

Combined Sewer Overflow 2021 Annual Report

City of Fostoria Wastewater Treatment Plant

NPDES Permit No. 2PD00031*PD

General Description

The City of Fostoria provides wastewater and stormwater service to approximately 13,225 people in a nine (9) square mile service area. The Village of New Riegel adds wastewater flow from approximately 266 people. The collection system consists of approximately 69% combined sewers (both storm water and sanitary flow) and 31% separate sewers. During dry weather, the capacity of the combined sewer system has the capacity to convey the dry weather flow to the wastewater treatment plant. During certain rainfall events the combined storm water and wastewater flow exceeds the capacity of the combined sewer system and the wastewater treatment plant. The excess flow is discharged through combined sewer overflows (CSO's) to the East Branch Portage River and Caples -Flack Ditch. There are three major drainage areas in the combined sewer system with four (4) CSO outfalls. These outfalls, their location and the receiving waters are listed in Table 1.

Table 1 – Permitted CSO Outfalls

Station Number	Description	Receiving Stream
2PD00031004 (CSO #1)	72" - Thomas Street	East Branch Portage River
2PD00031005 (CSO #2)	60" - Berkshire Drive	East Branch Portage River
2PD00031006 (CSO #3)	60" - Parkway Drive	East Branch Portage River
2PD00031008 (CSO #5)	68" X 106" - Circle Drive	Caples-Flack Ditch

Long Term Control Plan

The City has developed a Long-Term Control Plan (LTCP) to improve the water quality in the receiving streams by eliminating 85% of the CSO's observed and to limit the overflow events to four (4) per year for the average year. The LTCP is a 20-year, \$40 million plan consisting of seven major projects. Two (2) of the seven projects have been completed and three (3) have been started. These projects are summarized in Table 2.

Table 2 – CSO LTCP Estimated Cost and Schedule Summary

Project	CSO LTCP Component	Estimated Cost	Start Date	End Date	CSO Removal (MG)
1*	WWTP Upgrades (Final Clarifiers/Digester)	\$5,090,000	01/01/2011	12/31/2013	0
2*	Large Diameter Sewer Cleaning	\$5,170,000	01/01/2011	12/31/2014	105
3*	CSO No. 1 Weir Raising and Backwater	\$1,950,000	01/01/2016	12/31/2021	76
4**	WWTP Upgrades – Phase 2 (Headworks, Grit Chamber, Controls, Screw Pumps)	\$13,740,000	01/01/2020	09/20/2021	20
5**	CSO No. 2 and CSO #3 Elimination and Structure Modification	\$10,165,215	04/01/2017	12/31/2024	150
6	CSO No. 5 Elimination and Structure Modification (Weir, Separation, Backflow)	\$2,310,000	01/01/2025	12/31/2027	24
7	CSO Reduction and River Intrusion Mitigation	\$2,060,000	01/01/2028	12/31/2029	300

* Project Completed

** Project Started, WWTP Phase 2 Upgrades is currently under construction. Project duration was extended due to removal of unknown lime sludge and biosolids discovered during construction, weather, labor shortages due to COVID-19 and material and supply chain issues due to COVID-19. Current substantial completion date is 05/02/2022.

Nine Minimum Controls

The EPA has established nine minimum controls for the correction of CSO's. The City has implemented those controls as follows:

1. Proper Operation and Maintenance for the Collection System and the Combined Sewer Overflow Points

The City operates and maintains the wastewater treatment plant and the collection system. The City cleans and televises the collection system on a routine basis. CSO outfalls are checked daily and throughout wet weather events.

2. Maximum Use of the Collection System for Storage

Routine cleaning of the collection system maximizes the storage in the existing collection system.

3. Review and Modification of Pretreatment Requirements to Minimize the Impact of Non-domestic Discharges from Combined Sewer Overflows

The City has an industrial pretreatment program in place. This program is currently under review for potential modification. Most industrial users are currently in compliance. There have been minor violations that have not impacted the collection system.

4. Maximize the Capabilities of the POTW to Treat Wet Weather Flows and Maximize Wet Weather Flow to the POTW within the Limits of the Plant's Capabilities.

The wastewater treatment plant has two influent screw pumps which are rated at 12.7 MGD each. The wastewater plant is rated for an average of 8.25 MGD and a maximum of 12.7 MGD limiting the influent pumping to the use of one screw pump at a time. The plant can treat the maximum flow while remaining in compliance with its NPDES permit.

5. Prohibit Dry Weather Overflows

The CSO outfalls are inspected daily during dry weather and have revealed no indication of dry weather overflows.

6. Control of Solid and Floatable Materials in CSO Discharges

Catch basins are inspected and cleaned regularly. Street sweeping is performed on a weekly basis from March 1 to November 1. Known problem areas are inspected and cleaned more frequently as needed.

7. Pollution Prevention

Catch basins are inspected and cleaned regularly. Street sweeping is performed on a weekly basis from March 1 to November 1. Known problem areas are inspected and cleaned more frequently as needed.

8. Public Notification to Ensure the public Receives Adequate Notification of CSO Occurrences and Impacts.

In November of 2018, the City implemented a CSO Notification Plan in accordance with the US EPA's Public Notification Requirements for Combined Sewer Overflows to the Great Lakes. Signs are also posted at the outfall locations.

9. Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls

CSO's #1, #2 and #3 are equipped with level sensors that record overflow events and volume of CSO discharge. In accordance with the City's NPDES permit, samples are taken once per month and tested for cBOD and Total Suspended Solids (TSS). CSO #5 is inspected during dry and wet weather flows. No discharges have occurred from this CSO within the last year. The discharge volume is estimated based on the size of the outlet pipe.

Public Access

Discharges from CSO's have the potential to impact public access areas in recreational waters. Table 3 identifies public areas that may be impacted by CSO events.

Table 3 – Potential Impacted Public Access Areas

Station Number	Description	Potential Impacted Public Parks
2PD00031004 (CSO #1)	72" - Thomas Street	Portage Park
2PD00031005 (CSO #2)	60" - Berkshire Drive	Portage Park
2PD00031006 (CSO #3)	60" - Parkway Drive	Portage Park
2PD00031008 (CSO #5)	68" X 106" - Circle Drive	None

CSO Event Information and Annual Summary

Tables 4, 5 and 6 contain detailed information about the CSO occurrences from January 1, 2021 through December 31, 2021. This information includes overflow event dates, duration, rainfall and overflow volumes. A summary of the monthly and annual totals of overflow volumes, rainfall and number of events are included as well. For further information regarding this report please direct questions through the Safety Service Director's office at (419) 435-2561 or ssd@fostoriaohio.gov.

Table 4 – CSO Event Information

Date	Station Number	Occurrence	Event Start Time	Event Stop Time	Duration (Hours)	Volume (MG)	Cause of Discharge	Precipitation (Inches)
1/1/2021	2PD00031004 (CSO #1)	1	1:45 PM	12:00 AM	10.25	6.05	Precipitation	0.68
1/2/2021	2PD00031004 (CSO #1)		12:00 AM	5:10 AM	5.17	0.70	Precipitation	0.07
1/1/2021	2PD00031005 (CSO #2)	1	1:30 PM	9:58 PM	8.48	1.73	Precipitation	0.68
1/2/2021	2PD00031005 (CSO #2)		12:00 AM	7:30 AM	7.50	0.14	Precipitation	0.07
1/1/2021	2PD00031006 (CSO #3)	1	12:30 AM	1:00 AM	0.50	0.00	Precipitation	0.68
2/23/2021	2PD00031004 (CSO #1)	1	4:30 PM	6:30 PM	2.00	0.00	Precip/Snow Melt	0.08
2/24/2021	2PD00031004 (CSO #1)	1	2:50 PM	11:59 PM	9.16	0.28	Precip/Snow Melt	0.00
2/25/2021	2PD00031004 (CSO #1)	1		12:00 AM		0.00	Precip/Snow Melt	0.00
2/27/2021	2PD00031004 (CSO #1)	1	7:00 AM	10:19 AM	3.33	0.01	Precip/Snow Melt	0.00
2/24/2021	2PD00031005 (CSO #2)	1	2:55 PM	6:11 PM	3.28	0.04	Precip/Snow Melt	0.00
2/25/2021	2PD00031005 (CSO #2)	1	5:45 AM	10:04 AM	4.33	0.01	Precip/Snow Melt	0.00
2/27/2021	2PD00031005 (CSO #2)	1	6:05 AM	1:24 PM	7.33	0.05	Precip/Snow Melt	0.16
2/28/2021	2PD00031005 (CSO #2)	1	12:00 AM	6:34 AM	6.58	0.01	Precip/Snow Melt	0.09
3/18/2021	2PD00031004 (CSO #1)	1	2:50 PM	8:24 PM	5.58	0.73	Precipitation	0.84
3/26/2021	2PD00031004 (CSO #1)	1	1:35 AM	6:39 AM	5.08	1.78	Precipitation	0.70
1/31/2021	2PD00031005 (CSO #2)	1	12:00 PM	12:14 PM	0.24	0.00	Precipitation	0.00
3/18/2021	2PD00031005 (CSO #2)	1	1:35 PM	5:53 PM	4.30	0.45	Precipitation	0.84
3/26/2021	2PD00031005 (CSO #2)	1	1:20 AM	4:05 AM	2.75	1.71	Precipitation	0.70
3/26/2021	2PD00031006 (CSO #3)	1	1:30 AM	2:15 AM	0.75	0.75	Precipitation	0.70
4/10/2021	2PD00031004 (CSO #1)	1	8:15 PM	11:45 PM	3.50	1.34	Precipitation	0.89
4/11/2021	2PD00031004 (CSO #1)	1	12:00 AM	2:34 AM	2.58	0.12	Precipitation	0.44

4/29/2021	2PD00031004 (CSO #1)	1	4:35 AM	12:15 AM	19.67	5.39	Precipitation	1.89
4/30/2021	2PD00031004 (CSO #1)		2:00 AM	4:25 AM	2.42	0.00	Precipitation	0.02
4/10/2021	2PD00031005 (CSO #2)	1	7:25 PM	11:40 PM	4.25	0.60	Precipitation	0.89
4/11/2021	2PD00031005 (CSO #2)	1	3:40 PM	6:05 PM	2.42	0.27	Precipitation	0.44
4/29/2021	2PD00031005 (CSO #2)	1	3:45 AM	6:19 PM	14.58	4.93	Precipitation	1.89
4/30/2021	2PD00031005 (CSO #2)		3:30 AM	6:10 AM	2.67	0.03	Precipitation	0.02
4/29/2021	2PD00031006 (CSO #3)	1	5:30 AM	7:19 AM	1.83	0.24	Precipitation	1.89
5/9/2021	2PD00031004 (CSO #1)	1	8:10 AM	11:59 PM	15.83	9.67	Precipitation	1.67
5/10/2021	2PD00031004 (CSO #1)		12:00 AM	1:49 PM	13.82	1.38	Precipitation	0.02
5/11/2021	2PD00031004 (CSO #1)	1	12:20 PM	1:00 PM	0.67	0.00	Precipitation	0.00
5/28/2021	2PD00031004 (CSO #1)	1	1:05 PM	3:24 PM	2.33	0.02	Precipitation	0.68
5/9/2021	2PD00031005 (CSO #2)	1	6:25 AM	8:44 PM	14.33	4.98	Precipitation	1.67
5/10/2021	2PD00031005 (CSO #2)		12:00 AM	8:00 AM	8.00	0.54	Precipitation	0.02
5/26/2021	2PD00031005 (CSO #2)	1	11:25 AM	12:20 PM	0.92	0.12	Precipitation	0.44
5/28/2021	2PD00031005 (CSO #2)	1	4:40 AM	7:50 AM	3.17	0.52	Precipitation	0.68
5/9/2021	2PD00031006 (CSO #3)	1	9:15 AM	9:30 AM	0.25	0.00	Precipitation	1.67
6/2/2021	2PD00031004 (CSO #1)	1	10:35 AM	5:45 PM	7.17	0.72	Precipitation	1.18
6/3/2021	2PD00031004 (CSO #1)		0:00	2:25 AM	2.42	0.26	Precipitation	0.00
6/7/2021	2PD00031004 (CSO #1)	1	6:05 PM	7:15 PM	1.17	0.00	Precipitation	0.24
6/8/2021	2PD00031004 (CSO #1)	1	14:50	8:00 PM	5.17	0.71	Precipitation	0.97
6/9/2021	2PD00031004 (CSO #1)	1	17:35	8:35 PM	3.00	0.14	Precipitation	0.56
6/10/2021	2PD00031004 (CSO #1)	1	16:05	7:05 PM	3.00	0.56	Precipitation	0.40
6/18/2021	2PD00031004 (CSO #1)	1	10:20	1:20 PM	3.00	0.12	Precipitation	0.56

6/21/2021	2PD00031004 (CSO #1)	1	5:35 AM	8:39 AM	3.08	0.07	Precipitation	0.46
6/27/2021	2PD00031004 (CSO #1)	1	2:00 PM	4:40 PM	2.67	0.00	Precipitation	0.59
6/29/2021	2PD00031004 (CSO #1)	1	7:20 PM	9:00 PM	1.67	0.40	Precipitation	0.54
6/30/2021	2PD00031004 (CSO #1)	1	3:20 PM	4:15 PM	0.92	0.04	Precipitation	0.36
6/2/2021	2PD00031005 (CSO #2)	1	9:45 AM	5:30 PM	7.75	1.23	Precipitation	1.18
6/3/2021	2PD00031005 (CSO #2)		12:00 AM	12:10 AM	0.17	0.01	Precipitation	0.00
6/7/2021	2PD00031005 (CSO #2)	1	5:25 PM	6:10 PM	0.75	0.23	Precipitation	0.24
6/8/2021	2PD00031005 (CSO #2)	1	1:30 PM	5:25 PM	3.92	1.55	Precipitation	0.97
6/9/2021	2PD00031005 (CSO #2)	1	12:10 AM	7:14 AM	7.08	2.74	Precipitation	0.56
6/10/2021	2PD00031005 (CSO #2)		3:40 PM	4:55 PM	1.25	0.65	Precipitation	0.40
6/18/21	2PD00031005 (CSO #2)	1	9:35 AM	11:09 AM	1.58	0.72	Precipitation	0.56
6/21/21	2PD00031005 (CSO #2)	1	5:05 AM	6:45 AM	1.67	0.68	Precipitation	0.46
6/27/21	2PD00031005 (CSO #2)	1	1:30 PM	3:00 PM	1.50	0.40	Precipitation	0.59
6/29/21	2PD00031005 (CSO #2)	1	7:00 PM	8:15 PM	1.25	0.70	Precipitation	0.54
6/30/21	2PD00031005 (CSO #2)	1	5:10 AM	8:25 AM	3.25	0.52	Precipitation	0.36
7/11/2021	2PD00031004 (CSO #1)	1	6:25 AM	8:35 AM	2.17	0.80	Precipitation	0.76
7/15/2021	2PD00031004 (CSO #1)	1	4:00 PM	7:10 PM	3.17	0.50	Precipitation	0.49
7/16/2021	2PD00031004 (CSO #1)	1	5:20 PM	12:00 PM	18.67	3.09	Precipitation	1.53
7/17/2021	2PD00031004 (CSO #1)		12:00 AM	12:00 AM	24.00	26.34	Precipitation	2.63
7/18/2021	2PD00031004 (CSO #1)		12:00 AM	3:04 AM	3.08	2.58	Precipitation	0.00
7/24/2021	2PD00031004 (CSO #1)	2	7:20 AM	8:00 AM	0.67	0.00	Precipitation	0.30
7/25/2021	2PD00031004 (CSO #1)		12:00 AM	1:15 AM	1.25	0.01	Precipitation	0.15
7/11/2021	2PD00031005 (CSO #2)	1	6:35 AM	8:54 AM	2.33	1.07	Precipitation	0.76

7/13/2021	2PD00031005 (CSO #2)	1	2:45	4:10 AM	1.42	0.18	Precipitation	0.44
7/15/2021	2PD00031005 (CSO #2)	1	6:20 PM	7:45 PM	1.42	0.86	Precipitation	0.49
7/16/2021	2PD00031005 (CSO #2)	1	5:55 PM	9:25 PM	3.50	4.03	Precipitation	1.53
7/17/2021	2PD00031005 (CSO #2)		12:00 AM	12:00 AM	24.00	25.08	Precipitation	2.63
7/18/2021	2PD00031005 (CSO #2)		12:00 AM	7:15 AM	7.25	1.61	Precipitation	0.00
7/24/2021	2PD00031005 (CSO #2)	1	11:45 PM	12:00 AM	0.25	0.07	Precipitation	0.30
7/25/2021	2PD00031005 (CSO #2)		12:00 AM	1:10 AM	1.17	0.28	Precipitation	0.15
7/29/2021	2PD00031005 (CSO #2)	1	8:15 AM	9:15 AM	1.00	0.27	Precipitation	0.28
7/15/2021	2PD00031006 (CSO #3)	1	6:40 PM	7:05 PM	0.42	0.03	Precipitation	0.49
7/16/2021	2PD00031006 (CSO #3)	1	6:05 AM	7:50 AM	1.75	0.94	Precipitation	1.53
7/17/2021	2PD00031006 (CSO #3)		1:45 AM	12:00 AM	22.25	27.13	Precipitation	2.63
7/18/2021	2PD00031006 (CSO #3)		12:00 AM	2:30 AM	2.50	0.86	Precipitation	0.00
8/9/2021	2PD00031004 (CSO #1)	1	1:40 PM	4:44 PM	3.08	0.26	Precipitation	0.78
8/11/2021	2PD00031004 (CSO #1)	1	8:20 AM	12:30 PM	4.17	0.30	Precipitation	0.71
8/25/2021	2PD00031004 (CSO #1)	1	4:40 AM	6:25 AM	1.75	0.05	Precipitation	0.47
8/9/2021	2PD00031005 (CSO #2)	1	2:40 PM	4:55 PM	2.25	1.16	Precipitation	0.78
8/11/2021	2PD00031005 (CSO #2)	1	8:40 AM	11:35 AM	2.92	1.07	Precipitation	0.71
8/18/2021	2PD00031005 (CSO #2)	1	4:35 PM	5:00 PM	0.42	0.02	Precipitation	0.34
8/25/2021	2PD00031005 (CSO #2)	1	4:45 AM	5:45 AM	1.00	0.20	Precipitation	0.47
8/29/2021	2PD00031005 (CSO #2)	1	10:30 PM	12:00 AM	1.50	0.14	Precipitation	0.40
8/11/21	2PD00031006 (CSO #3)	1	8:50 AM	9:15 AM	0.42	0.03	Precipitation	0.71
8/25/21	2PD00031006 (CSO #3)	1	5:00 AM	5:15 AM	0.25	0.01	Precipitation	0.47
9/4/2021	2PD00031004 (CSO #1)	1	10:10 PM	11:55 PM	1.75	0.30	Precipitation	0.66

9/5/2021	2PD00031004 (CSO #1)		12:00 AM	12:45 AM	0.75	0.15	Precipitation	0.02
9/22/2021	2PD00031004 (CSO #1)	1	6:50 AM	11:54 PM	17.08	4.17	Precipitation	2.61
9/23/2021	2PD00031004 (CSO #1)		12:00 AM	12:24 AM	0.41	0.64	Precipitation	0.29
9/4/2021	2PD00031005 (CSO #2)	1	10:25 PM	11:29 PM	1.08	0.24	Precipitation	0.66
9/22/2021	2PD00031005 (CSO #2)	1	2:10 AM	6:29 PM	16.33	3.61	Precipitation	2.61
9/23/2021	2PD00031005 (CSO #2)	1	12:00 AM	2:25 AM	2.42	0.14	Precipitation	0.29
9/4/2021	2PD00031006 (CSO #3)	1	11:15 PM	11:19 PM	0.08	0.00	Precipitation	0.66
10/3/2021	2PD00031004 (CSO #1)	1	7:55 PM	8:29 PM	0.58	0.00	Precipitation	0.54
10/15/2021	2PD00031004 (CSO #1)	1	2:40 PM	4:29 PM	1.83	0.12	Precipitation	0.48
10/24/2021	2PD00031004 (CSO #1)	1	8:50 PM	11:54 PM	3.08	1.08	Precipitation	1.00
10/25/2021	2PD00031004 (CSO #1)		12:00 AM	9:34 AM	9.58	0.70	Precipitation	0.73
10/29/2021	2PD00031004 (CSO #1)	1	6:25 PM	6:40 PM	0.25	0.00	Precipitation	0.71
10/3/2021	2PD00031005 (CSO #2)	1	7:45 PM	8:40 PM	0.92	0.04	Precipitation	0.54
10/15/2021	2PD00031005 (CSO #2)	1	12:00 AM	2:15 AM	2.25	0.54	Precipitation	0.48
10/24/2021	2PD00031005 (CSO #2)	1	9:10 PM	11:50 PM	2.67	1.29	Precipitation	1.00
10/25/2021	2PD00031005 (CSO #2)		4:30 AM	7:55 AM	3.42	1.67	Precipitation	0.73
10/28/2021	2PD00031005 (CSO #2)	1	10:25 PM	11:35 PM	1.17	0.02	Precipitation	0.27
10/29/2021	2PD00031005 (CSO #2)	1	4:00 AM	7:30 AM	3.50	0.86	Precipitation	0.71
10/30/2021	2PD00031005 (CSO #2)	1	3:10 AM	5:14 AM	2.08	0.04	Precipitation	0.22
10/24/2021	2PD00031006 (CSO #3)	1	9:30 PM	10:15 PM	0.75	0.03	Precipitation	1.00
11/11/2021	2PD00031004 (CSO #1)	1	8:15 PM	9:04 PM	0.83	0.00	Precipitation	0.37
11/18/2021	2PD00031004 (CSO #1)	1	12:50 PM	2:00 PM	1.17	0.00	Precipitation	0.20
12/5/2021	2PD00031004 (CSO #1)	1	4:45 PM	5:25 PM	0.67	0.00	Precipitation	0.38

12/11/2021	2PD00031004 (CSO #1)	1	1:35 AM	6:39 AM	5.08	0.49	Precipitation	0.54
12/18/2021	2PD00031004 (CSO #1)	1	10:05 AM	10:54 AM	0.83	0.00	Precipitation	0.83
12/25/2021	2PD00031004 (CSO #1)	1	5:30 AM	2:40 PM	9.17	3.14	Precipitation	1.03
12/27/2021	2PD00031004 (CSO #1)	1	3:45 AM	12:40 PM	8.92	1.33	Precipitation	0.60
12/28/2021	2PD00031004 (CSO #1)	1	3:45 PM	11:40 PM	7.92	0.92	Precipitation	0.42
12/29/2021	2PD00031004 (CSO #1)	1	12:00 AM	3:15 AM	3.25	0.04	Precipitation	0.00
12/5/2021	2PD00031005 (CSO #2)	1	4:45 PM	5:40 PM	0.92	0.04	Precipitation	0.38
12/25/2021	2PD00031006 (CSO #3)	1	6:10 AM	7:05 AM	0.92	0.15	Precipitation	1.03

Table 5 – Annual Overflow per Combined Sewer

Station Number	Overflow Frequency	Estimated Volume (MG)
2PD00031004 (CSO #1)	46	77.4650
2PD00031005 (CSO #2)	45	70.1244
2PD00031006 (CSO #3)	11	30.1648
2PD00031008 (CSO #5)	0	0.0000
Total	102	177.7542

Table 6 – Annual Precipitation Totals

Month	Total Precipitation (Inches)	Overflow Frequency	Estimated Volume (MG)
January	1.43	3	8.61
February	1.41	8	0.39
March	2.33	6	5.41
April	4.21	7	12.93
May	3.62	7	17.23
June	6.1	19	12.45
July	7.09	14	95.75
August	3.05	10	3.23
September	3.88	6	9.25
October	5.13	11	6.40
November	1.7	2	0.00
December	3.99	9	6.12
Total	43.94	102	177.75