



Quarterly Report | **2020 Q3** *July–September 2020*




Omaha Combined Sewer Overflow Control Program
Implementation Phase



CSO!

Clean Solutions for Omaha

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PROGRAM MISSION

The Program Management Team's job is to save money for ratepayers, and do what is best for the community as we meet the objectives and requirements of the Clean Water Act.

For additional information regarding the Omaha CSO Program, please visit www.OmahaCSO.com or call the CSO Program Hotline at 402-341-0235.

ON THE COVER: Substantial completion was achieved for Leavenworth Lift Station Flood Mitigation in Q3 2020 (top right); construction continues on the headworks (left) and the completed construction in the CSO 205 channel diversion (bottom right) at the Saddle Creek Retention Treatment Basin.



A City of Omaha
Public Works Initiative



Construction continues along 13th Street for the **Missouri Avenue/ Spring Lake Park Sewer Separation, Phase 2 Project**.



M.U.D. utility relocations have started in advance of the construction of the **Cole Creek CSO 203 Project**. Sewer separation construction is expected to start Q2 2021.








3RD QUARTER HIGHLIGHTS




New pump bases are on-site at the **Burt-Izard Lift Station Improvements Project**. Facility improvements will provide reliable pumping capacity of 50 million gallons per day into the South Interceptor Force Main for treatment at the upgraded MRWRRF. Work is currently on schedule.



Riverview Lift Station Replacement Project
rebar placement prior to concrete placement for base slab.

-  **Cole Creek CSO 203 Sewer Separation** bid advertisement was in September 2020, with a construction start scheduled in Q2 2021.
-  **Blake Street Lift Station** 95% documents are complete and construction bid advertisement is anticipated in Q4 2020.
-  **Papillion Creek North CSO 210 Sewer Separation Project (PCN 210)** bid documents are complete; bid advertisement is expected in Q4 2020 with construction starting in Q2 2021.
-  **Nicholas Street Sewer Separation, Phase 3B** construction bid advertisement is expected in Q1 2021 with a Q3 2021 construction start.
-  **Monroe Street Lift Station** final design is underway. The 90% documents are expected in February 2021 and estimated bid advertisement in Q2 2021.
-  Utility relocations by M.U.D. are underway for **Cole Creek CSO 204 Sewer Separation, Phase 3**, with construction start in Q1 2021.
-  The first new pump arrived on-site in September 2020 for the **Missouri River Water Resource Recovery Facility (MRWRRF), Transfer Lift Station Pump Replacement Project**. Exterior work for the project has been completed.
-  Three projects recently achieved construction substantial completion:
 - **Nicholas Street Sewer Separation, Phase 3A**
 - **Leavenworth Lift Station Flood Mitigation**
 - **Cole Creek CSO 202, Phase 1**

 Study & Design

 Completed

 Bid/Construction

 Future Project



MODEL INDICATES

Missouri River Water

The City of Omaha Combined Sewer Overflow (CSO) Program efforts minimize the water quality impacts from CSOs in the Missouri River and local streams. The Omaha CSO Long Term Control Plan (LTCP) was finalized in 2009 and updated in 2014. Implementation of CSO controls identified in the LTCP have been ongoing since 2009 and are planned to continue through 2037.

Combined sewer overflow events occur along the Missouri River when stormwater mixed with sanitary wastewater overflows from CSO outfalls to the Missouri River. Overflows contribute to an increased concentration of *E. coli* bacteria in the River until wet weather conditions subside. *E. coli* is a water quality indicator of overall bacteria. The Nebraska Department of Environment and Energy (NDEE) has determined that an average of 126 colony forming units (cfu) of *E. coli* per 100ml in the River is acceptable when the public is most likely to be exposed to the River, May 1 through Sept. 30, which is also referred to as the recreation season.

COMPUTER MODEL REQUEST

At the request of the City, a computer model that simulates *E. coli* levels in the Missouri River was developed to understand important questions such as:

- What are the main sources along the Missouri River that contribute *E. coli*?

- How high are *E. coli* levels in the Missouri River during a typical recreation season? What sections of the River have the highest and lowest *E. coli* levels, and during what times of the recreation season do these occur?
- How much are *E. coli* levels in the Missouri River estimated to be improved by CSO Program projects?

MODEL DEVELOPMENT

To answer these questions, a water quality model was built to encompass the entire Missouri River from N.P. Dodge Memorial Park, extending downstream to the confluence with the Platte River, a distance of approximately 32 river miles. The model area, represented by the map to the right, takes into account known sources of *E. coli*, including:

- Sources upstream of N.P. Dodge Memorial Park
- CSO and stormwater outfalls that discharge to Missouri River
- The City of Omaha's Water Resource Recovery Facilities
- Papillion Creek
- Council Bluffs Wastewater Treatment Plant
- Three streams in Iowa: Pigeon Creek, Mosquito Creek and Indian Creek that all flow into the Missouri River

The water quality model uses historic data, as shown in the graph to the right, collected by the City and the United States Geological Survey (USGS) and others to represent typical concentrations contributed by each of the sources mentioned above. The model was also built to include the natural process of decay that occurs to *E. coli* as it moves downstream. The model has been

Quality

tested against actual data measured in the Missouri River between 2007 and 2017 by the City and USGS. The model performs very well in predicting river depth, river flow, and *E. coli* concentrations under a variety of recreation season conditions.

MODEL RESULTS & FINDINGS

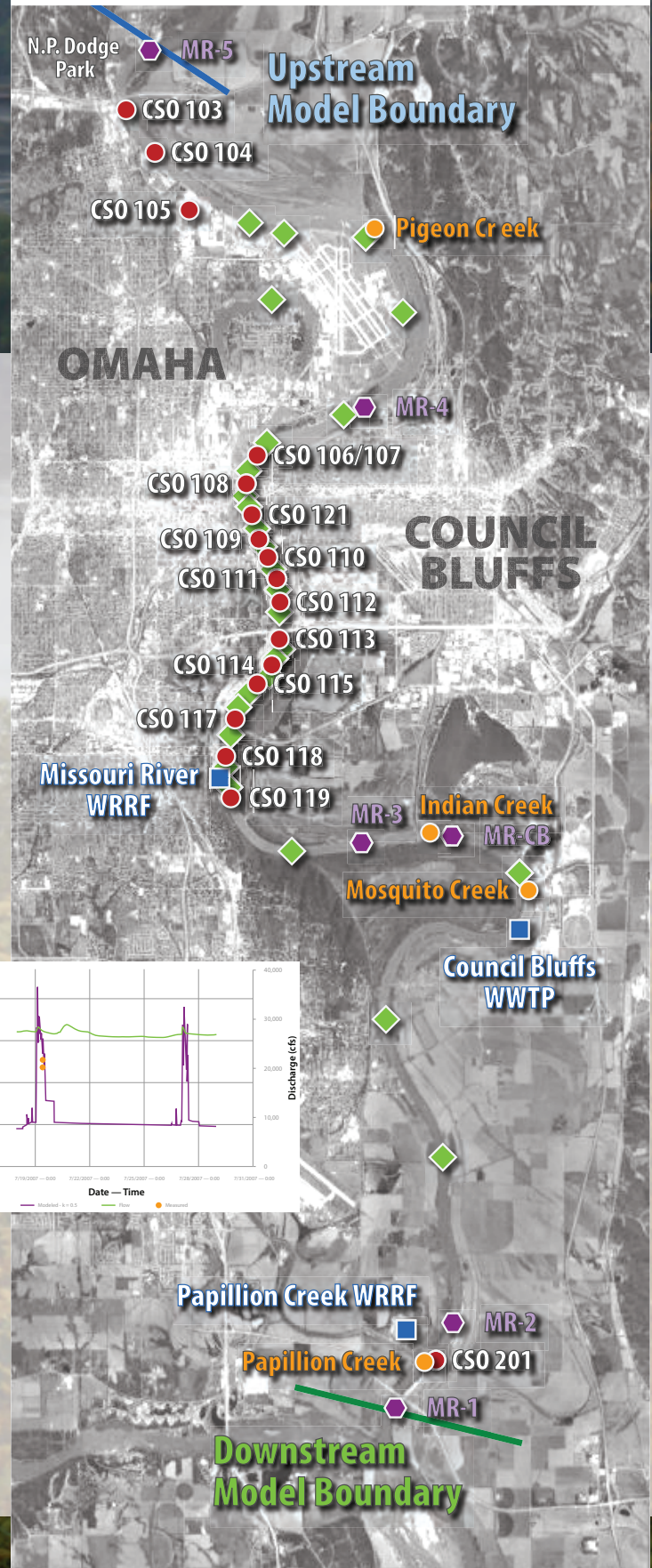
Based on the work conducted so far, the water quality model has determined that:

- The use of a more robust model provides a better understanding of water quality impacts from CSO discharges to the Missouri River, which will assist in the implementation of additional controls.
- Papillion Creek, which includes CSO discharges along with other sources, has a significant impact on river water quality, more so than the creeks on the Iowa side of the River.
- During a typical recreation season, when it rains, *E. coli* levels are highest in the vicinity of I-480, which is downstream of several of the larger CSO discharges. The levels are lowest upstream of the City near N.P. Dodge Memorial Park.
- When evaluating a typical recreation season (May through September), average levels show little variation between sections of the Missouri River.

Currently, the CSO Program is modeling alternatives developed as part of the Optimization Evaluation. The model will be an important tool in the LTCP update and will also be useful in evaluating other improvements to address water quality concerns.

LEGEND

- CSO Outfalls
- Tributaries
- ◆ Stormwater Outfalls
- Upstream Model Boundary
- ◆ Water Quality Monitoring Locations
- Downstream Model Boundary
- Water Resource Recovery Facility/ Wastewater Treatment Plant





PROGRAM GOALS

Goal 1:

Regulatory Compliance

Meet specific regulatory requirements as identified by the Environmental Protection Agency and Nebraska Department of Environment and Energy.

- Complete implementation of CSO projects within identified schedule.
- Reduce pollutant discharges to the Missouri River and Papillion Creek.



Goal 2:

Economic Affordability

Minimize cost impacts to ratepayers by completing CSO projects within or under budget.

Goal 3:

Community Acceptance

Maintain continuous public dialogue, provide information and pursue opportunities for multiple benefits in CSO projects.

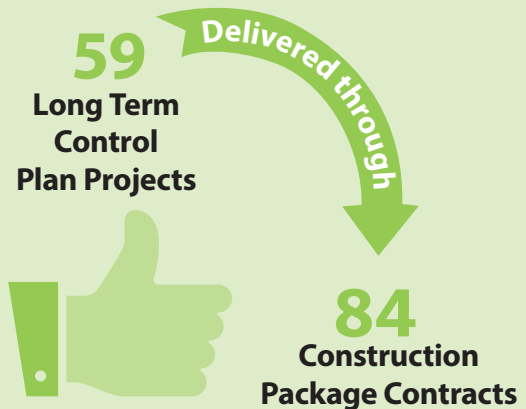
PROGRAM MISSION

The CSO Program's mission is to save money for ratepayers, and do what is best for the community as we meet the objectives and requirements of the Clean Water Act.



Goal 1: Regulatory Compliance

Regulatory Compliance includes two items: 1) implement projects within the identified schedule and 2) reduce pollutant discharges to the Missouri River and Papillion Creek.



Multiple packages provide more opportunities for local contractors and efficient delivery.

PROJECT STATUS:

* These numbers reflect 39 Long Term Control Plan projects that were removed, combined or pooled as part of Program adaptive management.



Study & Design

7 Projects

9 Contracts



Bid/Construction/
Complete

33 Projects

55 Contracts

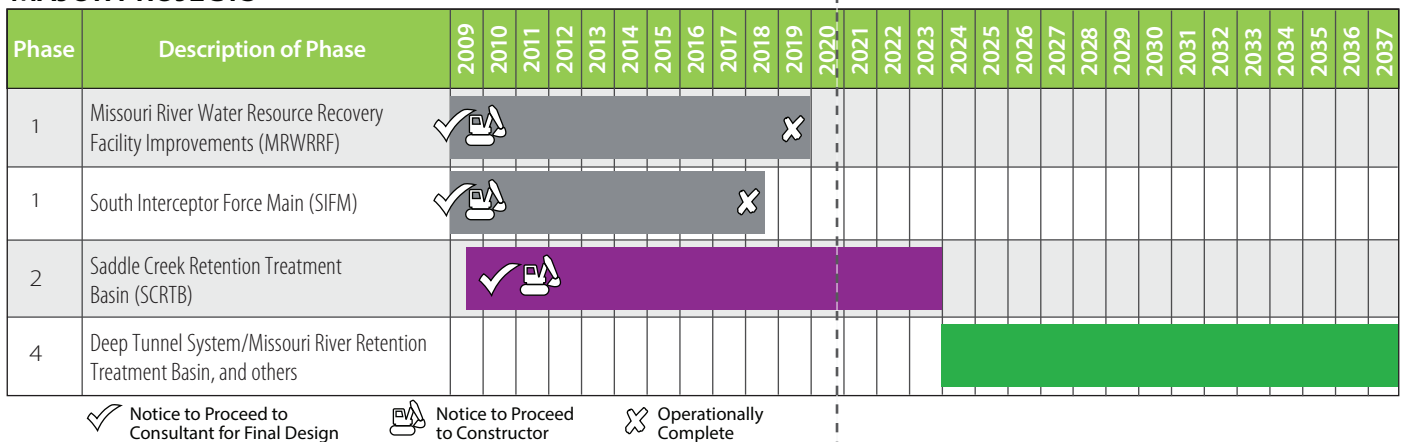


Future

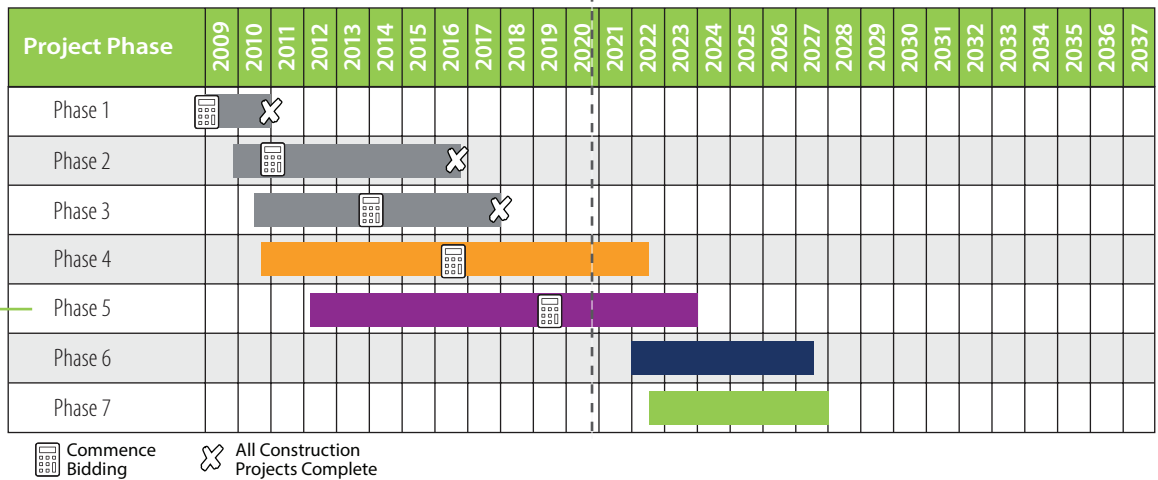
19* Projects

20* Contracts

MAJOR PROJECTS



SEWER SEPARATION PROJECTS



SCRTB

construction is nearing 40% construction complete; completion is expected mid-2023.

- The **Cole Creek CSO 203 Sewer Separation Project** was advertised for construction bids in Q3 2020.

SCHEDULE: Long Term Control Plan (LTCP) project schedules are consistent with the LTCP Update, CSO Permit and associated modifications, and formal submittals to Nebraska Department of Environment and Energy (NDEE). In March 2019, the City submitted a request to modify milestone dates within the CSO Permit and LTCP as follows:

- **Phase 4 Major Projects start final design** from Dec. 31, 2019 to Dec. 31, 2023
- **Phase 6 Sewer Separation commence bidding** from June 30, 2020 to Dec. 31, 2021
- **LTCP Update for NDEE** from Oct. 1, 2019 to March 31, 2021

The 2021 LTCP Update submittal date will include a revised list of projects with new schedule milestones. An initial project delivery schedule that reflects the recent 10-year extension for completion of the CSO Program has been developed and will be further modified as part of the LTCP Update. Updated compliance milestones will be included in the 2021 LTCP Update and CSO Permit.



Goal 2: Economic Affordability

The CSO Program actively seeks opportunities to minimize impacts to ratepayers.



Increasing Assistance for Financially Vulnerable Community Members

When implementation of the CSO Program projects began in 2009, community members were concerned about how rising sewer rates would impact citizens with low incomes. They advocated for a rate assistance program and the City responded by establishing a task force to study concerns and learn how other communities were addressing rate increases. Rather than creating a separate administrative process, Omaha's sewer rate assistance uses the existing Low Income Home Energy Assistance Program (LIHEAP) process. LIHEAP helps low income households with financial assistance to offset the costs, and is administered by Metropolitan Utilities District and Omaha Public Power District.

The City of Omaha provides assistance dollars to the LIHEAP program along with a small fee to cover administrative costs. The administrative fees are far below the average for similar programs across the country, which allows for more funds to go towards relief for those who need it most. The 2020 CARES (Coronavirus Aid, Relief, and Economic Security) Act, passed by Congress and signed into law in March 2020, increased funding available for utility assistance, which also raised the level for sewer rate assistance. From January through September 2020, the CSO Program has helped Omaha ratepayers with over \$1.1 million of sewer rate assistance.

Ratepayer assistance is provided to help low income and fixed income households with sewer rate increases necessary to fund the Program. Ratepayers are eligible if they receive Low Income Heat and Energy Assistance (LIHEAP) from their utility. For assistance, or to apply for Nebraska LIHEAP, call 402-595-1258.

From January through September 2020,
over **\$1,131,260**
has been provided in assistance;
for a total of **\$12,228,870**
from inception through
September 2020.*



Goal 3: Community Acceptance

The CSO Program supports ongoing dialogue with the public through timely project updates. Close coordination with impacted neighborhoods, businesses and small business contractors is also provided to highlight Program benefits and opportunities.



Online Educational Tools Developed to Safely Engage Youth

Clean Solutions for Omaha has expanded digital learning opportunities for use by teachers and students throughout the metro. Youth outreach is provided to support water quality education and highlight engineering and construction careers. The CSO Program has continued to create student engagement materials for use whether they are learning at home or in the classroom. These new activities, in addition to the existing activity guide, worksheet, and animations, create a suite of materials to help students learn about Program initiatives, processes and terminologies.

Digital materials were launched in conjunction with this year's all-virtual, World O' Water event. Materials include an animated video to explain green infrastructure types and benefits. To make sure students were truly learning, an online quiz show game was paired with the video. Participants watch the video and answer multiple choice questions as a clock ticks down. Once complete, students can see how well they did in comparison to their peers on a leaderboard.

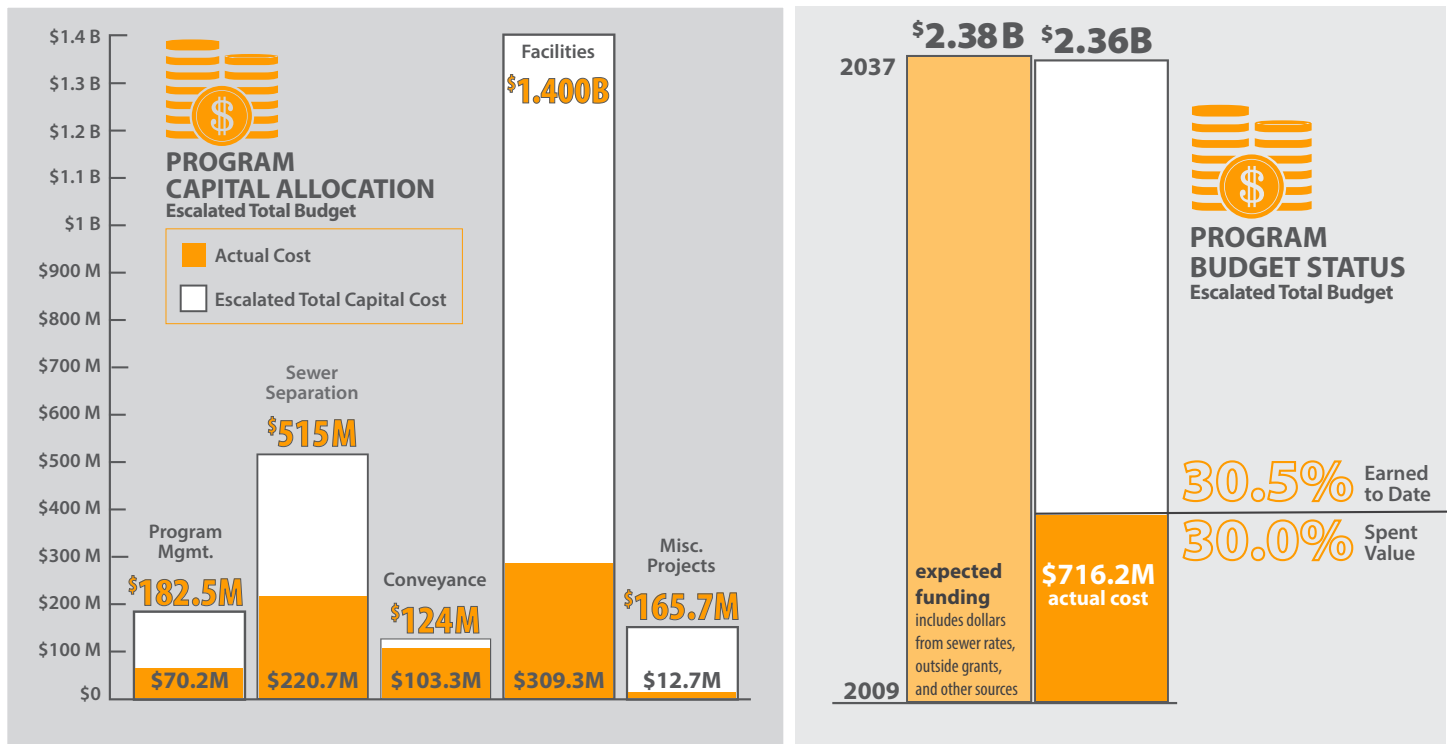
The animation and game have been shared with Omaha youth organizations and schools for educator use. This allows the CSO Program to continue engaging students and gives educators the flexibility to integrate CSO Program information into curriculum wherever and whenever it works best for them.

**Includes additional funding provided by the CARES Act.*

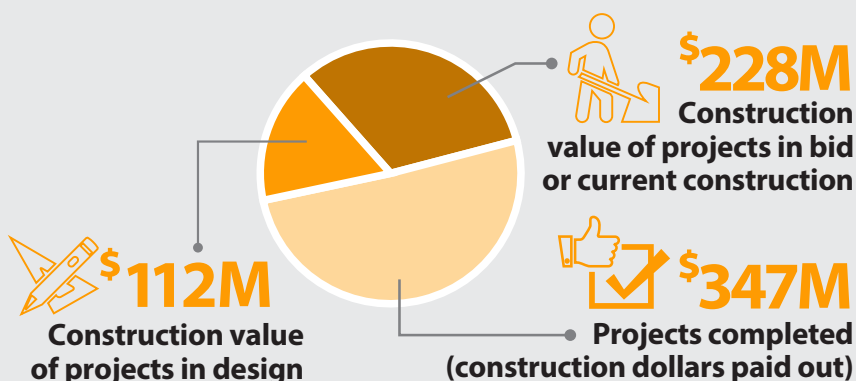


Budget Details

The City and Program Management Team has developed an initial project delivery schedule that reflects the ten year time extension negotiated with the Nebraska Department of Environment and Energy. The Long Term Control Plan schedule, including regulatory milestones, will be modified when an updated project list and schedule are submitted in spring 2020. The total Program budget for the potential project delivery schedule is now at \$2.39 Billion in escalated dollars, which takes into account the estimated effect of inflation for dollars spent between now and Program completion in 2037. The values below reflect the updated total Program budget as well as the expected funding from the latest Rate Ordinance.



Estimated CSO Program Construction Costs



Approximately **\$453M** has been paid out for construction activities through September 2020.

COMPANIES ENGAGED

During the past five years,* small and emerging small businesses (SEBs) received just over **\$16M** in construction contracts and subcontracts, representing nearly **16%** of the total construction amount contracted through the City's CSO Program over the same period of time.

In addition, approximately **\$21M** in construction subcontracts went to minority and/or women owned businesses as a part of the Federal Disadvantaged Business Enterprise (DBE) program for projects that received federal funding during that same period of time.

*2015–2019



FIGURE 1

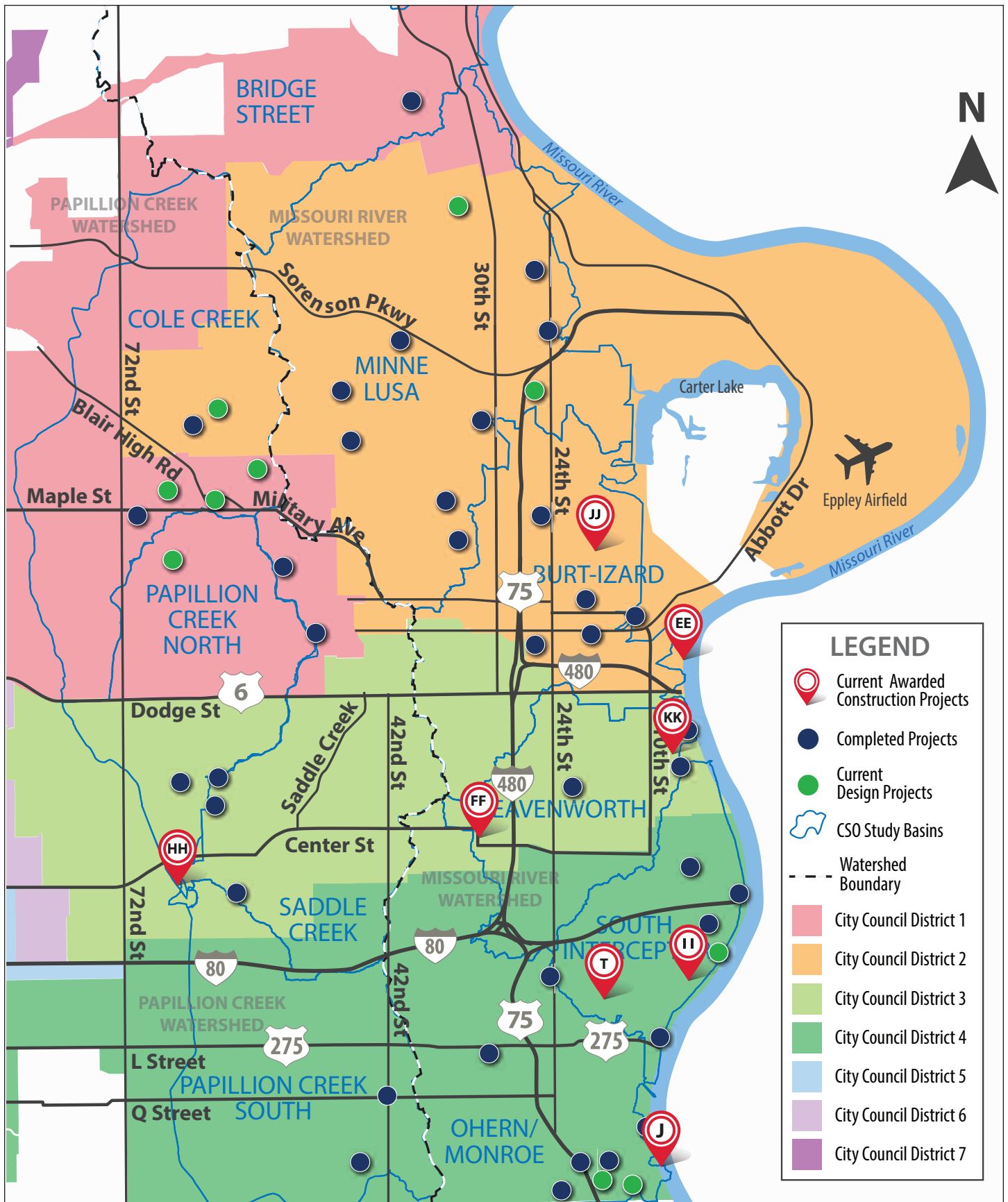


Figure 1 and the corresponding table to the right identify current and completed construction projects.

CURRENT
CONSTRUCTION

	KEY	CONSTRUCTION CONTRACTS	CONSTRUCTION MANAGER'S CURRENT ESTIMATE AT COMPLETION REFLECTS CSO FUNDING	
		Missouri River Water Resource Recovery Facility (MRWRRF) – Schedule B2 (OPW 52648)	\$52,000,000 99% Complete	• All work should be completed by end of 2020.
		MRWRRF – Transfer Lift Station Pump Replacement (OPW 53408)	\$5,583,000 20% Complete	• First pump arrived on-site during Q3 2020.
		Missouri Avenue/ Spring Lake Park Sewer Separation, Phase 2 (OPW 51997B)	\$7,614,000 97% Complete	• Substantial completion achieved in Q3 2020.
		Burt-Izard Lift Station Improvements (OPW 52472)	\$15,700,000 66% Complete	• Pump installation to be completed in Q1 2021.
		Hanscom Park Green Infrastructure (OPW 52781)	\$2,085,000 93% Complete	• Final construction cost is expected to be less than the estimated contract amount.
		Saddle Creek Retention Treatment Basin (OPW 52049)	\$94,000,000 35% Complete	• Concrete placement for walls and columns has begun.
		Riverview Lift Station Replacement (OPW 52402)	\$25,846,000 20% Complete	• Q4 2020 concrete placement area in the lift station continues.
		Nicholas Street Sewer Separation, Phase 3A (OPW 52721)	\$1,878,000 80% Complete	• Final completion expected in Q4 2020.
		Leavenworth Lift Station, Flood Mitigation (OPW 52783)	\$3,200,000 99% Complete	• Substantial completion occurred in Q3 2020.



PROJECT OVERVIEW

ACTIVE DESIGN PROJECT STATUS

Active projects are defined as projects that are currently in request for proposal phase, study or design (preliminary or final), or planned for construction (advertised for bid but not yet under construction). Projects will continue to be divided into multiple design/construction contracts as appropriate to efficiently complete work. Active projects and their corresponding status are listed in the following table. More information about each of the projects can be found on the Program website (www.OmahaCSO.com).

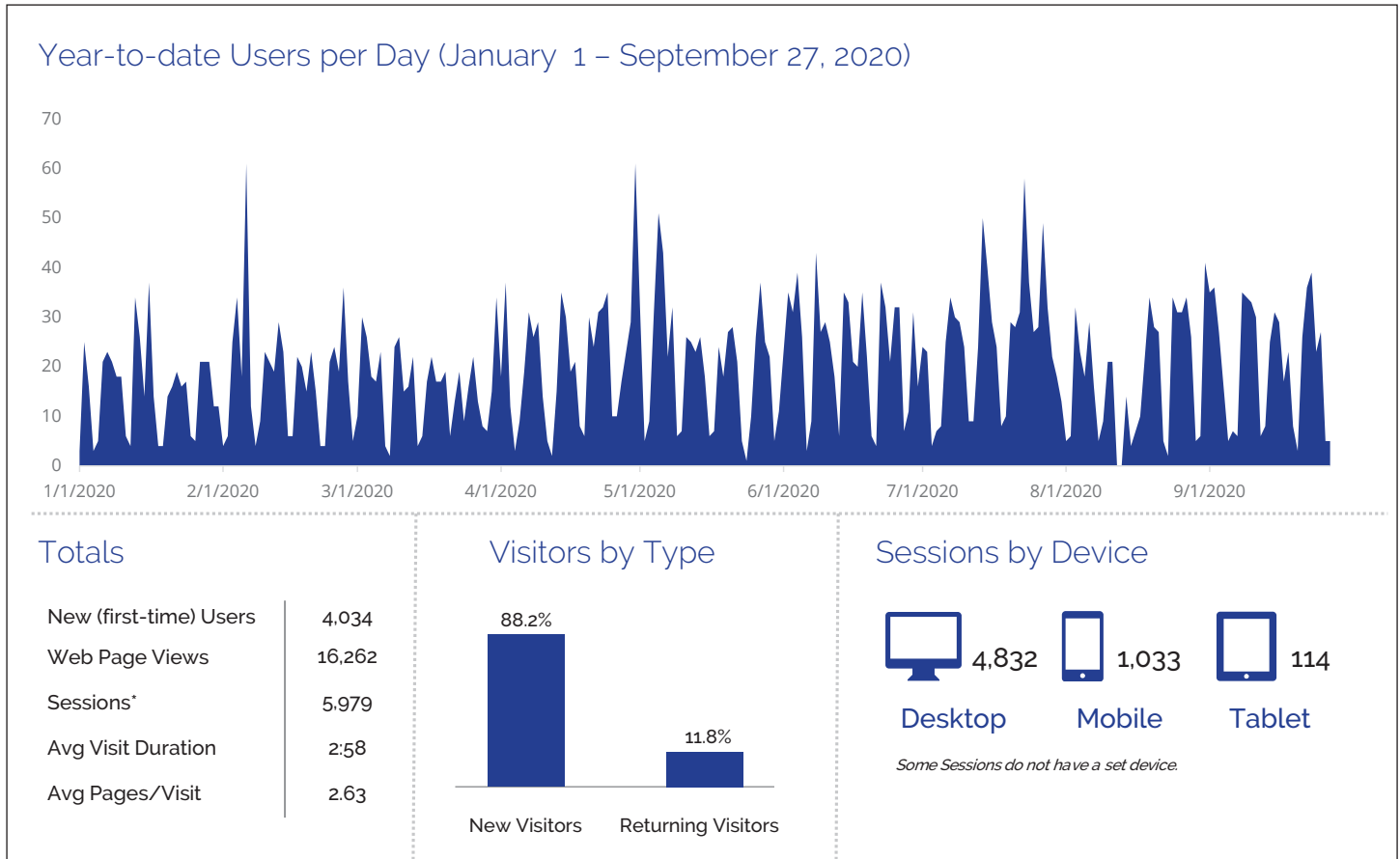
ACTIVE DESIGN PROJECT STATUS OVERVIEW								
Omaha Public Works Project Number (OPW)	City Council District	Project Name	Opinion of Probable Construction Cost ¹	Issued request for proposal or Consultant Selection	Study and Preliminary Design	Final Design	Advertised for Bid or Awarded Contract	Comments
53206	1	Cole Creek CSO 204 Sewer Separation, Phase 3	\$5–10 million (June 2017)				✓	Bid awarded for \$4.7 million in August 2020. Project construction start anticipated in Q1 2021.
52470	2	Forest Lawn Sewer Separation	\$15–20 million (April 2018)			✓		Project under redesign following the original bid.
53753	2	Nicholas Street Sewer Separation, Phase 3B	\$10–20 million (February 2020)			✓		Construction bid advertisement anticipated in Q1 2021.
52814	1	Cole Creek CSO 204 Phase 2 Sewer Separation	\$10–15 million (November 2015)			✓		Project on hold, pending re-evaluation.
53059	1	Cole Creek CSO 203 Sewer Separation	\$5–10 million (August 2020)			✓		Construction bid advertisement was in September 2020.
53270	4	Blake Street Lift Station ²	\$1–5 million (June 2020)			✓		Construction bid advertisement anticipated in Q4 2020.
53320	3	Papillion Creek North 210 Sewer Separation	\$1–5 million (October 2020)			✓		Construction bid advertisement anticipated in Q4 2020.
53082	4	Monroe Street Lift Station	\$20–23 million (August 2020)			✓		90% documents expected in Q1 2021.
53149	4	CSO 119 South Barrel Conversion 5A & 5B	\$8–10 million (July 2020)		✓			Contracting for preliminary design.
53869	1	Cole Creek CSO 202 Sewer Separation, Phase 2	\$8–10 million (August 2020)		✓			Final design underway, with construction in 2022.
53206	1	Cole Creek CSO 204 Sewer Separation, Phase 4	\$35–40 million (Month 20XX)		✓			Scope refinement underway.
51685	3	CSO 212 Sewer Separation	\$5–10 million (August 2020)		✓			Scope refinement underway.

¹—Current Opinion of Probable Construction Cost or Construction Manager Estimate at Completion and corresponding estimate date are shown.
²—Blake Street Lift Station was previously part of the Riverview Lift Station, but is being constructed as a separate construction package.
³—Long Term Control Plan projects continue to be divided into multiple design/construction projects as appropriate to complete work.

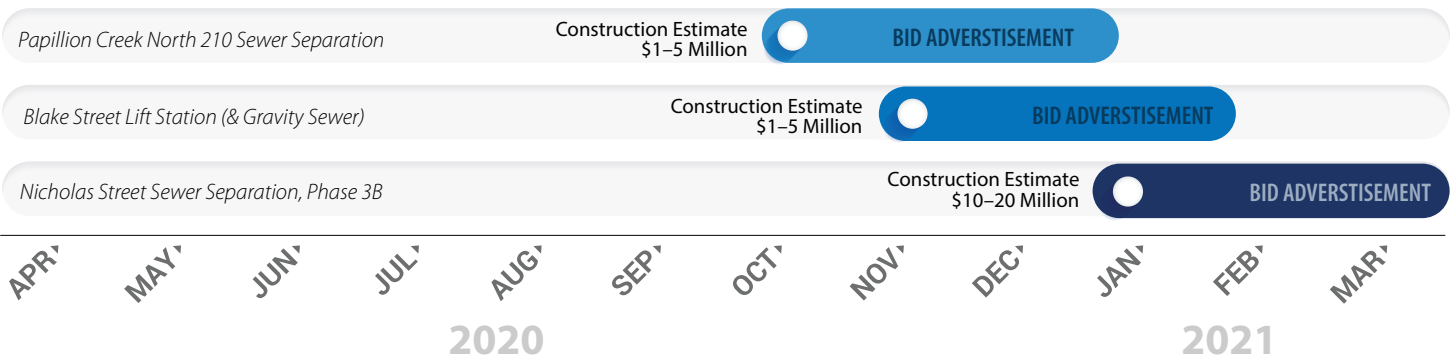


CSO PROGRAM COMMUNICATION TOOLS: PUBLIC WEBSITE

The public website, www.OmahaCSO.com, is one of many ways the Program keeps multiple audiences informed about CSO activities. The website features current project information as well as historic Program background. Website analytics are tracked monthly in order to monitor trends and make improvements. Below is a snapshot of metrics from January through September 2020, showing total visitors per day, time spent on visited pages and on various devices.



UPCOMING BID OPPORTUNITIES





PROGRAM OVERVIEW

PROGRAM MANAGEMENT OVERVIEW AND ACTIVITIES

The responsibility of the Program Management Team (PMT) is to evaluate Program regulatory milestone progress and guide multiple projects toward compliance by providing a consistent framework for design and construction. PMT success is gauged by achieving Program goals and regulatory milestones at the lowest cost to ratepayers. PMT responsibilities include:

- Maintain and update tools and process development for Program and project delivery.
- Obtain and maintain regulatory and environmental compliance.
- Maintain and update public participation including a public website (www.OmahaCSO.com).
- Facilitate stakeholder education and outreach.
- Identify construction enhancement opportunities that provide added community benefits.
- Promote green infrastructure and sustainability goals.
- Adapt the Long Term Control Plan (LTCP) to changing conditions.
- Seek opportunities to reduce costs.
- Schedule oversight and tracking.

Recurring Program Quarterly Activities

- Meet with Nebraska Department of Environment and Energy and Environmental Protection Agency Region VII to discuss LTCP implementation status and project details.
- Provide outreach to OPPD, M.U.D. and other utility companies to discuss the Program and project coordination and minimize costs and disruptions to ratepayers.
- Work closely with City of Omaha Right-of-Way and General Services Departments to coordinate property and easement acquisitions, bid advertisement, contracting processes and schedules.
- Inform key stakeholders including United States Army Corps of Engineers, Nebraska Department of Transportation, UPRR, BNSF Railway and Nebraska Department of Natural Resources regarding upcoming projects.
- Coordinate, oversee and monitor project progress to confirm projects are completed within scope, schedule and budget as much as possible.
- Proactively identify issues that could impact the on-time delivery of phased regulatory milestones.

- Perform inspections of construction sites to confirm compliance with all permits and approvals.
- Assist construction managers with understanding environmental requirements to confirm compliance.
- Review and coordinate permits.
- Develop and refine plans, protocols, procedures, standards, guidance documents and workflows.
- Track and coordinate schedule of metro area projects with Nebraska Department of Transportation, M.U.D., City of Omaha, Council Bluffs Interstate System Improvement Program, University of Nebraska Medical Center, Omaha Public Schools, University of Nebraska Omaha and the Omaha Airport Authority.
- Monitor construction costs and trends in the Omaha construction market.

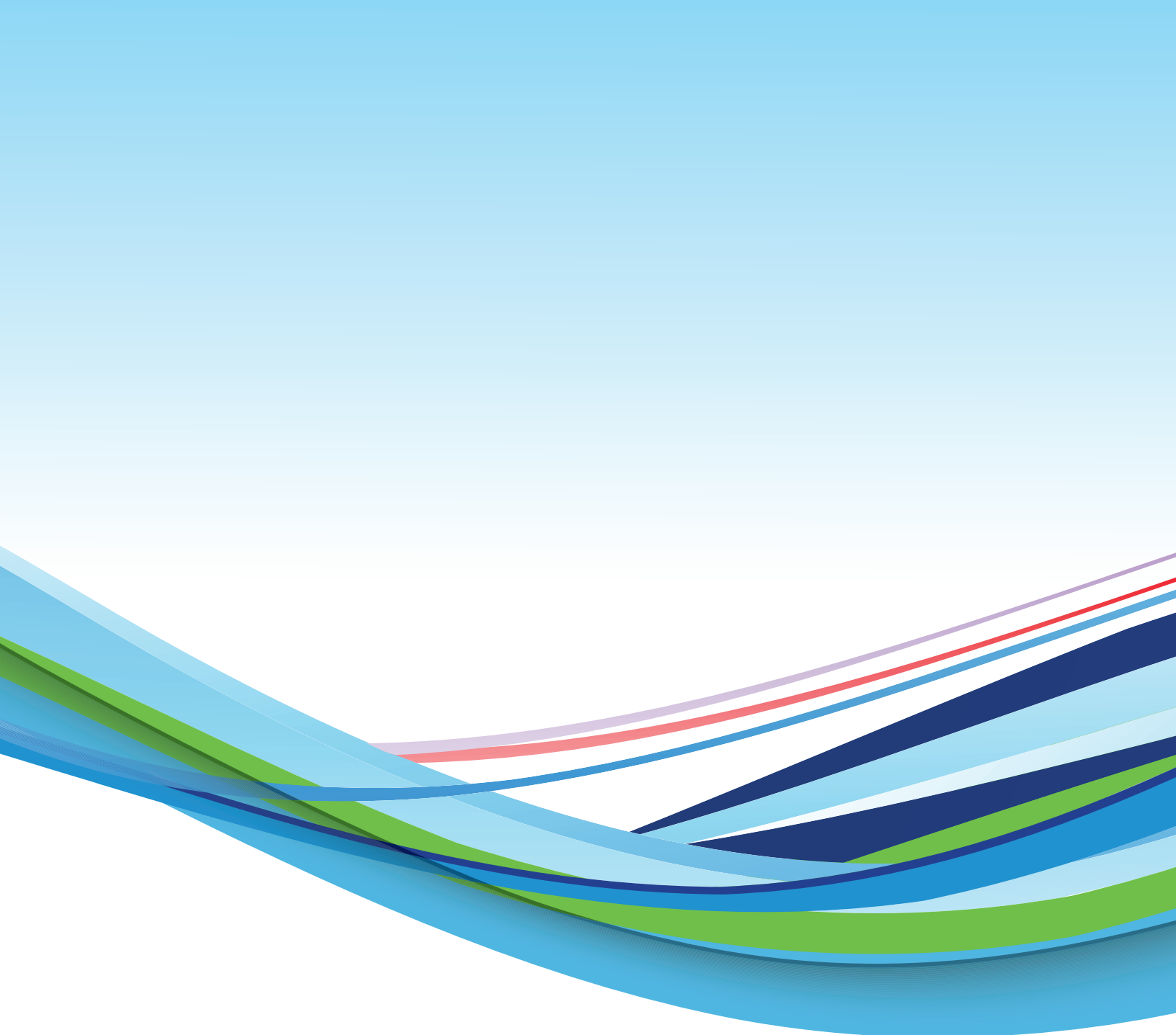


LONG TERM CONTROL PLAN PROJECTS SCHEDULE

The Long Term Control Plan (LTCP) project schedules shown below are consistent with the LTCP Update, CSO Permit (including permit modifications), and other formal communications to Nebraska Department of Environment and Energy (NDEE). An update to the LTCP is required to be submitted to NDEE by March 2021 for their review and approval. This LTCP update will include a revised list of projects with new milestones.

Schedules of Long Term Control Plan Projects*																		
Missouri River Watershed Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
MINNE LUSA (ML) BASIN																		
ML 105-15 Forest Lawn Separation																		
BURT-IZARD (BI) BASIN																		
BI Basin 108-3; Nicholas St Phase 3 Sewer Separation																		
BI Basin 108-3; Webster/Nicholas Phase 2 Sewer Separation																		
BI Basin 108-3; 18th & Seward Sewer Separation																		
OHERN-MONROE (OM) BASIN																		
OM 119-5A; South Barrel Conversion																		
OM 119-5B; South Barrel Conversion																		
CSO 119 Monroe Basin Storage Facility																		
CSO 118 Ohern Basin Storage Facility																		
SOUTH INTERCEPTOR (SI) BASIN																		
SI Basin CSO 117; Missouri Avenue Phase 2 Sewer Separation																		
SI Basin CSO 110; Pierce Street Sewer Separation																		
SI Basin CSO 111; Hickory Street Sewer Separation																		
DEEP TUNNEL SYSTEM (DTS)																		
CSO Deep Tunnel Lift Station & Force Main																		
CSO Deep Tunnel and Drop Shafts																		
CSO Deep Tunnel Conveyance to Drop Shafts																		
CTS Grit Basin Facilities																		
MRWRRF Retention Treatment Basin																		
Leavenworth Jones Street to Leavenworth Diversion																		
Papillion Creek Watershed Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
COLE CREEK (CC) BASIN																		
CC CSO 204 Phase 3 Sewer Separation																		
CC CSO 204 Phase 4 Sewer Separation																		
CC CSO 204 Phase 2 Sewer Separation																		
CC CSO 204 Phase 5 – Inflow Reduction																		
CC CSO Cole Creek Diversions (204)																		
CC CSO 204 Storage																		
CC CSO 203-1 Sewer Separation																		
CC CSO 202 Phase 1 Sewer Separation																		
CC CSO 202 Phase 2 Sewer Separation																		
PAPILLION CREEK NORTH (PCN) BASIN																		
PCN 210-1; Sewer Separation																		
PCN 210-2; Inflow Reduction Project																		
PCN 211-2; Inflow Reduction Project																		
PCN 212-1; Sewer Separation																		
SADDLE CREEK BASIN																		
Saddle Creek Retention Treatment Basin																		

*For the tunnel, storage tanks and RTB, the start date is the start of final design. For all others, the start is bid advertisement.



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