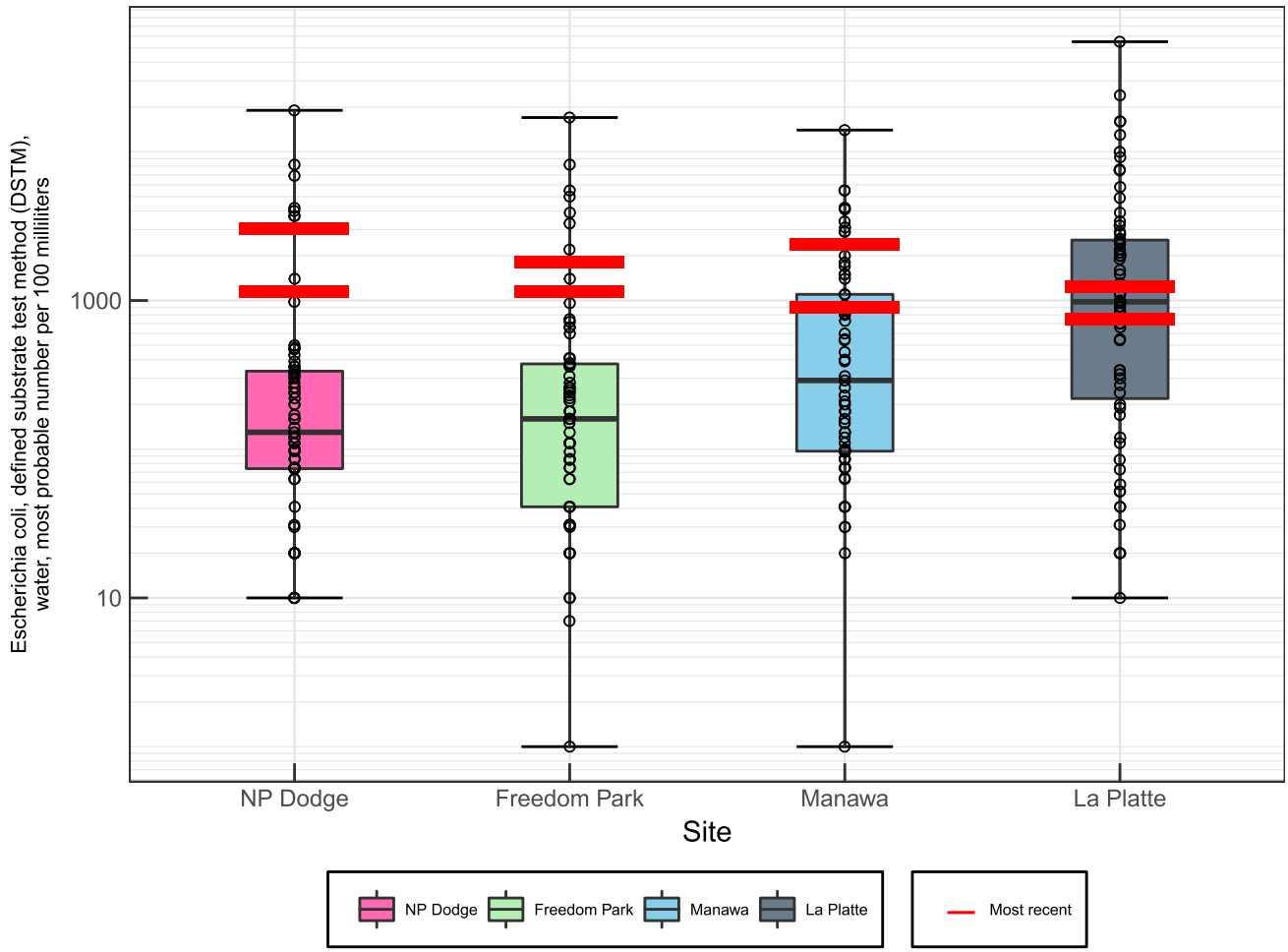

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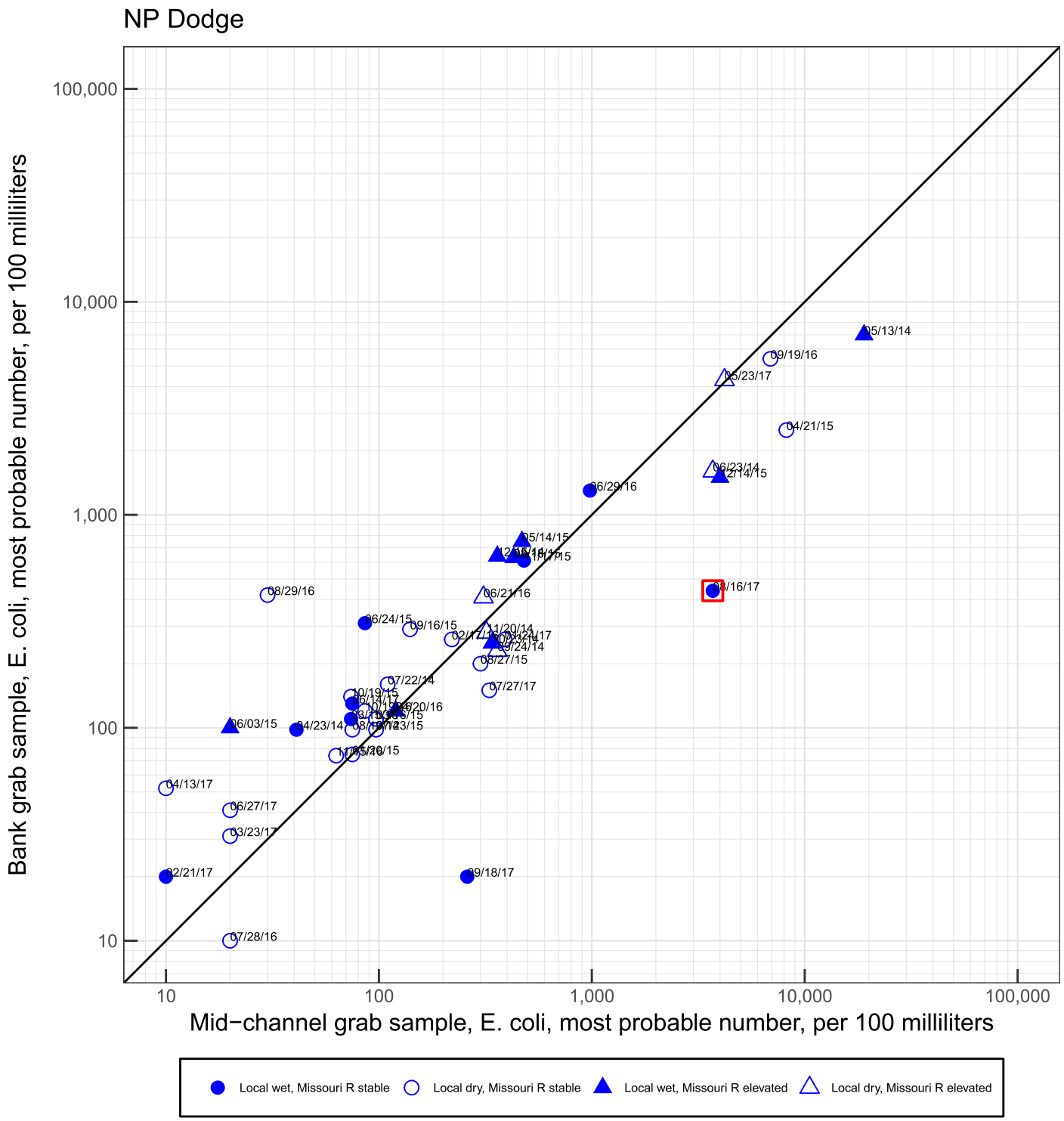

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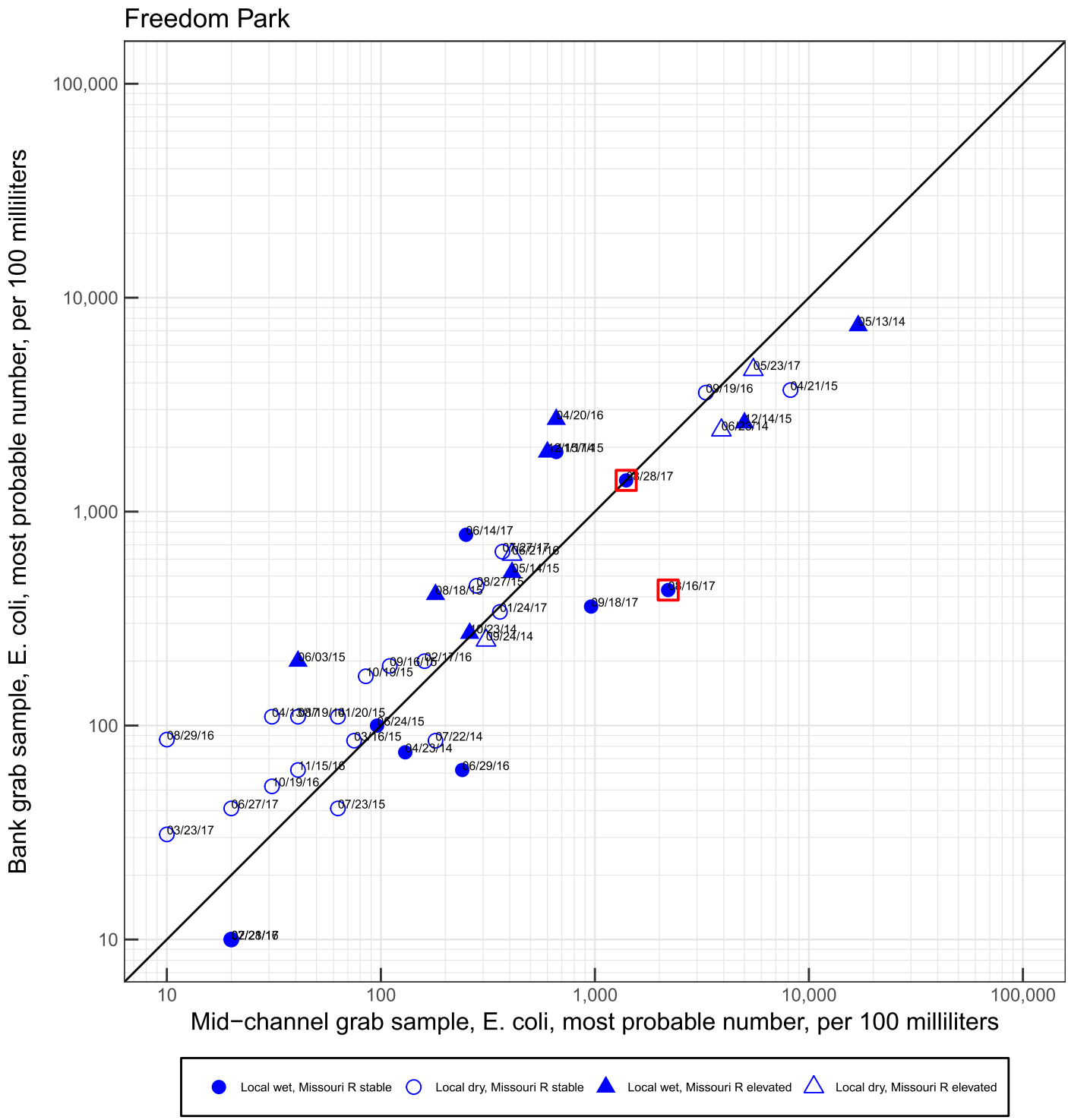

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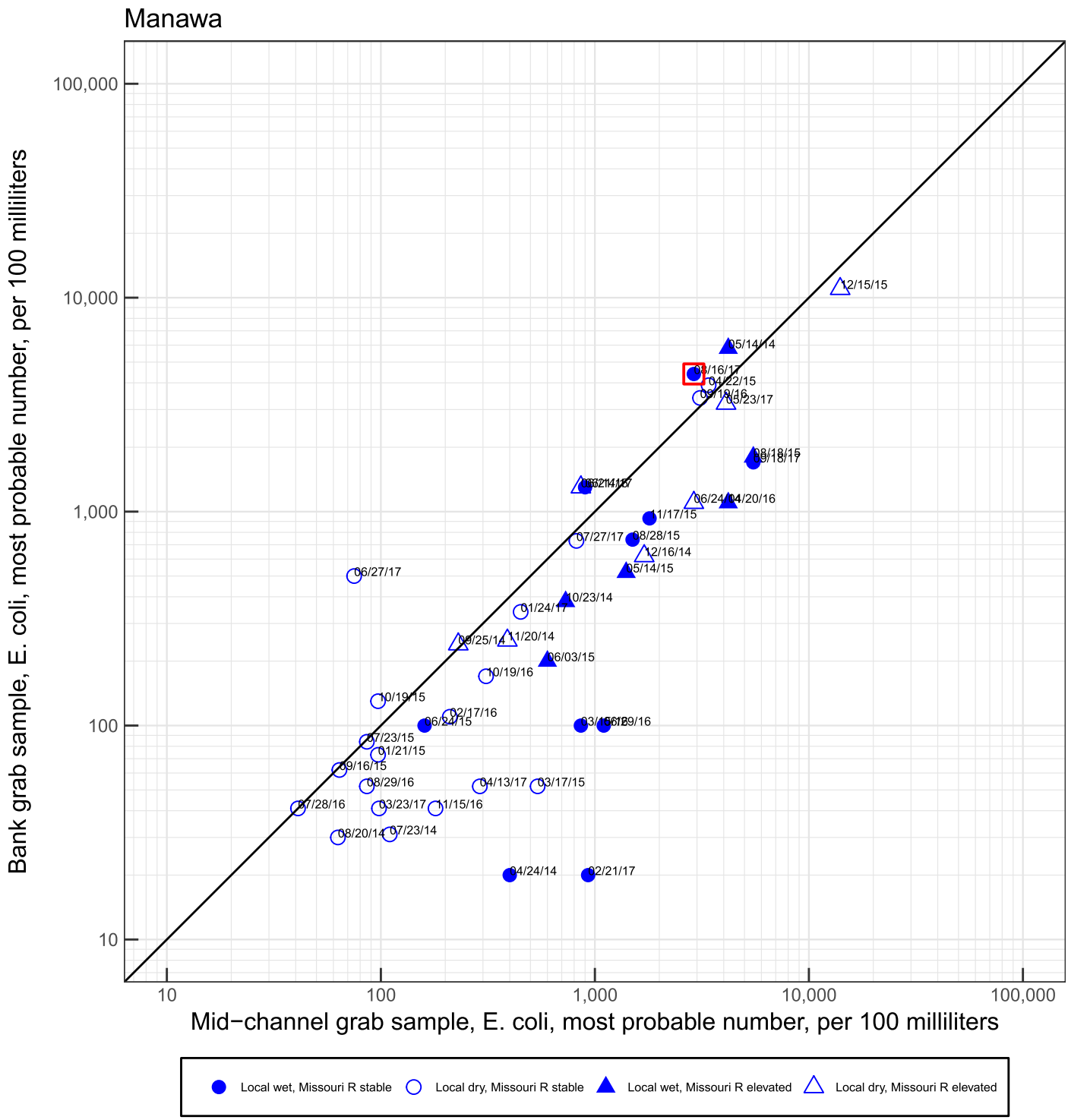

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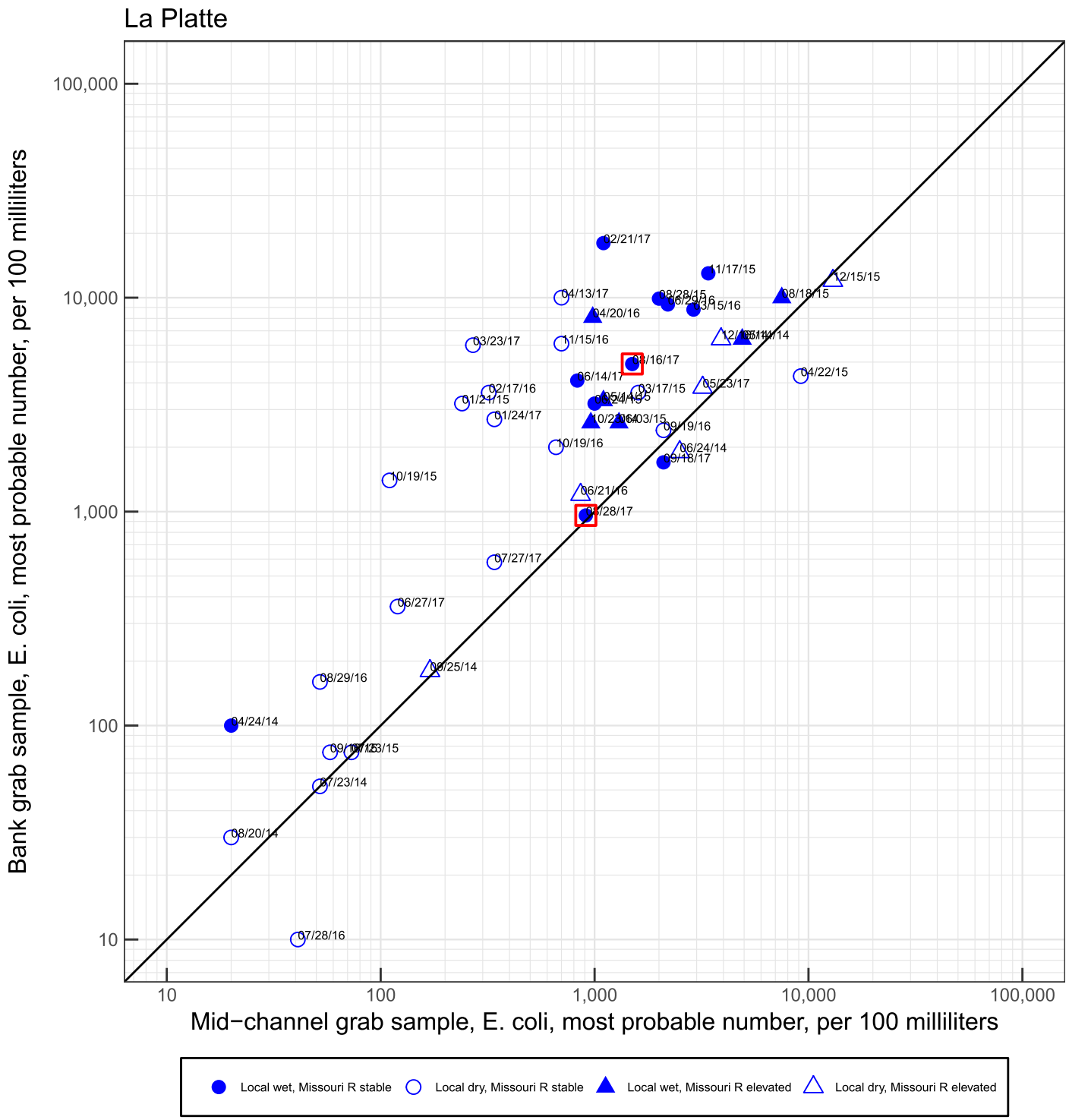

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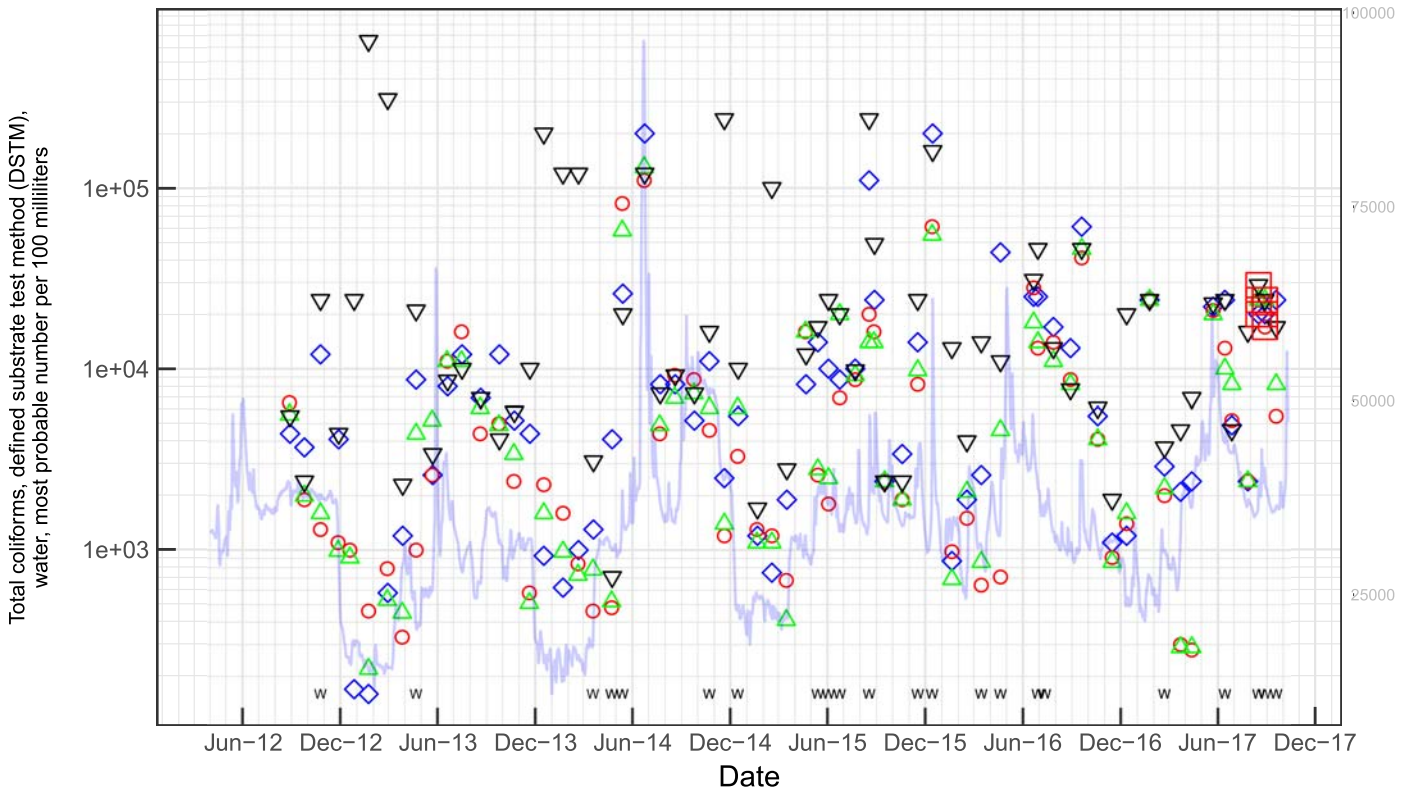
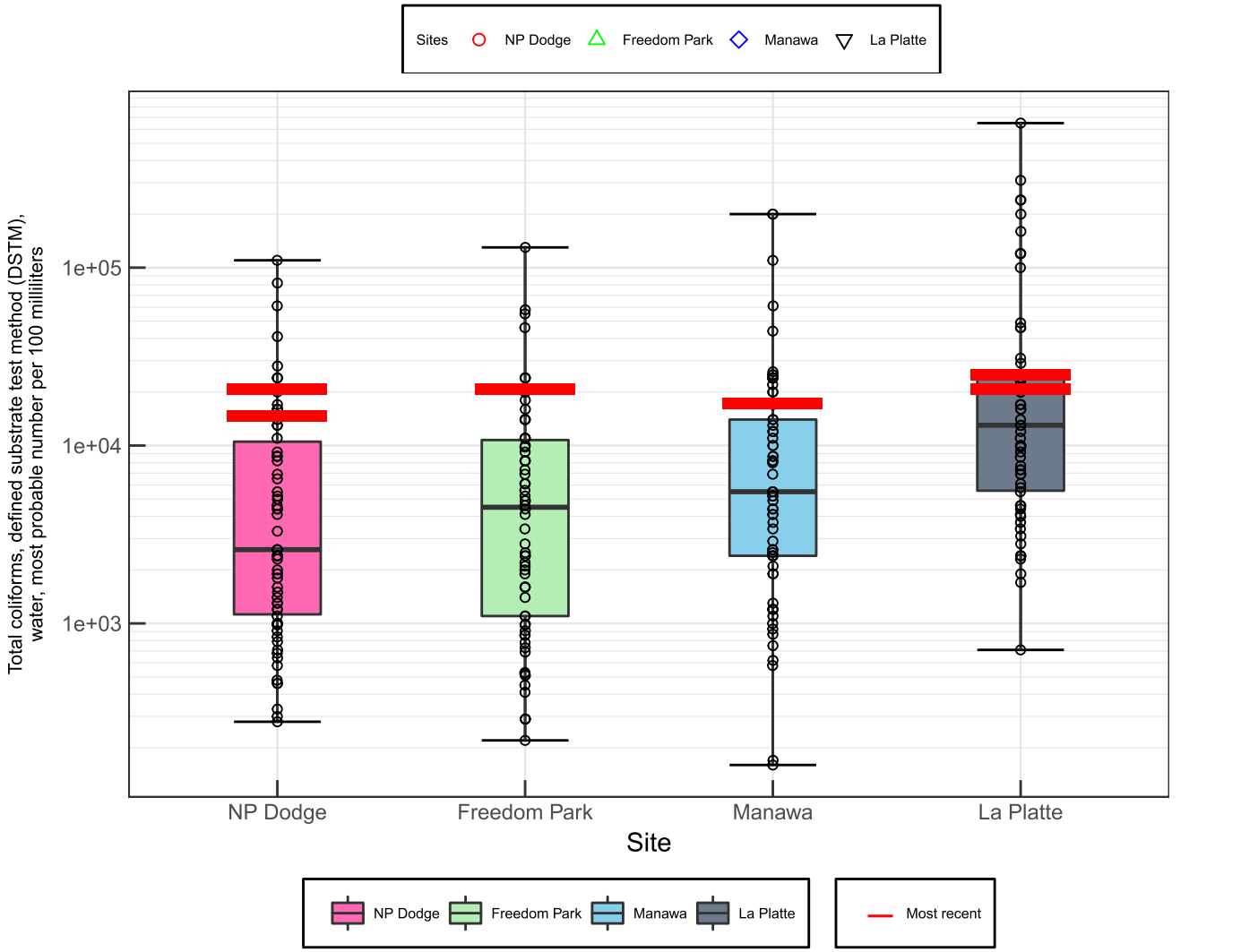
data retrieved 10/11/2017

Total coliforms





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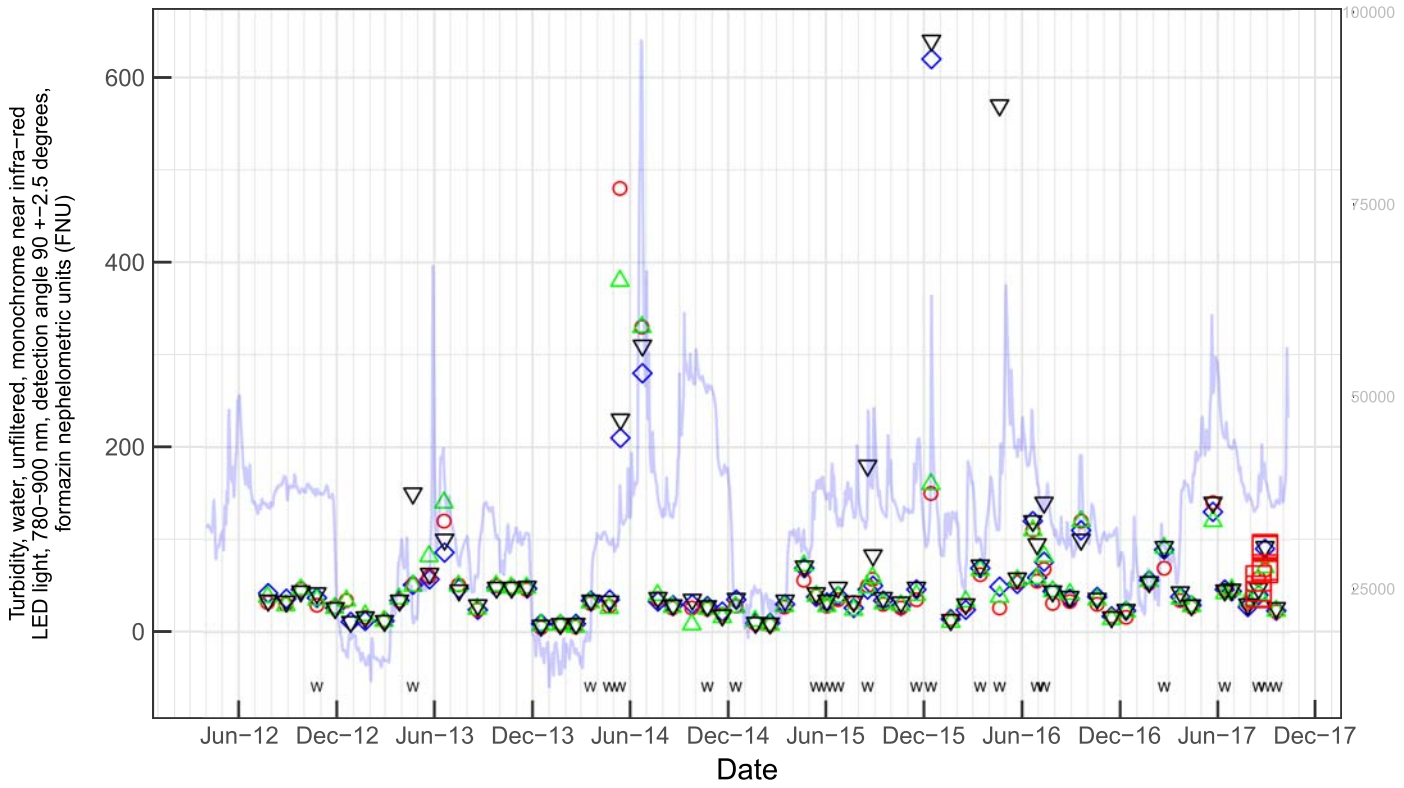
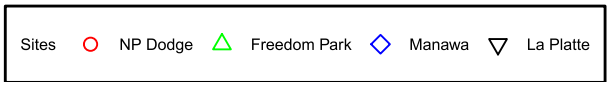
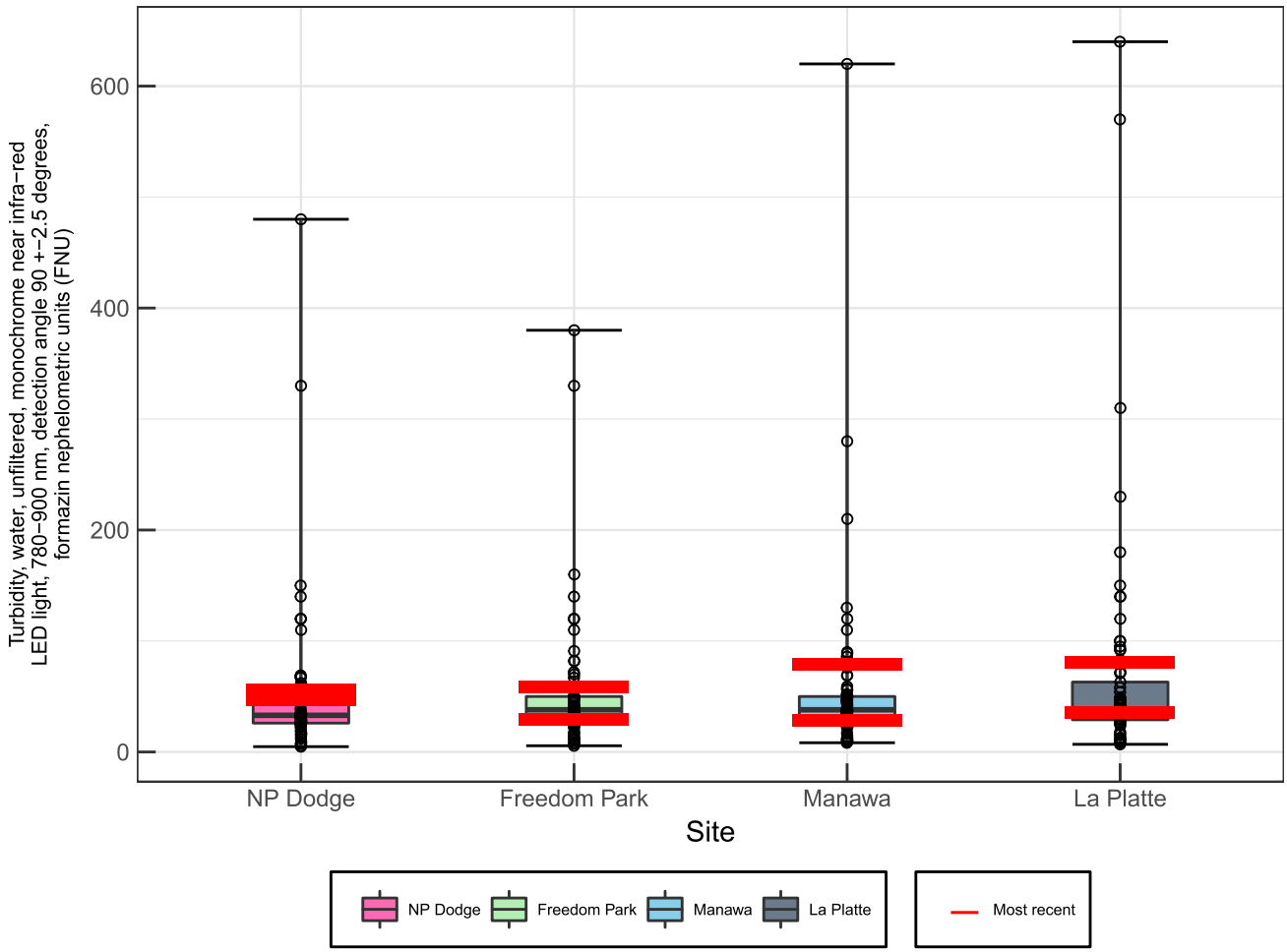
Turbidity







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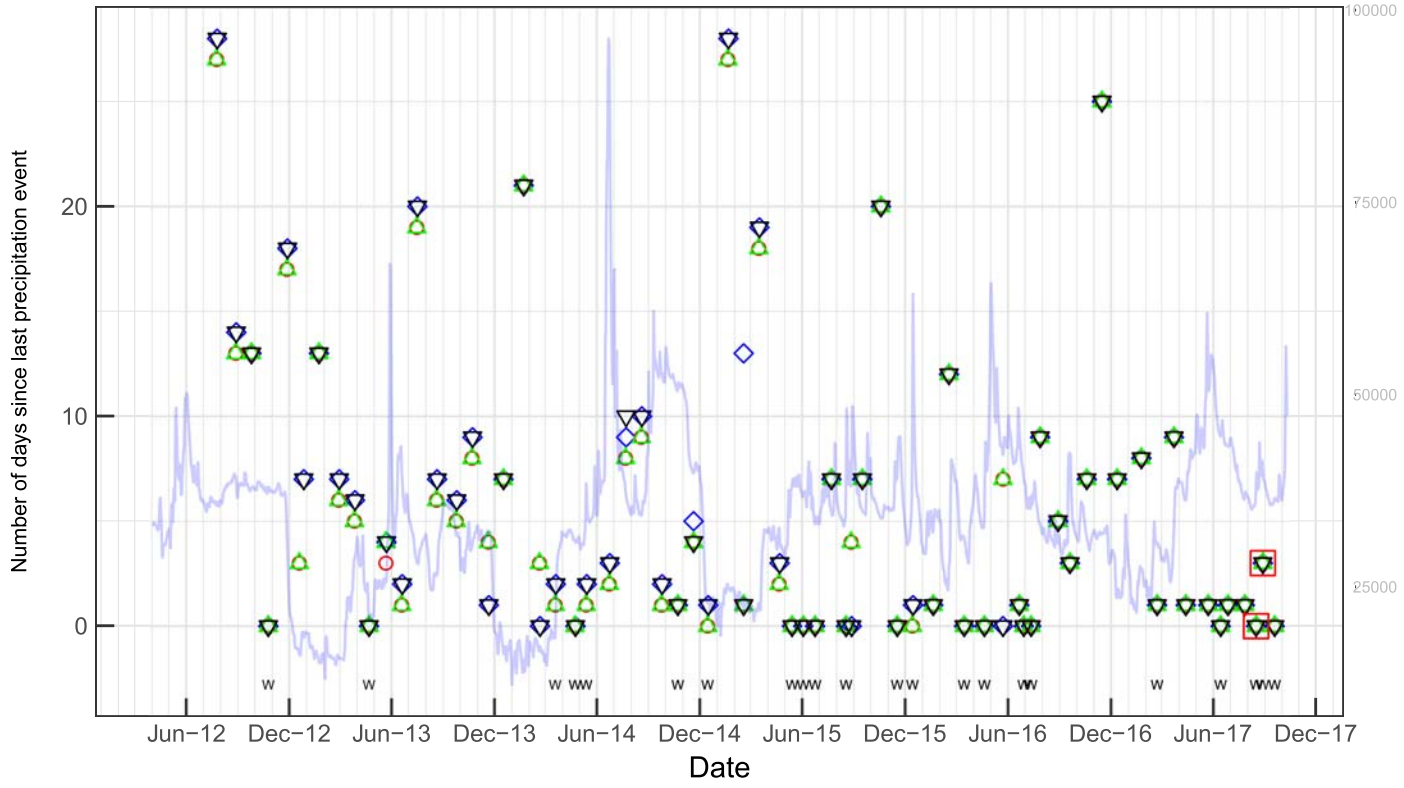
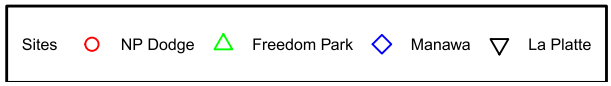
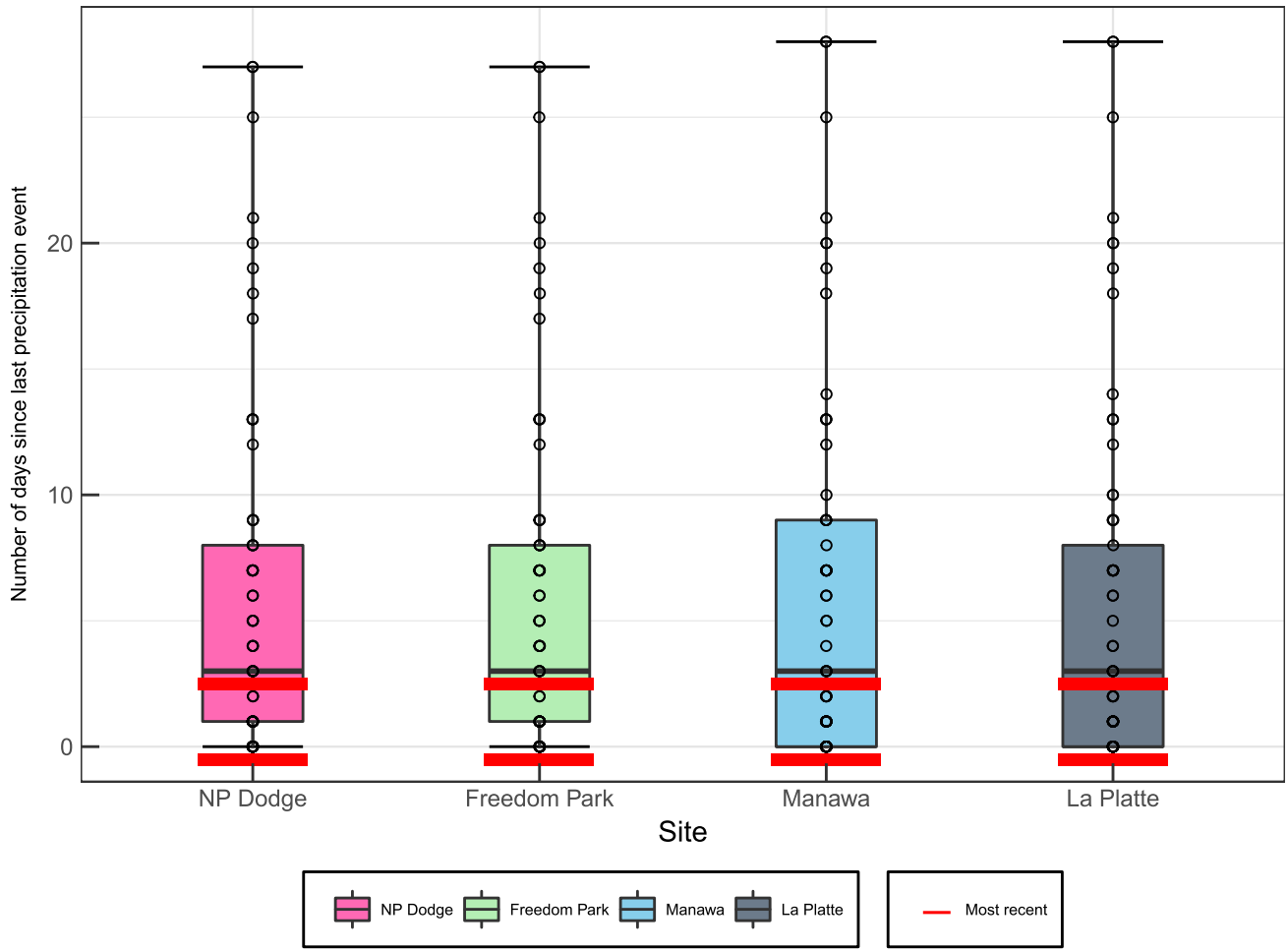
data retrieved 10/11/2017

Number of days since last precipitation event







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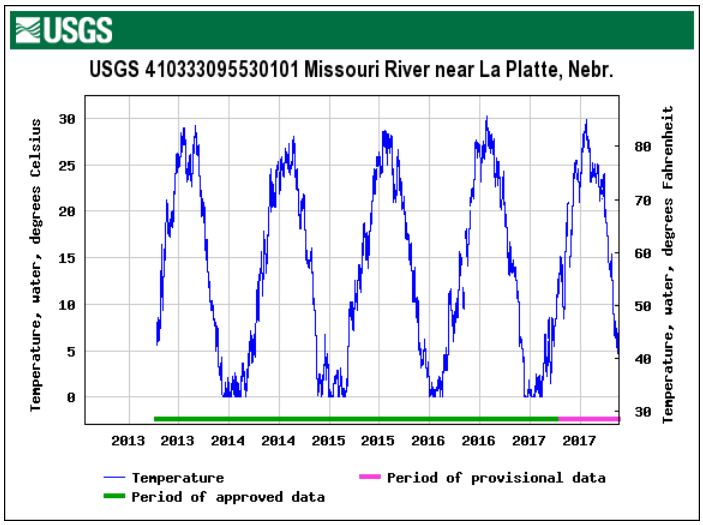
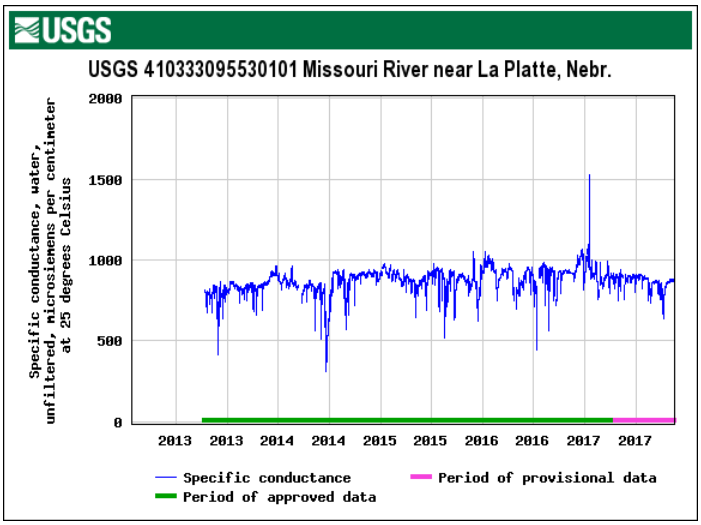
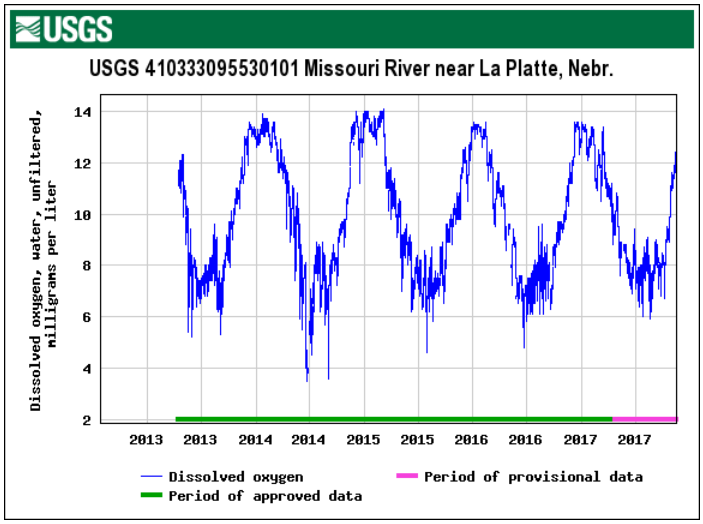
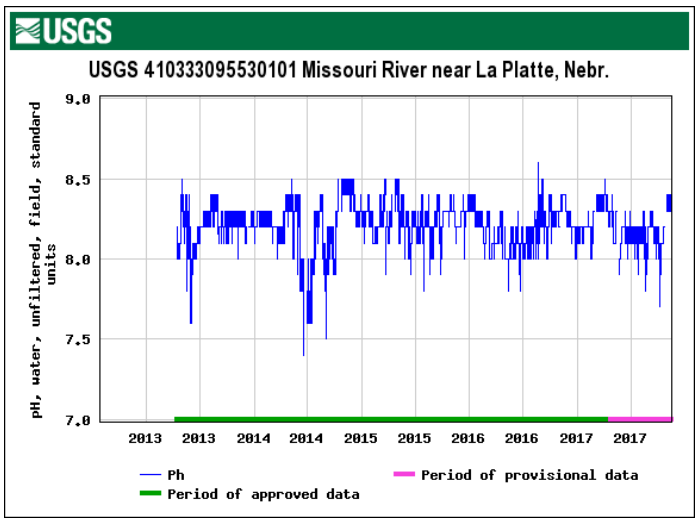
data retrieved 10/11/2017

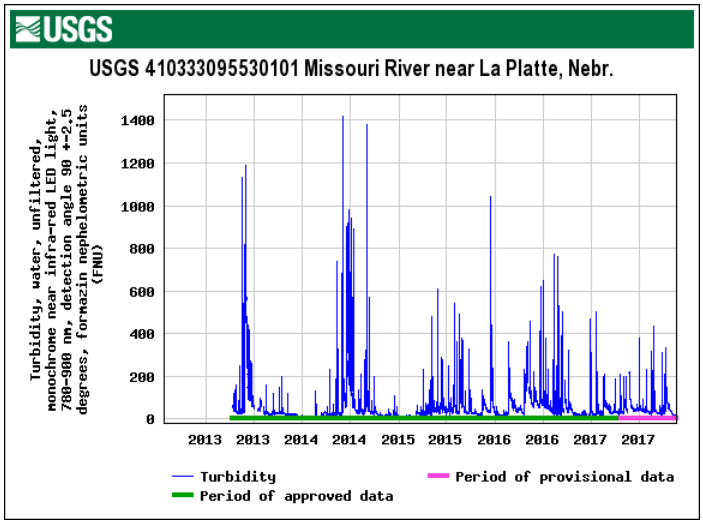
Continuous Water Quality Monitoring Graphs - Site MR-1



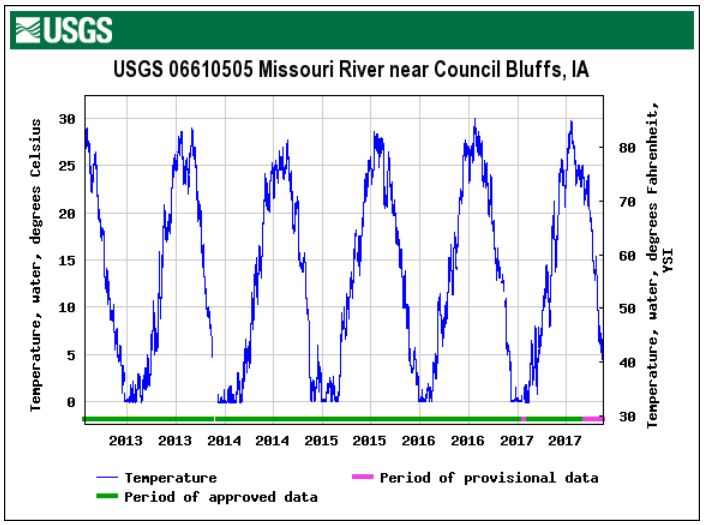


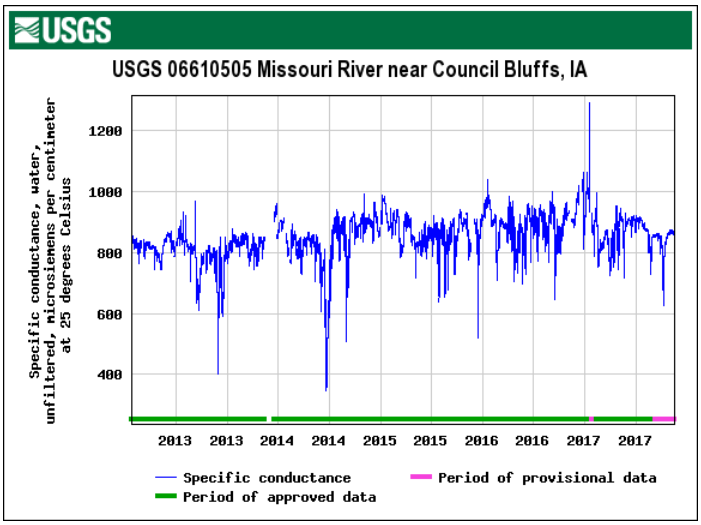


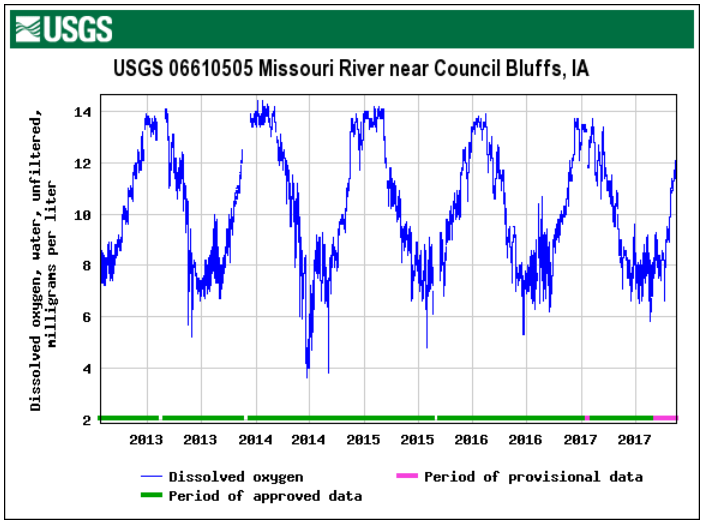


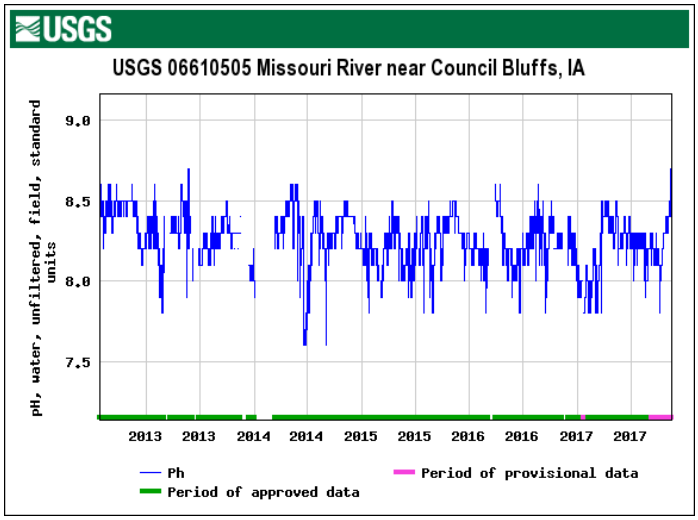


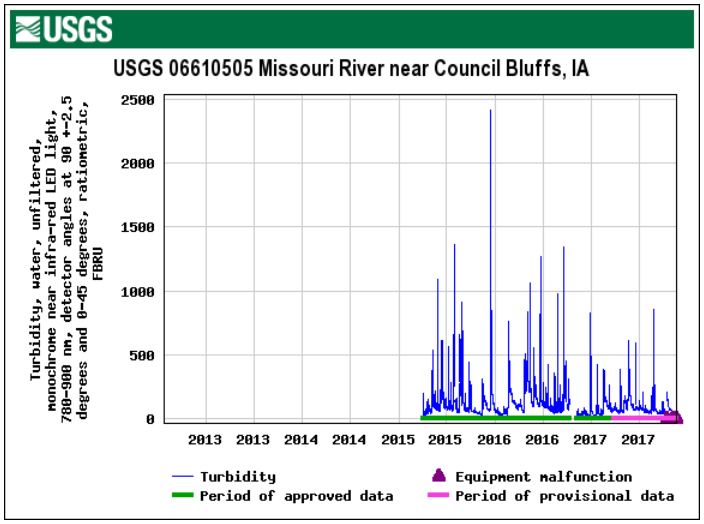
Continuous Water Quality Monitoring Graphs - Site MR-CB



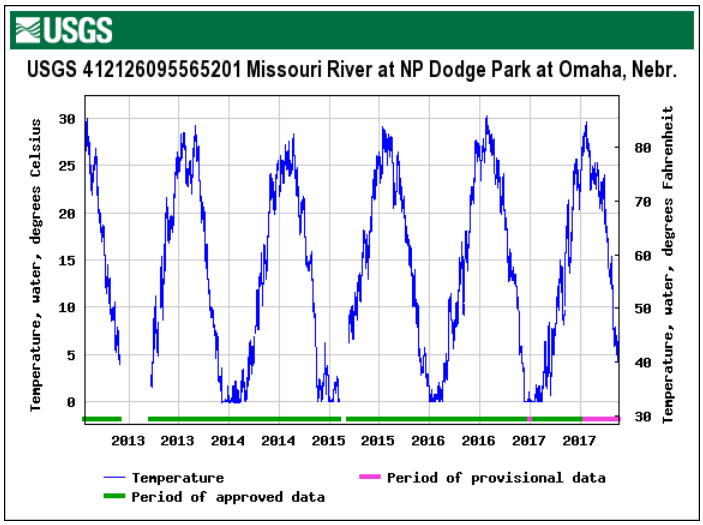


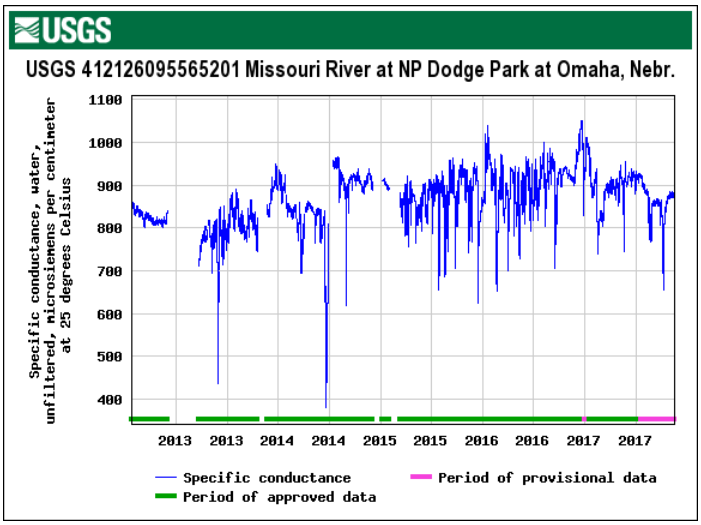


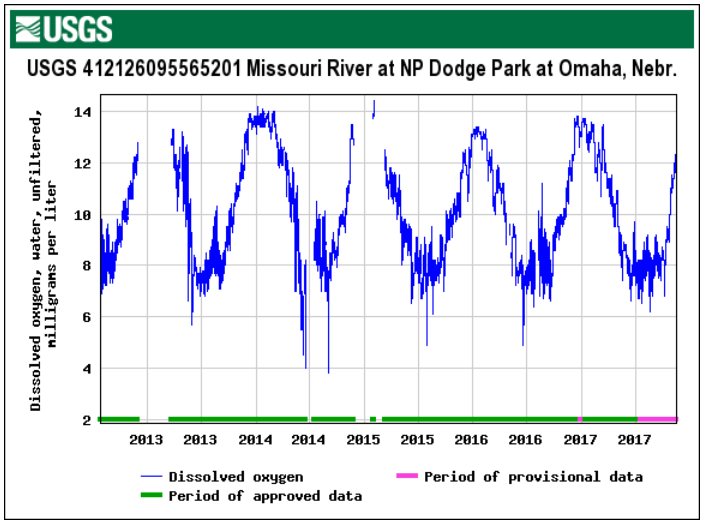


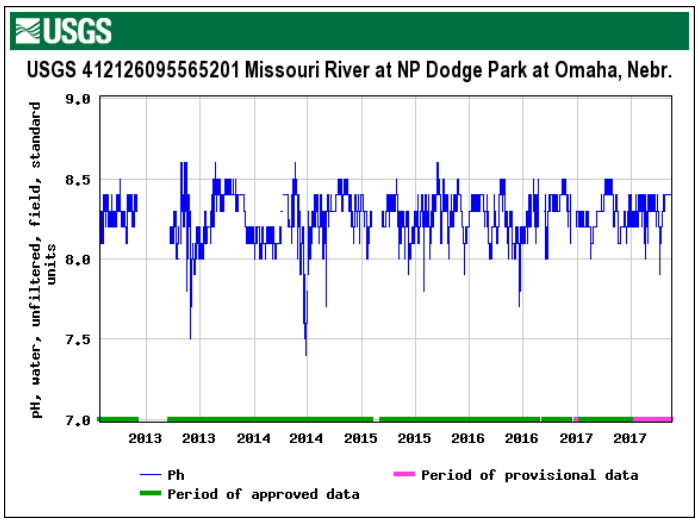


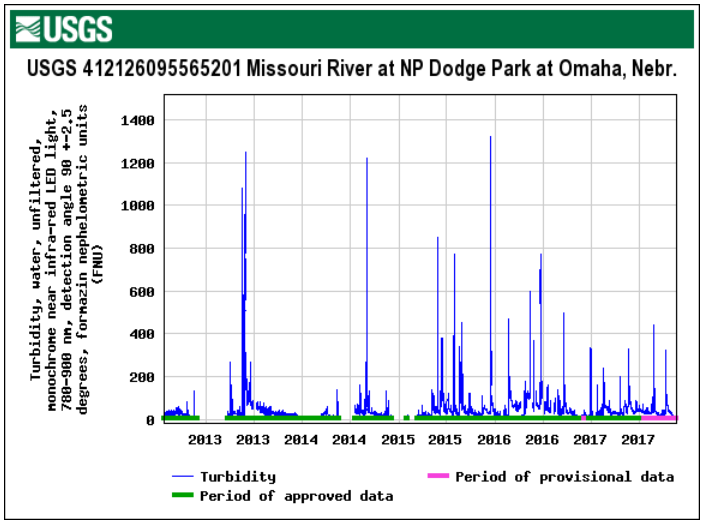
Continuous Water Quality Monitoring Graphs - Site MR-5











Continuous Water Quality Monitoring Graphs - Site I-480