



Illinois Environmental Protection Agency State Revolving Fund Project Plan

Peoria, Illinois

November 30, 2020

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Section 1.0 INTRODUCTION

1.1 BACKGROUND

The City of Peoria is a combined sewer community located in central Illinois along the Illinois River. The estimated population of the City of Peoria as of July 1, 2019 was 110,417 which represents a decline of 4.1% since April 1, 2010. Peoria is part of a metropolitan area of approximately 361,500 people located in several communities bordering the Illinois River anchored by the City of Peoria. The City of Peoria population is expected to decline slightly over the planning period.

The Greater Peoria Sanitary District (GPSD) treats the wastewater generated within the City of Peoria at a wastewater treatment plant (WWTP) located on Darst Street. The WWTP is designed to treat an average daily flow of 37 million gallons per day (MGD) and a peak flow of 60 MGD. The WWTP has the capacity to provide primary treatment and disinfection for 154 MGD.

Sewage is conveyed to the WWTP through two interceptors. The Kickapoo Interceptor, with a capacity of up to 74 MGD, serves the western side of the City of Peoria along with several adjacent communities. It conveys strictly sanitary sewage. The Riverfront Interceptor, with a capacity of up to 80 MGD, serves the eastern side of the City of Peoria and some northern adjacent communities. It conveys a mixture of sanitary and combined sewage.

The area served by the Riverfront Interceptor includes 3.9 square miles of separate sewers that flow directly into the Riverfront Interceptor, along with 8.3 square miles of combined sewers that enter the Riverfront Interceptor through a total of 19 regulating structures and 2 swirl concentrators. GPSD owns and operates the Kickapoo and Riverfront Interceptors, the swirl concentrators, and all regulating structures.

The City of Peoria owns the combined sewers. The City of Peoria is in the process of transferring ownership of its sanitary sewer system to the GPSD. The City of Peoria is retaining ownership of its combined sewers and its 16 permitted combined sewer outfalls.

1.2 LONG TERM CONTROL PLAN AND CONSENT DECREE

In December 2008, the City of Peoria developed its Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) to describe actions to ensure the City conforms to Clean Water Act (CWA) requirements as defined by the United States Environmental Protection Agency (USEPA). The City submitted a revised CSO LTCP in March 2010. The City is also subject to Illinois State Statutes regarding wastewater discharges and CSO control. The requirements are defined by the Illinois Pollution Control Board and administered by the Illinois Environmental Protection Agency (IEPA).

The City of Peoria's objectives in completing the LTCP are to come into and remain in full compliance with the terms and conditions of its National Pollution Discharge Elimination System (NPDES) Permit and to meet the objectives of USEPA's April 19, 1994 Combined Sewer Overflow

Policy (59 *Federal Register* 18688), the Clean Water Act, and the CSO control requirements of the Illinois Administrative Code.

Since 2014, the City of Peoria has been negotiating a Consent Decree with the USEPA, IEPA, and United States Department of Justice (DOJ). The information provided in this Project Plan is based on the most recent draft Consent Decree, which presumes a start date of January 1, 2022 and an 18-year implementation period.

Both the City of Peoria and GPSD will complete projects to achieve the goals of the Consent Decree. The City's projects focus on using distributed green infrastructure as the primary method of CSO control. The other planned City projects include in-system storage and offline storage.

1.3 PROPOSED PROJECTS AND PROJECT AREA

The proposed projects for this Project Plan consist of green infrastructure (GI), such as permeable pavement and bioswales, and in-system storage. These projects are designed to make progress towards meeting the goals of the City's CSO LTCP. The overall combined sewer area as well as the potential locations of green infrastructure projects and associated drainage areas are shown in Attachment A.

Section 2.0

DESCRIPTION OF EXISTING SYSTEM AND RECEIVING STREAM

2.1 WASTEWATER COLLECTION SYSTEM

The City of Peoria owns a sewer system that drains 12.2 square miles of service area to the Riverfront Interceptor. The service area includes 3.9 square miles of separate sewers that flow directly into the Riverfront Interceptor along with 8.3 square miles of combined sewers. Sewage from the combined sewer service area enters the Riverfront Interceptor through a total of 19 regulating structures. Excess flow discharges to the Illinois River through 16 outfalls.

The Riverfront Interceptor sewer runs parallel to the Illinois River and discharges to the GPSD WWTP. Flow from the combined sewer area to the Riverfront Interceptor is controlled by a series of regulator structures. Excess flow is conveyed from the regulator structures directly into the Illinois River via outfall pipes, or combined sewer overflow outfalls, which are permitted by the IEPA through the NPDES. The regulator structures, Riverfront Interceptor, and WWTP are owned and operated by GPSD. The combined sewer system sewers and outfalls are owned by the City of Peoria.

There are two 53,000-gallon swirl concentrators which were designed to prevent floating debris and trash from discharging out outfalls. Five of the 19 regulators divert flow to the swirl concentrators. There is one 5,197-foot storage sewer designed to reduce the quantity and frequency of overflows in the area northeast of downtown. The storage sewer has the capacity to store 540,000 gallons of sewage prior to overflowing. Flow from the storage sewer is introduced into the Riverfront Interceptor through a vortex flow regulator.

2.2 OUTFALLS, REGULATORS, AND SEWERSHEDS

The sewersheds are shown on Attachment B, along with the stormwater drainage areas. Each of the City's outfalls has one or more distinct sewersheds draining to it. Nine of the outfalls discharge excess wet weather flow to the river during multiple rainfall events each year. Seven of the outfalls are emergency outfalls that overflow less frequently. Table 2-1 lists the outfalls, regulators, and sewersheds tributary to the outfalls.

For simplicity, each outfall is often referred to as the name of its major sewershed. For example, Outfall 019 is referred to as the Darst Sewershed even though its actual sewersheds are Darst Street Direct and half of Western and Smith, as shown on Table 2-1 and Attachment B.

Table 2-1
City of Peoria Combined Sewer System
Outfalls, Regulators, and Sewersheds
(listed from south to north)

Outfall	Regulator Name	Regulator Location	Upstream Sewershed(s)
019	DARST STREET	Darst St. N of Crowell St.	DARST STREET DIRECT Half of WESTERN & SMITH
018	SANGER STREET	Sanger St. NW of SW Washington St.	SANGER STREET
	WEST WASHINGTON	SW Washington St. W of Sanger St.	
	EAST WASHINGTON	SW Washington St. E of Sanger St.	
017	SOUTH STREET	South St. & SW Water St.	SOUTH STREET
016	CEDAR STREET	Cedar St. NW of Water St.	CEDAR STREET DIRECT Half of WESTERN & SMITH
	WATER STREET	SW Water St. NE of Cedar St.	
014*	STATE STREET	State St. & SW Water St.	STATE STREET
013*	WALNUT STREET	Walnut St. & Commercial St.	WALNUT STREET
n/a	None - Franklin Street Trunk Sewer (connects directly to interceptor)		FRANKLIN STREET
011*	HARRISON STREET	Harrison St. & Commercial St.	HARRISON STREET
010*	LIBERTY STREET	Liberty St. SE of S. Washington St.	LIBERTY STREET
009	FULTON STREET	Fulton St. SE of S. Washington St.	FULTON STREET
007A	FAYETTE SWIRL CONCENTRATOR Flow from the following sewersheds is carried in one common sewer pipe to the Fayette Swirl Concentrator. The common pipe is directly connected to the following regulators and thus must surcharge to cause overflows at the connected outfalls.		
020*	MAIN STREET	Main St. SE of S. Washington	MAIN STREET
008*	HAMILTON BOULEVARD	Hamilton Blvd. SE of S. Washington St.	HAMILTON BOULEVARD
007A*	FAYETTE STREET	Fayette St. NE of Washington St.	FAYETTE STREET
006A/	EATON SWIRL CONCENTRATOR		

Outfall	Regulator Name	Regulator Location	Upstream Sewershed(s)
006B^	Flow from the following sewersheds is carried in one common sewer pipe to the Eaton Swirl Concentrator. The common pipe is directly connected to the following regulators and thus must surcharge to cause overflows at the connected outfalls.		
006A/ 006B*^	EATON STREET	Eaton St. N of Water St.	EATON STREET
001*	GREEN STREET	Green St. North of Water St.	GREEN STREET
003	SPRING-CAROLINE STORAGE SEWER Excess flow from the following sewersheds is carried to this storage sewer.		
n/a	SPRING STREET	Spring St. & Bond St.	SPRING STREET DIRECT GLEN OAK & CAROLINE
n/a	CAROLINE STREET	Caroline St. & Bond St.	CAROLINE STREET
Notes *These outfalls have high overflows for emergency collection system relief. ^Outfalls 006A and 006B are two separate, but parallel outfalls that both carry overflows from the Eaton Swirl Concentrator and Eaton Regulator. They are connected by a common upstream junction box and typically overflow at the same time. Outfalls 002, 004, 005, 012, and 015 have been abandoned or destroyed.			

2.3 WASTEWATER TREATMENT FACILITY

The GPSD operates a WWTP to treat domestic and industrial wastewater generated within its service area. The treatment plant has been in operation since 1931 and is located at 2322 S. Darst Street along the shore of the Illinois River.

The wastewater treatment employs primary, secondary, and advanced treatment to achieve BOD, TSS, ammonia, and bacteria discharge limits. The WWTP is designed for a daily flow of 37 MGD and a peak flow of 60 MGD. The WWTP has the capacity to provide primary treatment and disinfection for 154 MGD. The WWTP and treatment processes are shown in Figure 2-1. Recently, GPSD completed a major treatment plant improvement project to allow for enhanced biological phosphorus removal. This modification is not reflected in Figure 2-1.

Figure 2-1
Greater Peoria Sanitary District
Wastewater Treatment Plant and Treatment Processes



The City of Peoria constructed two satellite treatment units, the Fayette and Eaton Swirl Concentrators in 1992 and are now owned by GPSD. These treatment units provide screening and some solids removal upstream of two combined sewer overflows within the City of Peoria wastewater collection system. The two units are enclosed in a common building and are located adjacent to the Murray Baker Bridge (I-74) on the west bank of the Illinois River.

2.4 RECEIVING WATER BODY

Combined sewer overflows from the City of Peoria discharge into the Illinois River. The Illinois River forms the City of Peoria's east and southeast boundary and divides Peoria and East Peoria. This section of the river is located in the lower part of the Peoria Pool that extends from the Peoria Lock and Dam at River Mile 157.6 upstream to the Starved Rock Lock and Dam at River Mile 231.0.

The Illinois River watershed at Peoria drains approximately 14,165 square miles. The watershed upstream of the City of Peoria includes much of northeastern Illinois and portions of northwest Indiana and southeast Wisconsin.

2.5 PROJECT AREA WATERSHED AND TOTAL MAXIMUM DAILY LOAD

As shown in Attachment C, the project is located primarily in two hydrologic unit code (HUC) 12 areas: 071300011705 Tenmile Creek-Illinois River and 071300030304 Pekin Lake-Illinois River. According to the IEPA's 2018 Water Quality Report and Section 303(d) List, the Illinois River in HUCs 0713000117 and 0713000303 is impaired for mercury and polychlorinated biphenyls (PCBs). Attachments D and E show the impaired waterways in the project area.

The Total Maximum Daily Load (TMDL) Report for the Middle Illinois River is available at: <https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/reports.aspx#ill>. According to the 2012 TMDL Report, the Illinois River near the project area is impaired for fecal coliform, manganese, and total dissolved solids.

Section 3.0 TECHNOLOGY EVALUATION

3.1 BACKGROUND

As part of the LTCP, the City identified and evaluated CSO controls that would result in attainment of applicable water quality standards. The evaluation of technologies and development of alternatives fulfilled the requirements of Special Condition 10.c.3, Evaluation of Alternatives, of the City's NPDES permit (#IL0037800).

3.2 DISCUSSION OF TECHNOLOGIES

Prior to selecting GI as the primary technology for controlling CSO discharges, the City evaluated the following conveyance and treatment technologies.

Wet Weather Flow Reduction - This technology involves disconnection of storm sewers from the combined sewer system as well as source reductions through removal of storm inlets, area drains, downspouts, and implementation of other green infrastructure alternatives on both public and private property.

Sewer Separation - This technology includes the installation of a new storm sewer system and disconnection of all storm water sources to the combined sewer system. The existing combined system would then function as a sanitary sewer system.

Conveyance to WWTP for Storage, Treatment and Disinfection - This technology involves improvements to the combined sewer collection system and the WWTP. Improvements to the collection system would include the installation of a large diameter relief sewer to handle flows that exceed the capacity of the Riverfront Interceptor. Improvements to the WWTP would include the installation of additional first flush storage and disinfection capacity as required to meet federal and state requirements.

Inline Storage and Conveyance to WWTP for Primary Treatment and Disinfection - This technology involves improvements to the combined sewer collection system. Improvements to the collection system would include installing an oversized relief sewer between the outfalls and the WWTP to store and convey flows that exceed the capacity of the Riverfront Interceptor. Storage would be sized to provide sufficient equalization so as not to require treatment capacity improvements at the WWTP.

Offline Storage without Disinfection - This technology involves the construction of storage facilities throughout the combined sewer system to collect the first flush volume, less the first flush volume that can be transported by the Riverfront Interceptor. The collected water would then be metered back into the Riverfront Interceptor for treatment at the WWTP when capacity is available.

Offline Storage with Disinfection – This technology involves the construction of storage facilities throughout the combined sewer system to collect the first flush volume, less the first flush volume

that can be transported by the Riverfront Interceptor. The collected water would then be metered back into the Riverfront Interceptor for treatment at the WWTP when capacity is available. Flow in excess of storage and Riverfront Interceptor conveyance capacity would be disinfected.

Offline Storage and End of Pipe Primary Treatment and Disinfection – This technology involves the treatment of combined sewage at remote locations throughout the combined sewer system, after capture of the first flush volume, with discharge at the nearest existing outfall. Flow exceeding storage and conveyance capacity of the sewer system would receive the equivalent of primary treatment and disinfection prior to discharge from the outfalls.

End of Pipe Primary Treatment and Disinfection – This technology involves the treatment of combined sewage at remote locations throughout the combined sewer system with discharge at the nearest existing outfall. Flow exceeding the conveyance capacity of the sewer system would receive the equivalent of primary treatment and disinfection prior to discharge from the outfalls.

Based on these technologies, 19 detailed alternatives were developed and presented in the City's LTCP. Ultimately, with the USEPA approval, the City selected a hybrid combination of solutions including wet weather flow reduction using distributed GI, increasing conveyance to the WWTP with regulator and throttle pipe improvements, and in-system and offline storage.

Section 4.0 SELECTED ALTERNATIVE

4.1 OPTIMIZED PROJECTS

In the Spring of 2019 the most cost effective combination of green infrastructure, in-system and offline storage, and regulator/throttle pipe improvements were determined that would meet the performance requirements of the Consent Decree and provide the best value for the rate payers.

To meet the performance requirements of the Consent Decree, projects will have to be undertaken by both the City and GPSD. The GI and storage projects are planned to be City owned and funded projects. The regulator/throttle pipe improvement projects are planned to be GPSD owned and funded projects. The Consent Decree will provide the City and GPSD 18-years to implement the selected improvements.

The following summarizes the preliminary and conceptual, optimized project mix to be implemented throughout the 18-year period selected by the City and GPSD and as reviewed by USEPA and DOJ. These projects and their estimated costs are also summarized in Attachment F. The City's projects are flexible and may be modified throughout the implementation period.

1. **Approximately 19.3 acres of GI (City of Peoria Project)** to capture approximately 78% of runoff below the bluff in the Sanger and South sewersheds and 100% of the runoff below the bluff in the remaining sewersheds, except Darst.

Distributed GI below the bluff, where native infiltration rates are higher, is expected to be more cost-effective than offline storage and thus the recommended plan maximizes its use to reduce runoff to the sewer system.

2. **In-system storage (City of Peoria Project)** at ten locations in the Darst, Sanger (associated with regulator improvements), South, Cedar, Fayette, and Eaton sewersheds.

Previous analyses have shown that in-system storage is extremely cost-effective compared to other improvements. The locations currently assumed are based on a preliminary analysis of locations suitable for in-system storage. Other opportunities for in-system will be evaluated during preliminary engineering.

3. **Offline storage (City of Peoria Project)** near the Darst (0.1 MG), Cedar (0.8 MG), Fayette (0.3 MG), and Eaton (0.9 MG) regulators and the Spring and Caroline regulators or the storage sewer (2.2 MG). Note that the storage volumes and locations are subject to change based on the performance of other projects.
4. **Riverfront Interceptor Sediment Removal (GPSD Project).** GPSD will remove substantially all of the existing debris and sediment from the Riverfront Interceptor in accordance with the Consent Decree.

5. **Investigate and Address Restriction in Riverfront Interceptor Between Darst Street and Cedar Street (GPSD Project)** GPSD will investigate the existing Riverfront Interceptor conflict structure and any other unusual and material restriction in the Riverfront Interceptor between Darst Street and Cedar Street and resolve the restrictions, in accordance with the Consent Decree.
6. **Improve Sanger and South Regulators and Throttle Pipes (GPSD Project)** by upsizing throttle pipes, modifying the regulators, and adding gate controls to regulate flow, in accordance with the Consent Decree.
7. **Improve Riverfront Interceptor Access at Spring and Caroline (GPSD Project)** by enlarging access to interceptor, adding control gates, and optimizing controls, in accordance with the Consent Decree.
8. **Modify Existing Gate Controls at Cedar, Fayette, and Eaton (GPSD Project).** The Cedar, Fayette, and Eaton localized gate controls shall be modified, in accordance with the Consent Decree.
9. **Improve Darst Regulator and Throttle Pipe (GPSD Project)** by upsizing the throttle pipe and modifying the regulator if more cost effective than constructing GI in Darst for CSO control.

4.2 METHOD TO DETERMINE OPTIMIZED PROJECTS

The preliminary and conceptual optimized project mix described above was determined by representing the proposed projects in the calibrated starting (existing) conditions model, which has been reviewed by USEPA/DOJ. The starting conditions model includes the WWTP headworks, Kickapoo Interceptor inflow, Riverfront Interceptor, regulators, throttle pipes, outfalls, swirl concentrators, storage sewer, and main trunk sewers extending upstream of each regulator to at least the boundary of the separate and combined sewer areas. Dry weather flow, direct rainfall derived infiltration and inflow (RDII) to the sewers, and surface runoff are represented separately within the model for more accurate estimation of the effect of proposed GI on the system.

Examples projects were added to the starting conditions model in a specific order until the required CSO reduction was achieved for the design storms:

1. **Riverfront Interceptor Sediment and Regulator and Throttle Improvements:** Riverfront Interceptor sediment levels were adjusted to assumed future conditions, throttle pipe sizes were increased to allow free flow to the Riverfront Interceptor, and throttle pipe controls were added to prevent excessively surcharging the Riverfront Interceptor. This ensured that flow in the Riverfront Interceptor was practically maximized as other projects were added to the model.
2. **In-System Storage:** At the same time, weirs and orifices were added to manholes in the City's collection system where there are long lengths of relatively flat pipe upstream to

create in-system storage. When GI projects are added, the flow rates throughout the system decrease such that many pipes no longer flow full during rain events. The weirs and orifices encourage the storage of flow in the empty space available in these pipes, which can decrease the flow rate reaching the downstream regulator. These types of projects are typically extremely cost effective for the CSO reduction benefit that they provide.

3. **GI:** GI was then added to the model one sewershed and subcatchment at a time to remove surface runoff from the collection system until the required CSO reduction was achieved at the downstream outfall. A subcatchment is typically a neighborhood-sized drainage area to a specific part of the sewer system whereas a sewershed is the entire drainage area to one regulator or outfall. The GI was sized using the modeled runoff flow rate and volume from each subcatchment during the design storm and standard assumptions for GI design parameters that have been tailored to Peoria. The optimized project mix assumes that GI is only added to combined sewer subcatchments below the bluff because areas below the bluff are expected to have high infiltration rates that will make GI more cost effective than other alternatives such as offline storage.
4. **Offline Storage:** If, in any particular sewershed, 100% of the runoff below the bluff was routed to GI in the model and the required CSO reduction was not achieved, then the remaining CSO volume to be managed was assumed to be routed to an offline storage tank.

Once the steps above were complete additional refinements were made to further optimize the project mix. This included removing individual projects to assess their effectiveness with the other example projects in place. Modeling the example projects in this way allowed for each proposed project to be evaluated in the context of the entire proposed future system, which is important considering the interconnectedness between each sewershed via the Riverfront Interceptor. The most cost-effective combination of projects was determined through this analysis.

4.3 CAPITAL COST COMPARISON

The following table provides a summary of capital costs for the preliminary optimized projects over the entire 18-year implementation period. The table compares the overall capital cost of the optimized projects with an alternative approach of replacing the distributed GI projects with offline storage.

**Table 4-1
Capital Cost Comparison**

Project Description	Current Optimized Projects with Green Infrastructure	Optimized Projects with Offline Storage Instead of Green Infrastructure
	Estimated Capital Cost (in millions)	
Green Infrastructure (City of Peoria Project)	\$65.4	-
Offline Storage (City of Peoria Project)	\$41.0	\$196.4
In-System Storage (City of Peoria Project)	\$2.2	\$2.2
Clean Riverfront Interceptor and Storage Sewer (GPSD Project)	\$3.0	\$3.0
Remediate Restriction in Riverfront Interceptor (GPSD Project)	\$2.0	\$2.0
Improve Regulators, Throttle Pipes, and Gate Controls (GPSD Project)	\$18.4	\$18.4
TOTAL	\$132.0	\$222.0

4.4 OPERATION AND MAINTENANCE COSTS

The table below summarizes the estimated capital and operation and maintenance (O&M) costs for the optimized projects. The following assumptions regarding O&M costs were incorporated into the analysis.

- A 20-year planning period and a 3% discount rate is assumed.
- GI O&M cost per year is assumed to be 3% of the total GI capital cost.
- Offline storage O&M cost per year is assumed to be 1.5% of the total offline storage capital cost.
- Improved regulator and throttle pipe O&M cost per year is assumed to be 0.25% of the total regulator and throttle pipe improvement capital cost.

Table 4-2
Capital and O&M Costs for Optimized Example Projects

Project Owner	Project Description	Estimated Cost (in millions)	
		Capital	O&M
City	Approximately 19.3 acres of GI improvements below the bluff	\$65.4	\$29.2
City	Offline storage of 1.8 MG at Spring-Caroline, 1.4 MG at Eaton, 0.3 MG at Fayette, and 0.4 MG at Cedar	\$41.0	\$9.1
City	In system storage at nine locations	\$2.2	-
GPSD	Clean Riverfront Interceptor	\$3.0	-
GPSD	Remediate restriction in Riverfront Interceptor at South outfall crossing	\$2.0	-
GPSD	Improve regulators, throttle pipes, and/or gate controls	\$18.4	\$0.7
TOTAL		\$132	\$39
TOTAL CAPITAL AND O&M		\$171	

4.5 FINAL PERFORMANCE CRITERIA AND INTERIM MILESTONES

The optimized projects are intended to achieve the following final performance criteria at the end of the 18-year implementation period and interim performance criteria milestones as shown in Table 4-3.

Final Performance Criteria

1. Eliminate CSOs for all storms less than or equal to the 6-month, 6-hour design storm
2. Eliminate CSOs during the 1949 “typical year” except during the July 21, 1949 and December 20, 1949 events
3. Limit the CSO volume discharged during the July 21, 1949 event to no more than 16.3 MG when analyzed in the Final Conditions H&H Model.

Table 4-3
Interim Performance Criteria Milestones from 8/21/2020 Draft Consent Decree

	Interim Performance Criteria Milestone #1	Interim Performance Criteria Milestone #2	Interim Performance Criteria Milestone #3	Interim Performance Criteria Milestone #4
CSO Individual Discharge Reduction	None	25%	40%	60%
CSO Evaluation Volume Reduction	20%	35%	50%	70%
Interim Performance Criteria Evaluation Monitoring Year	2026 "Year 4"	2029 "Year 7"	2032 "Year 10"	2036 "Year 14"
Interim Performance Criteria Report Submittal	March 31, 2027	March 31, 2030	March 31, 2033	March 31, 2037

4.6 SCHEDULE OF PROJECTS TO MEET PERFORMANCE CRITERIA

Attachment F shows an example schedule for project implementation to meet the interim performance criteria milestones and final performance criteria.

4.7 PROJECTS TO BE IMPLEMENTED UNDER THIS PROJECT PLAN

The City of Peoria projects anticipated to be implemented during the five-year planning period under this Project Plan are summarized below.

- **Approximately 7 acres of GI** with an estimated 1.3 acres per year for the first three years and an estimated 1.55 acres per year for the fourth and fifth years.
- **In-system storage at approximately nine locations** with an estimated three locations constructed per year for the first three years.
- **Engineering, flow monitoring, and program management** each year to determine what project are needed and where and to appropriately size the projects.

The estimated costs for these projects are summarized in Table 4-4 below. It is expected that 100% of the estimated costs are loan eligible. Modeling will be used to ensure the City's GI will be appropriately sized and located so that it is not overbuilt and is effectively removing water from the combined sewer system and providing the necessary CSO benefit. The engineering, flow monitoring, and program management costs are loan eligible since these tasks are required to size and locate projects appropriately in the relation to specific sewersheds and subcatchments and the overall interim milestones and final performance goals.

Table 4-4
Anticipated Projects and Estimated Costs Under this Project Plan

Year of LTCP	1	2	3	4	5
Construction Year	2022	2023	2024	2025	2026
Add in-system storage at approximately nine locations	\$670,000	\$670,000	\$670,000	\$0	\$0
Install approximately 7 acres of GI improvements below the bluff	\$3,990,000	\$3,990,000	\$3,990,000	\$4,710,000	\$4,710,000
TOTAL CONSTRUCTION COST	\$4,660,000	\$4,660,000	\$4,660,000	\$4,710,000	\$4,710,000
10% Contingency on Construction Cost	\$470,000	\$470,000	\$470,000	\$470,000	\$470,000
Engineering	\$470,000	\$470,000	\$470,000	\$470,000	\$470,000
Flow Monitoring	\$380,000	\$380,000	\$380,000	\$380,000	\$380,000
Program Management	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
TOTAL PROJECT COST	\$6,270,000	\$6,270,000	\$6,270,000	\$6,330,000	\$6,330,000

4.8 SCHEDULE FOR PROJECTS TO BE IMPLEMENTED UNDER THIS PROJECT PLAN

Table 4-5 summarizes the proposed implementation schedule for design, bidding, and construction for Year 1 projects to be completed under this plan. Years 2 through 5 will follow a similar schedule for design, bidding, and construction.

Table 4-5
Preliminary Schedule for Projects to be Implemented Under this Project Plan

Description	Date
Project Plan Submittal to IEPA	December 1, 2020
City Advertises the Preliminary Environmental Impact Determination (PEID) and Conducts Public Hearing with Comment Period	January 15, 2021
Submit Loan Application and Detailed Financial Information for Year 1	February 15, 2021
City on Intended Funding List (IFL) Reserving Funds	July 1, 2021
Complete Design of Proposed Projects. Submit Construction Drawings for Year 1 Projects.	August 2021
Bid Year 1 Projects (45 Day Minimum Bid Period 60 Day Preferred Due to Holidays)	November 2021
IEPA Review Approval of Bids and Loan Authorization for Year 1	February 2022

Description	Date
Select contractor(s) to construct Year 1 projects, negotiate contract(s)	March 2022
Begin construction of Year 1 projects	April 2022
Complete construction of Year 1 projects	October 2022
Engineering, flow monitoring, and program management	Ongoing

Section 5.0

GREEN INFRASTRUCTURE BASIS OF DESIGN

The City of Peoria is planning to use distributed green infrastructure as the primary method to eliminate the City's CSOs. To accomplish this, the City must install enough GI in the right locations to reduce the collection system peak flow rates to flows that can be conveyed by the existing sewers and treated at the WWTP. The City plans to implement the most cost-effective combination of GI and storage of flow in the existing collection system and offline to achieve the interim and final performance criteria described in Section 4.5 and ensure the selected projects are loan eligible.

5.1 GREEN INFRASTRUCTURE PROJECT LOCATIONS

The City plans to install the necessary GI in existing city-owned roadway right-of-way in areas below the bluff for the following reasons:

- Storm water runoff is already conveyed along City streets. Most of the City of Peoria is organized in a traditional grid-type layout with perpendicular streets forming city blocks. Storm water runoff is typically conveyed overland from private properties to city streets and then in street gutters to inlets to the combined or storm sewer system at intersections. City streets serve as secondary drainage pathways if runoff exceeds the sewer system capacity.
- Installing GI on publicly owned land will simplify legal and easement issues both for initial construction and long-term maintenance access.
- The City owns almost 160 miles of streets and about 50 acres of alleys in the combined sewer area, many of which have wide right-of-way providing space for various types of GI.

Attachment A provides the general locations in which GI may be installed during the initial five-year planning period.

5.2 GREEN INFRASTRUCTURE TECHNOLOGIES

The City's 2015 Green Infrastructure Proposal submitted to USEPA and DOJ evaluated the feasibility of using appropriately sized distributed GI for CSO control. The GI technologies the City presented in the 2015 proposal include street side and alley GI such as permeable pavement parking lanes, shoulders, cross walks, intersections and stormwater boulevards.

The GI solutions chosen by the City are in alignment with those noted in EPA publications "Greening CSO Plans," March 2014; "Consent Decrees That Include Green Infrastructure Provisions," June 2012; and "Green Infrastructure Models and Calculators." These and similar GI technologies have been successfully implemented across the Midwest region by other CSO communities including Indianapolis, Fort Wayne, and Lafayette, Indiana; Louisville, Kentucky; Cincinnati, Cleveland, and Columbus Ohio; and Milwaukee, Wisconsin.

Figures 5-1 through 5-6 below are from the City's 2015 Green Infrastructure Proposal and show examples of the GI technologies the City will utilize.

Figure 5-1
Permeable Paver Parking Lane Example, Louisville, KY



Figure 5-2
Permeable Paver Shoulder Example, Indianapolis, IN



Figure 5-3
City of Peoria Moss Avenue Existing Conditions



Figure 5-4
City of Peoria Moss Avenue Permeable Paver Parking Lane Concept



Figure 5-5
City of Peoria Krause Avenue Existing Conditions



Figure 5-6
City of Peoria Krause Avenue Stormwater Boulevard Concept



The types of GI shown above can remove water from the collection system by infiltration and/or evapotranspiration. Peoria's soils below the bluff tend to be sandy and thus are likely capable of significant infiltration.

5.3 GREEN INFRASTRUCTURE DESIGN ASSUMPTIONS

The assumptions used for the City of Peoria's preliminary green infrastructure basis of design include the following:

- GI installation will be limited to below the bluff to maximize cost effectiveness.
- GI will be designed to have a drain down time of less than 72-hours.
- GI is assumed to be permeable pavement with a surface infiltration rate of 25 in/hr, a 40% void ratio in the storage layer, and a subsurface infiltration rate of 4 in/hr through the native sandy soil below the bluff. The assumed surface and subsurface infiltration rates and void ratio were field verified in the City's Adam Street Pilot Project and supplemental field testing of other City GI projects.
- GI is assumed to have a 4-foot deep stone storage layer.
- The use of bioswales will likely require more surface area than permeable pavement.
- GI needs to capture 78% of runoff below the bluff in the Sanger and South drainage basins and 100% of the runoff below the bluff in the Cedar, Fayette, Eaton and Spring Caroline basins.

5.4 GREEN INFRASTRUCTURE OPERATION AND MAINTENANCE FOR THE SELECTED PROJECTS

The City of Peoria has developed an operation and maintenance manual to define the requirements for operating, inspecting, and maintaining GI projects throughout the City to ensure the resiliency and efficiency of the proposed projects. The manual provides a narrative on permeable pavement, stormwater planters, and subsurface storage and infiltration, including definitions, general purpose, typical cross sections, appropriate functioning, and general operation and maintenance.

Inspection of the permeable pavement systems specific to this project plan will be conducted on an annual basis. To adequately inspect the permeable pavement, the areas will be observed during and after rain events. If no surface ponding is observed, then the permeable pavement is functioning adequately to meet the design goals of the stormwater management system. If ponding does occur, maintenance activities will be performed as soon as practical.

Maintenance responsibilities will remain in effect for the life of the permeable pavement to ensure resiliency and efficiency of the proposed projects. The majority of permeable pavements function well with little or no maintenance. Maintenance of permeable pavement consists primarily of prevention of clogging of the void structure. Periodic vacuuming may be performed to remove debris from the surface of the pavements. Other cleaning options may include power blowing and pressure washing.

Section 6.0

ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

The proposed project is needed to reduce the frequency and severity of combined sewer overflows in the City of Peoria to the Illinois River. Work will consist of approximately seven acres of green infrastructure, primarily permeable pavement and bioswales, over the five-year planning period. The precise project locations are not known at this time.

Work will be confined to previously disturbed areas on existing streets and alleys and performed in City of Peoria right of way. Potential project locations are highlighted in yellow in the portion of the City's combined sewer area outlined in green and noted as Drainage Area to Potential Green Infrastructure Projects in Attachment A. Depth of excavation is assumed to be limited to four feet below existing finish grade. No structures will be impacted by the undertaking of this project.

IEPA loan requirements state that the City shall consult the Illinois State Historic Preservation Office to determine whether the proposed project requires any special mitigative measures be taken to comply with the Illinois State Agency Historic Resources Protection Act. On September 28, 2020, Symbiont, on behalf of the City of Peoria, requested a sign off from the Illinois State Historic Preservation Office on the proposed project. The sign off is currently pending.

In addition, the City has consulted with the Illinois Department of Natural Resources (IDNR) Office of Realty and Environmental Planning (OREP) regarding compliance of the proposed projects with the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetlands Protection Act.

On October 2, 2020, the City received a letter stating that the Department evaluated the project and concluded adverse effects are unlikely. As such, consultation under 17 Illinois Administrative Code Part 1075 and 1090 has been terminated. Consultation for Part 1075 is valid for two years from the sign off date and consultation for Part 1090 is valid for three years from the sign off date.

The IEPA Loan Applicant Environmental Checklist has been completed and signed by the City of Peoria to document the environmental impact review process. The checklist and associated documentation are included as Attachment G.

Section 7.0 FINANCIAL INFORMATION

7.1 DESCRIPTION OF CURRENT WASTEWATER USER CHARGE AND BILLING SYSTEM

The fees for wastewater service in the City of Peoria are currently billed and collected by GPSD. Quarterly bills are based on the amount of water consumed. Water consumption records are provided by Illinois American Water Company who owns and operates the water system.

The existing rate structure for City of Peoria residents includes a sewer lateral rate (City or GPSD), rehabilitation fee (City), wastewater treatment charge (GPSD), and a capital improvement surcharge (GPSD).

The City's lateral rate was established by the City to fund operation and maintenance costs for the City's wastewater collection system. In general, Peoria residents south of War Memorial Drive are connected to City sewers and pay this lateral rate. If residents are connected to a City sewer, the customer does not pay the GPSD lateral rate. City of Peoria resolution 19-379-A provides for a 7% increase to the City's lateral rate on May 1, 2021.

The GPSD lateral rate was established by GPSD to fund the operation and maintenance costs for the GPSD collection system. In general, Peoria residents north of War Memorial Drive are connected to GPSD sewers and pay this lateral rate. If a Peoria resident is connected to a GPSD sewer, the customer does not pay the City lateral rate. The current GPSD lateral rate was set by GPSD ordinance 636 which went into effect on August 1, 2020.

The City's rehabilitation fee was established by the City to fund certain capital sewer improvements and associated debt service. The rate is paid by customers connected to sewers in the City, regardless of whether they are on a City or GPSD lateral. City of Peoria resolution 19-379-B provides for a 7% increase to the City's rehabilitation rate on May 1, 2021.

The GPSD wastewater treatment rate was established by GPSD to fund the costs of treating sewage at the WWTP. This rate is paid by all City of Peoria customers connected to sewers that discharge to the GPSD wastewater treatment plant. The current wastewater treatment rates were set by GPSD ordinance 636 which went into effect on August 1, 2020.

The GPSD capital improvement surcharge was established to provide capital to fund the replacement of GPSD collection and treatment system assets.

As of October 31, 2020, the City of Peoria has approximately 39,477 rehabilitation paying accounts and, of those, approximately 16,497 accounts also pay the City lateral charge. The estimated 2020 City revenue associated with the City sanitary collection system is \$7.8M, with expenditures of \$4.9M resulting in a surplus of approximately \$2.9M.

7.2 CURRENT RATE STRUCTURE

The current sewer rate structure for Peoria residents as of August 1, 2020 is summarized in Tables 7-1 and 7-2 below.

Table 7-1
Current Sewer Rates for Peoria Residents
Connected to a City Sewer by Hundred Cubic Feet (CCF)

Billing Item	Rate	Source
City Lateral Fee	\$1.1902/CCF	City of Peoria Resolution 19-379-A
City Rehabilitation Fee	\$1.2766/CCF	City of Peoria Resolution 19-379-B
GPSD Treatment Fee	\$1.0140/CCF	GPSD Ordinance 636
GPSD Capital Improvement Surcharge	76% surcharge on GPSD fees	GPSD Ordinance 636

Table 7-2
Current Sewer Rates for Peoria Residents
Connected to a GPSD Sewer by Hundred Cubic Feet (CCF)

Billing Item	Rate	Source
GPSD Lateral & Treatment Fee	\$2.1530/CCF	GPSD Ordinance 636
City Rehabilitation Fee	\$1.2766/CCF	City of Peoria Resolution 19-379-B
GPSD Capital Improvement Surcharge	76% surcharge on GPSD fees	GPSD Ordinance 636

In addition to the above rates in Table 7-1 and 7-2, residential customers receive a 7% discount on their City and GPSD lateral, treatment, and rehabilitation fee portion of the sewer bill to account for water used in watering lawns or otherwise not discharged to the sewer system, unless actual amounts are known via a credit meter.

Based on a consumption of 17.25 CCF per quarter (approximately 4,300 gallons per month), the average sewer bill for a typical City of Peoria residential customer connected to a City sewer is \$73.33 per quarter or \$24.44 per month (before the 7% discount, if applicable). Table 7-3 summarizes this billing calculation and does not include the 7% discount.

Table 7-3
Average Quarterly Sewer Bill for Peoria Residents
Connected to a City Sewer Based on a Usage of 17.25 CCF per Quarter

Billing Item	Rate	Billing Charge
City Lateral Fee	\$1.1902/CCF	\$20.53*
City Rehabilitation Fee	\$1.2766/CCF	\$22.02*
GPSD Treatment Fee	\$1.0140/CCF	\$17.49*
GPSD Capital Improvement Surcharge	76% surcharge on GPSD treatment fee	\$13.29
TOTAL PER QUARTER		\$73.33

Based on a consumption of 17.25 CCF per quarter (approximately 4,300 gallons per month), the average sewer bill for a typical City of Peoria resident customer connected to a GPSD sewer is \$87.39 per quarter or \$29.13 per month, (before the 7% discount, if applicable). Table 7-4 summarizes this calculation.

Table 7-4
Average Quarterly Sewer Bill for Peoria Residents
Connected to a GPSD Sewer Based on a Usage of 17.25 CCF per Quarter

Billing Item	Rate	Billing Charge
GPSD Lateral & Treatment Fee	\$2.0023/CCF	\$37.14*
City Rehabilitation Fee	\$1.2766/CCF	\$22.02*
GPSD Capital Improvement Surcharge	76% surcharge on GPSD lateral and treatment fee	\$28.23
TOTAL PER QUARTER		\$87.39

*Before 7% discount, if applicable

7.3 DESCRIPTION OF WATER BILLING SYSTEM

City of Peoria residents receive potable water from Illinois American Water. Potable water rates are set in accordance with Illinois Commerce Commission regulations. The current water rate structure has been in place since June 16, 2017 and is summarized in Table 7-5.

Table 7-5
Current Illinois American Water Rates for City of Peoria Residents

Billing Item	Rate
Meter Charge	\$20.00/month
Usage	\$0.58510/100 Gallons
Municipal Tax Addition	5.51%
Public Fire Protection Service	\$4.29/month

Based on a consumption of 4,300 gallons per month, the average monthly water bill from Illinois American Water for a City of Peoria resident is \$52.17.

7.4 MAKE UP OF PROJECT AREA POPULATION AND CUSTOMER BASE

Table 7-6 provides demographic data for the City of Peoria by areas of sewer ownership. The City can only charge the customer base that uses City-owned sewers.

Table 7-6
Demographic of Customer Base for Sewer Revenue in City of Peoria
Source: ESRI 2018 Forecast using U.S. Census Bureau 2010 Census Data

Area	Households	Population	MHI*
1. Riverfront Interceptor			
a. City Owned Sewers			
i. Combined Sewers to RFI	8,414	23,010	\$27,427
ii. Sanitary Sewers to Combined Sewers	5,036	14,588	\$35,260
iii. Sanitary Sewers to RFI	2,470	5,687	\$30,744
b. Non-City Owned Sewers	3,390	7,405	\$46,480
2. Kickapoo Interceptor (all non-City owned)	38,463	89,199	\$61,176
TOTAL	57,773	139,889	
CITY OF PEORIA	45,690	110,188	\$49,816

* Median household income

7.5 ESTIMATED ANNUAL LOAN REPAYMENT

The initial phase of the Peoria CSO LTCP project includes a five-year planning period with estimated \$31.5M in loan eligible project expenses. Funding for the initial five-year planning period is assumed to be provided through the SRF program. Preliminarily, the City is planning on applying for a loan annually in each year of the five-year planning period. Table 7-7 provides a preliminary estimated annual loan repayment during the five-year planning period, using an assumed 1.4% interest rate and 20-year term and the estimated annual costs from Table 4-4.

Table 7-7
Peoria CSO Initial Five-Year Planning Phase SRF Loan Repayment Summary

Year	2022	2023	2024	2025	2026
Amount Borrowed	\$6,270,000	\$6,270,000	\$6,270,000	\$6,330,000	\$6,330,000
Annual Loan Payment	\$0	\$361,000	\$721,000	\$1,082,000	\$1,446,000

7.6 PROPOSED RATE CHANGES

The City's preliminary plan for loan repayment is to implement a CSO fee. The fee would likely begin in 2023 at \$0.08/CCF, increasing to \$0.30/CCF in 2026 as summarized in Table 7-8 below.

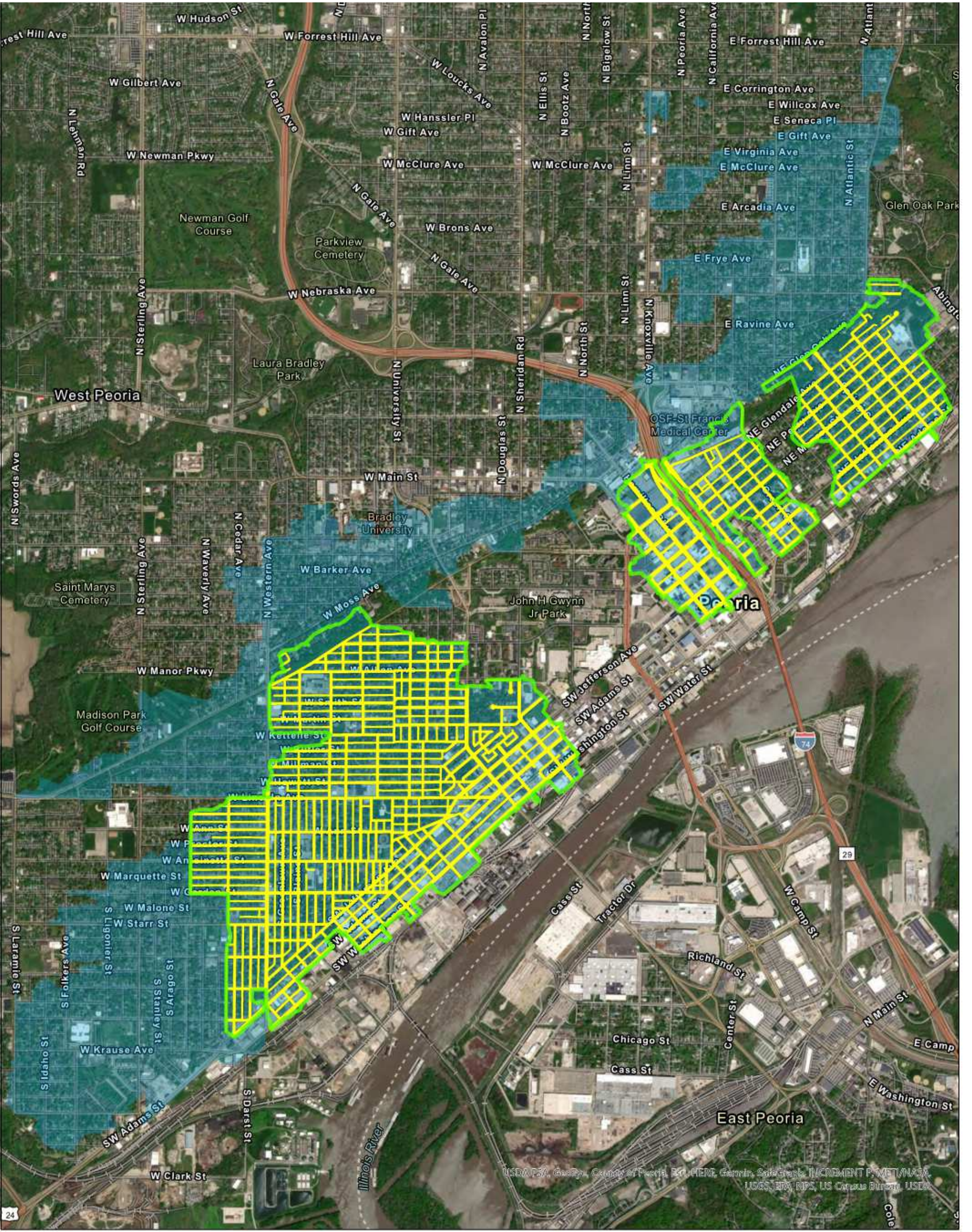
Table 7-8
Example CSO Fee to Fund Loan Repayment

Year	2022	2023	2024	2025	2026
CSO Rate per CCF	\$0	\$0.08	\$0.15	\$0.23	\$0.30
Total CCF Charged the CSO Rate	4,801,958	4,801,958	4,801,958	4,801,958	4,801,958
Total CSO Fee Revenue	\$0	\$361,000	\$721,000	\$1,082,000	\$1,446,000

7.7 DESCRIPTION OF REVENUE AND EXPENSES

Attachment H provides a summary of the City's sanitary sewer total revenue, total expenses, and associated details projected through 2026.

Attachment A
Green Infrastructure Project Planning Area



- Legend**
- Potential Location of Green Infrastructure Project
 - Drainage Area to Potential Green Infrastructure Projects
 - Combined Sewer Drainage Area

0 0.25 0.5 0.75 1 Miles



SEWERSHEDS

- 1 Clark Street
- 2 Darst Street Direct (Outfall 019)
- 3 Western & Smith (Outfall 016 & 009)
- 4 Cedar to Darst Riverfront
- 5 Sanger Street (Outfall 018)
- 6 South Street (Outfall 017)
- 7 Cedar Street Direct (Outfall 016)
- 8 Walnut to Cedar Riverfront
- 9 State Street (Outfall 014)
- 10 Walnut Street (Outfall 013)
- 12 I-74 to Walnut Riverfront
- 13 Franklin Street
- 14 Harrison Street (Outfall 011)
- 15 Liberty Street (Outfall 010)
- 16 Fulton Street (Outfall 009)
- 18 Fayette Street (Outfall 007A)
- 19 Hamilton Street (Outfalls 008 & 007A)
- 20 Main Street (Outfalls 020 & 007A)
- 21 I-74 at Riverfront
- 23 Eaton Street (Outfalls 006A & 006B)
- 24 Green Street (Outfalls 001, 006A & 006B)
- 25 Cornhill to I-74 Riverfront
- 26 Spring Street Direct (Outfall 003)
- 27 Glen Oak & Caroline (Outfall 003)
- 28 Caroline Street (Outfall 003)
- 29 Upstream of Caroline

NOTES

COMBINED STORM WATER DRAINAGE AREAS

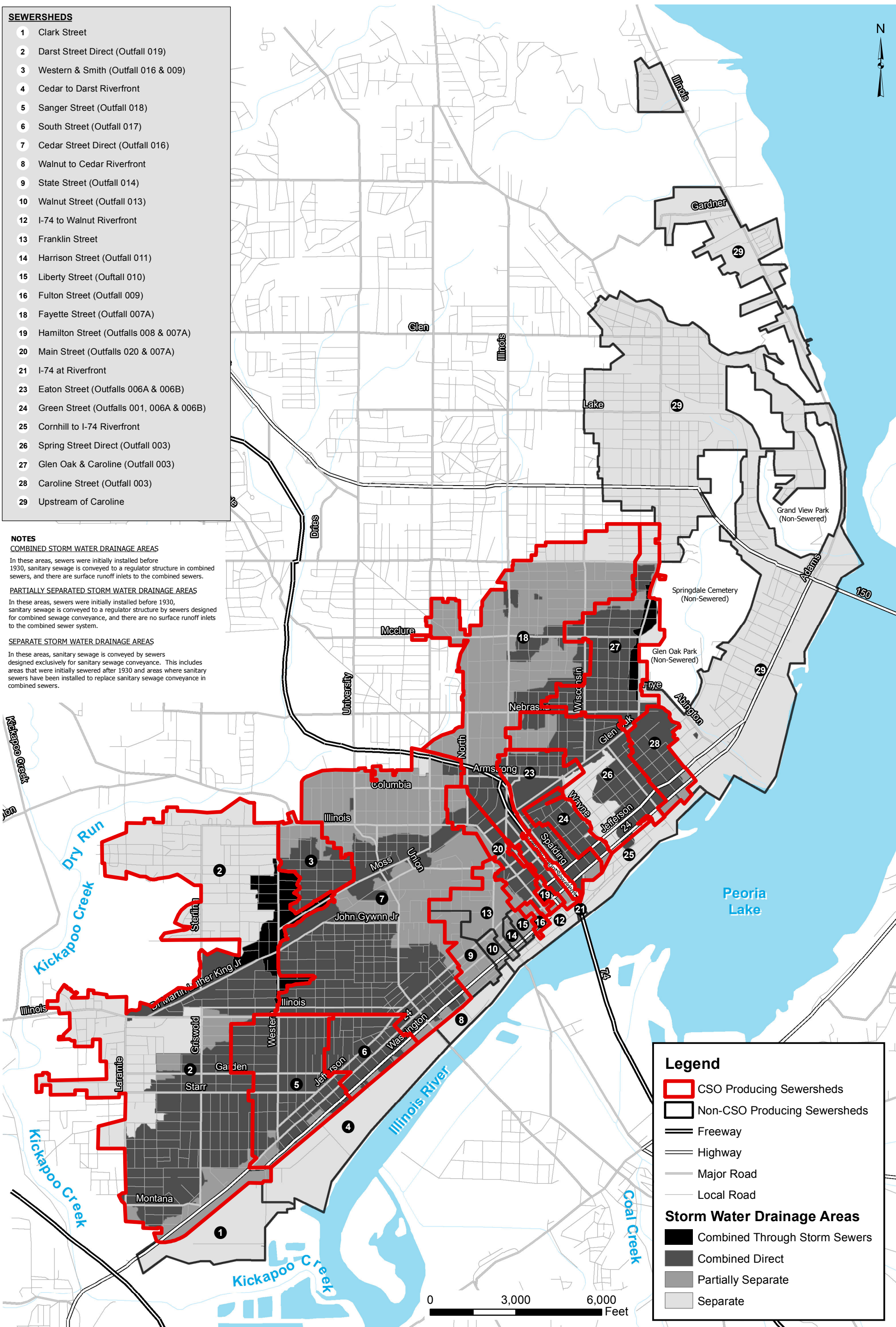
In these areas, sewers were initially installed before 1930, sanitary sewage is conveyed to a regulator structure in combined sewers, and there are surface runoff inlets to the combined sewers.

PARTIALLY SEPARATED STORM WATER DRAINAGE AREAS

In these areas, sewers were initially installed before 1930, sanitary sewage is conveyed to a regulator structure by sewers designed for combined sewage conveyance, and there are no surface runoff inlets to the combined sewer system.

SEPARATE STORM WATER DRAINAGE AREAS

In these areas, sanitary sewage is conveyed by sewers designed exclusively for sanitary sewage conveyance. This includes areas that were initially sewerred after 1930 and areas where sanitary sewers have been installed to replace sanitary sewage conveyance in combined sewers.



Legend

- CSO Producing Sewersheds
- Non-CSO Producing Sewersheds
- Freeway
- Highway
- Major Road
- Local Road

Storm Water Drainage Areas

- Combined Through Storm Sewers
- Combined Direct
- Partially Separate
- Separate



6737 West Washington Street
Suite 3440
West Allis, Wisconsin 53214
414.291.8840
FAX 414.291.8841

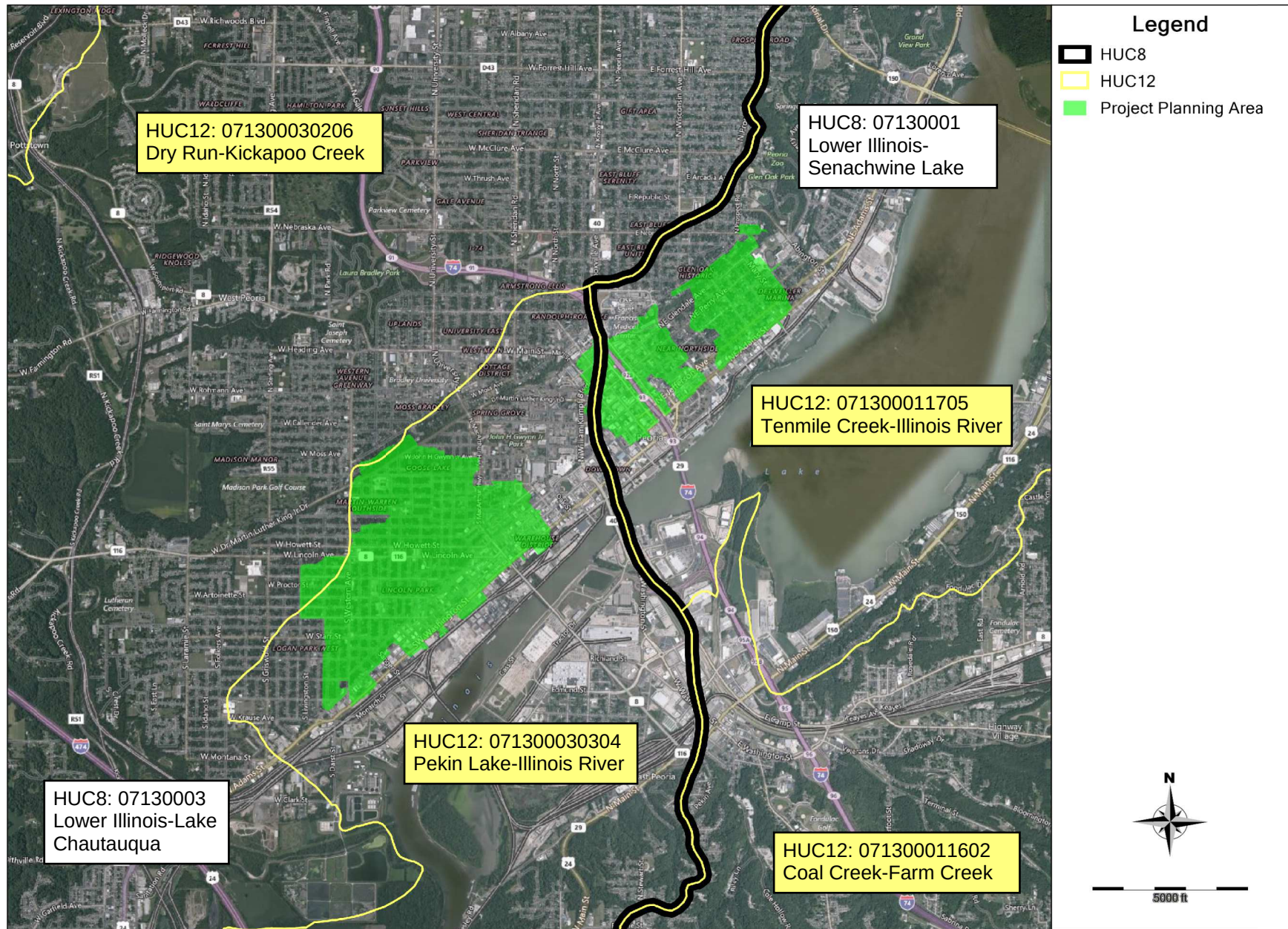
DSGN: ALP	CHK: ALP
DR: KE	APVD: ALP
PATH: G:\Projects\Peoria, City of\MapDocuments\ Sewershed_DrainageAreas.mxd	

CITY OF PEORIA
GREEN INFRASTRUCTURE
PROPOSAL

ATTACHMENT B
SEWERSHEDS AND STORMWATER
DRAINAGE AREAS

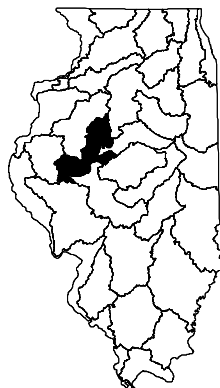
SCALE	1 inch = 3,000 feet
DWG	1
DATE	MARCH 2015
PROJ NO.	W071208

Attachment C HUC8 and HUC12 for Project Planning Area

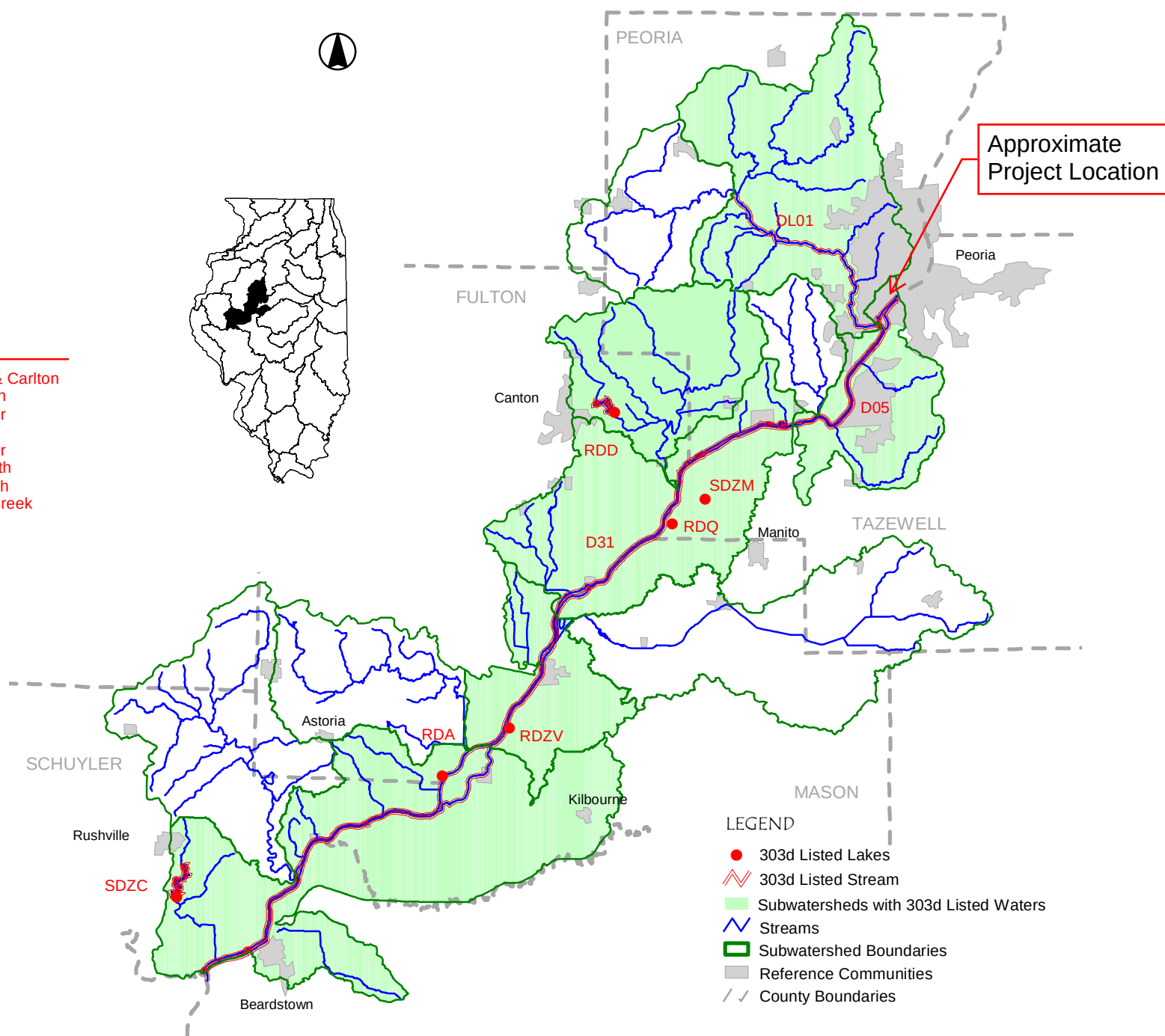


Attachment D

Middle Illinois River Watershed 303d Listed Waters (2002)



WSID	WBSEG	NAME
ILD03	RDA	Anderson & Carlton
	SDZC	Schuy-Rush
ILD05	D 05	Illinois River
ILD31	RDZV	Matanzas
ILD99	D 31	Illinois River
	RDQ	Spring South
	SDZM	Spring North
ILDL01	DL 01	Kickapoo Creek
ILDZH01	RDD	Canton



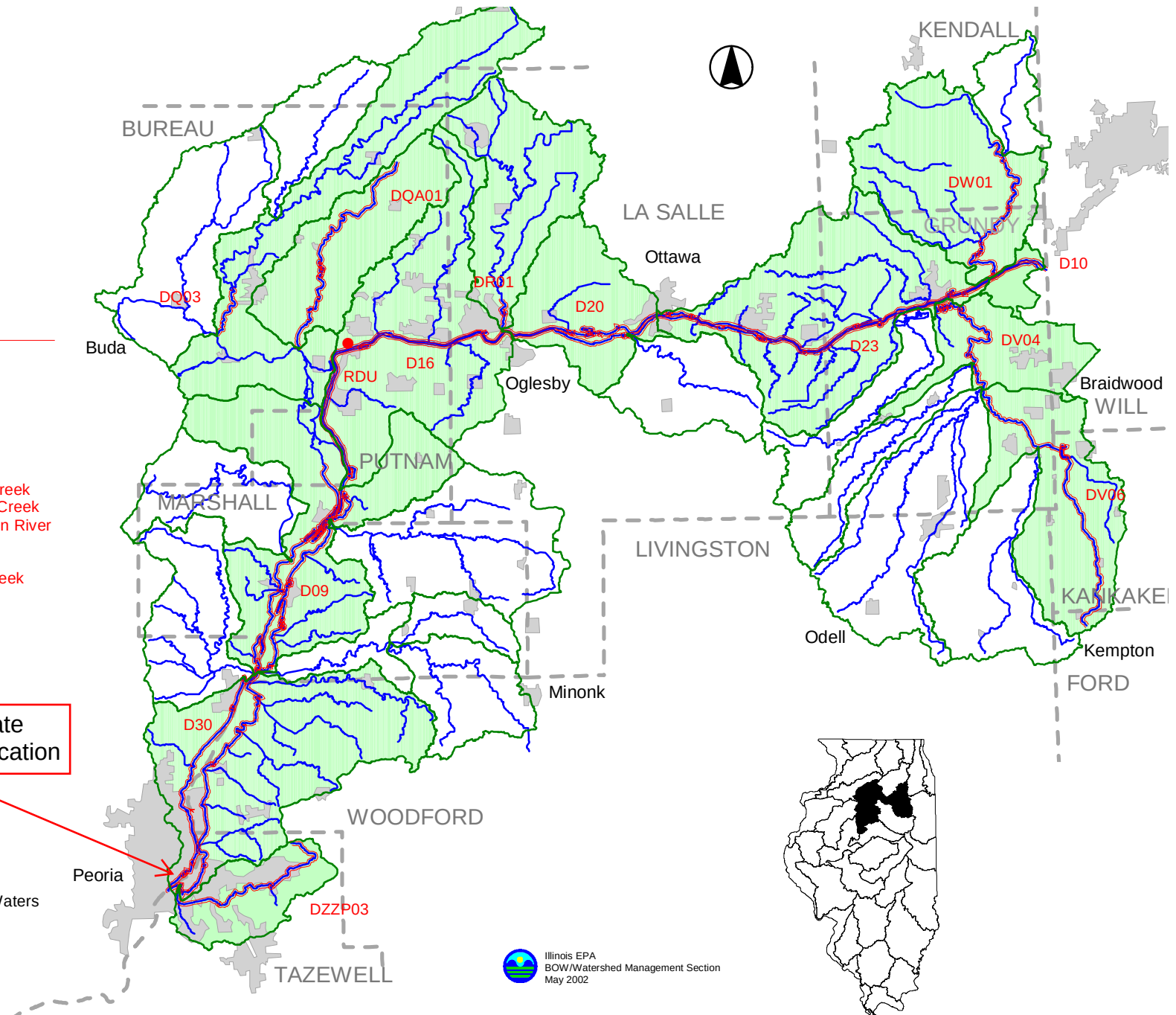
Attachment E

Upper Illinois/Mazon River Watershed 303d Listed Waters (2002)

WSID	WBSEG	NAME
ILD09	D 09	Illinois River
ILD10	D 10	Illinois River
ILD16	D 16	Illinois River
	RDU	Depue
ILD20	D 20	Illinois River
ILD23	D 23	Illinois River
ILD30	D 30	Illinois River
ILDQ03	DQ 03	Big Bureau Creek
ILDQA01	DQA 01	East Bureau Creek
ILDR01	DR 01	Little Vermilion River
ILDV03	DV 06	Mazon River
ILDV04	DV 04	Mazon River
ILDW01	DW 01	Aux Sable Creek
ILDZZP03	DZZP 03	Farm Creek

Approximate
Project Location

- LEGEND
- 303d Listed Lakes
 - 303d Listed Stream Segments
 - Subwatersheds with 303d Listed Waters
 - Streams
 - Subwatershed Boundaries
 - Reference Communities
 - County Boundaries



Attachment F
Optimized Example Project Pacing

Project Construction Years ¹	Projects to be Completed	Estimated Capital Cost by Project	Estimated Total Capital Cost	Capital Cost per Year	% of Total Capital Cost Spent to Date	% of LTCP Duration Complete	Notes
1-3	Clean and maintain RI and storage sewer at 15% grit or less	\$ 3.0	\$ 21.2	\$ 7.1	16%	17%	Complete at beginning of implementation to monitor the rate of sediment deposition; also provides significant benefit for the cost and increases RI capacity for future regulator and throttle pipe improvements
	Improve gate controls at Cedar, Fayette, and Eaton	\$ 1.0					Low cost improvements that help to maximize flow in the RI and prevent excessive surcharging of the RI
	Improve RI access at Spring and Caroline by enlarging holes to interceptor and adding control gates	\$ 1.8					Modeling shows the most overflow volume from Spring-Caroline Outfall 003; improving Spring and Caroline provides significant reduction in overflow volume
	Add in-system storage at nine locations	\$ 2.2					Provides significant benefit for the cost
	Install 3.9 acres of GI improvements below the bluff ²	\$ 13.2					Begin installing GI to allow for early GI performance monitoring and adaptive management
4-6	Improve regulator and throttle pipe and add control gate at South	\$ 3.3	\$ 20.8	\$ 6.9	32%	33%	Helps to maximize flow in the RI
	Rebuild crossing at RI and South outfall to remove restriction	\$ 2.0					Provides significant benefit for the cost and increases upstream RI capacity for future regulator and throttle pipe improvements
	Install 4.6 acres of GI improvements below the bluff ²	\$ 15.5					Continue installing GI to allow for ongoing GI performance monitoring and adaptive management
7-9	Improve regulators and throttle pipes and add control gate at Sanger	\$ 5.8	\$ 27.8	\$ 9.3	53%	50%	Complete remaining regulator and throttle pipe improvements to maximize flow in the RI
	Improve regulator, throttle pipe, and gate control at Darst	\$ 6.5 ⁴					
	Install 4.6 acres of GI improvements below the bluff ²	\$ 15.5					Continue installing GI to allow for ongoing GI performance monitoring and adaptive management
10-13	Install 6.3 acres of GI improvements below the bluff ²	\$ 21.1	\$ 21.1	\$ 5.3	69%	72%	Install remaining GI leaving only offline storage projects to be completed in final years
14-18	Construct offline storage, currently estimated as 1.8 MG at Spring-Caroline, 1.4 MG at Eaton, 0.3 MG at Fayette, and 0.4 MG at Cedar ³	\$ 41.0	\$ 41.0	\$ 8.2	100%	100%	Construct offline storage as needed to meet final performance criteria
		\$132					

GENERAL NOTES

Offline storage volumes are sensitive to proposed gate control settings.

All numbers shown are planning level estimates.

Numbers might not add up due to rounding.

Red text indicates key changes from previous Recommended Example Project Pacing Table dated 5/22/2019.

Gray shading indicates order of projects changed from previous Recommended Example Project Pacing Table dated 5/22/2019 per direction of GPSD.

KEYED NOTES

1. Construction year periods are in advance of each interim performance milestone evaluation year indicated in the 12/13/18 Draft Consent Decree (years 4, 7, 10, and 14) and the final post construction monitoring period (years 19-20). Monitored overflow volume and individual overflow discharge frequency for each evaluation year will be compared to modeled theoretical starting conditions overflow volume and individual discharge frequency for the same year to estimate overflow volume and individual discharge frequency reduction to date. Assuming each evaluation year's rainfall is the same as the typical year (1949) rainfall, and excluding the 7/21 and 12/20 events which are bigger than the events that need to be controlled, the estimated reductions with the proposed project pacing are as follows:

- Year 4: 20% overflow volume reduction required, 31% achieved (note RI level might be higher than desired, controlling flow to RI to maintain lower level will increase overflow volume)
 - Year 7: 35% overflow volume reduction required, 68% achieved; 25% individual discharge reduction required, 53% achieved
 - Year 10: 50% overflow volume reduction required, 90% achieved; 40% individual discharge reduction required, 77% achieved
 - Year 14: 70% overflow volume reduction required, 96% achieved; 60% individual discharge reduction required, 88% achieved
 - Year 19-20: Final performance criteria is no overflows for events smaller than or equal to the 6-month, 6-hour design storm, no overflows in the typical year (1949) except for the 7/21 and 12/20 events, and a system-wide overflow volume limit of 16.3 MG for the 7/21/1949 event; example projects meet this criteria.
2. Total GI is assumed to capture approximately 78% of runoff below the bluff in Sanger and South and 100% of the runoff below the bluff in Cedar, Fayette, Eaton, and Spring-Caroline. GI is currently assumed to be pervious pavement. Bioswales will likely require more GI area.
3. Offline storage updated to reflect proposed regulator and throttle pipe improvement instead of offline storage at Darst and overall improved modeled gate controls. This results in redistribution and overall reduction of the storage volumes presented in the memo and tables dated May 15, 2019.
4. Cost estimate provided by GPSD on April 25, 2019. Existing throttle pipe is 1,875 LF but only 715 LF needs to be upsized; construction cost should be reevaluated.

Attachment G

IEPA Loan Applicant Environmental Checklist

Loan Applicant: City of Peoria, IL

L17#: _____

Checklist must be signed by loan applicant's Authorized Representative (not consultant). ALL loan applicants must provide items 1 and 2 below. Items 3-6 are specific to conditions of project. See the attached guidance for instructions and contact information.

- 1) Provide record of consultation with Illinois Department of Natural Resources (IDNR) for National Historic Preservation Act, Section 106 sign-off:

Circle one: **Attached**

OR

Date requested **September 28, 2020**

- 2) Provide record of consultation with IDNR's Office of Realty and Environmental Planning regarding compliance with Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act and Illinois Interagency Wetlands Protection Act.

Circle one: **EcoCAT printout**

DNR Letter

Date DNR consultation requested: _____

OR Project is exempt from consultation per Title 17 Ill. Adm. Code Parts 1075 and 1090. If this is selected, an explanation must be attached. Exemption is rare. Check here if project is exempt _____

- 3) Yes ☒ No Project involves construction in or near a stream bank (includes stream/river crossing), floodway and/or wetland.

IF YES: By signing below applicant certifies they will comply with the Rivers, Lakes & Streams Act.

IF YES: Comments from the Army Corps of Engineers are required.

Circle one: **Attached** OR Date requested _____

- 4) Yes ☒ No Project involves conversion of prime agricultural land to other uses.

IF YES: Description and map of the area to be converted along with a discussion of the necessity of utilizing prime agricultural land for the project must be provided in planning and comments from Illinois Department of Agriculture.

Circle one: **Attached** OR Date requested _____

- 5) Yes ☒ No Project includes growth resulting in more than a 30% reserve capacity in the present or proposed service.

IF YES: Prior to planning approval a detailed discussion in the planning documents must be provided documenting potential secondary impacts of the proposed project.

WASTEWATER PROJECTS ONLY

- 6) Yes ☒ No Project is within jurisdiction of a designated Water Quality Management Agency such as Chicago Metropolitan Agency for Planning (CMAP), Greater Egypt Regional Planning & Development Commission (GERPDC) or Southwestern Illinois Planning Commission (SIPC).

IF YES to CMAP: IEPA will forward information to CMAP for comments. No further action is required.

IF YES to GERPDC or SIPC: Comments from the appropriate agency regarding the project, growth projections and Facility Planning Area (FPA) modifications (if applicable) are required.

Circle one: **Attached** OR Date requested _____

Signed: _____

Loan Applicant's Authorized Representative

Date: _____

11/24/20

Attachment G
IEPA Loan Applicant Environmental Checklist



SYMBIONTENGINEER.COM : 800.748.7423

1184 Rentsch Drive : East Peoria, IL 61611

Illinois Department of Natural Resources
Illinois State Historic Preservation Office
Attn: Review and Compliance
1 Old State Capitol Plaza
Springfield, IL 62701

September 28, 2020

**RE: City of Peoria – Combined Sewer Overflow Long Term Control Plan
Implementation
Symbiont Project No. W150602**

Illinois State Historic Preservation Office:

Illinois Environmental Protection Agency loan requirements associated with the proposed project require the City to consult the Illinois State Historic Preservation Office to determine whether any special mitigative measures must be taken to comply with the Illinois State Agency Historic Resources Protection Act. Since this project, in portion, will be funded through the IEPA Revolving Loan Program, documentation of this consultation is required prior to IEPA being able to complete their review of the project planning documents.

This project is needed to reduce the frequency and severity of combined sewer overflows in the City of Peoria to the Illinois River. Work will consist of approximately seven acres of green infrastructure primarily permeable pavement and bioswales over the five-year planning period. Exact project locations are not known at this time.

Work will be confined to previously disturbed areas on existing streets and alleys and performed in City of Peoria right of way. Potential project locations are highlighted in yellow in the portion of the City's combined sewer area outlined in green and noted as Drainage Area to Potential Green Infrastructure Projects on the attached figure. Depth of excavation is assumed to be limited to four feet below existing finish grade. No structures will be impacted by the undertaking of this project.

If you have any questions or require additional information, please contact me at 309-256-4548.

Sincerely,

SYMBIONT®

Gregory M. Myroth, P.E.
Project Manager

pc: Jane Gerdes, P.E. City of Peoria

IEPA Loan Applicant Environmental Checklist

Illinois Department of
Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
<http://dnr.state.il.us>

JB Pritzker, Governor

Colleen Callahan, Director

October 02, 2020

Eric Carlson
Wood Environment & Infrastructure Solutions, Inc.
4232 N Brandywine Drive, Suite A
Peoria, IL 61614

RE: City of Peoria Combined Sewer Overflow Long Term Control Plan Implementation
Project Number(s): 2106258
County: Peoria

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 and 1090 is terminated.

Consultation for Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Consultation for Part 1090 (Interagency Wetland Policy Act) is valid for three years.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database and the Illinois Wetlands Inventory at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Adam Rawe

Adam Rawe
Division of Ecosystems and Environment
217-785-5500



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
<http://dnr.state.il.us>

JB Pritzker, Governor

Colleen Callahan, Director

October 02, 2020

Eric Carlson
Wood Environment & Infrastructure Solutions, Inc.
4232 N Brandywine Drive, Suite A
Peoria, IL 61614

RE: City of Peoria Combined Sewer Overflow Long Term Control Plan Implementation
Project Number(s): 2106259
County: Peoria

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 and 1090 is terminated.

Consultation for Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Consultation for Part 1090 (Interagency Wetland Policy Act) is valid for three years.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database and the Illinois Wetlands Inventory at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Adam Rawe

Adam Rawe
Division of Ecosystems and Environment
217-785-5500

Attachment H
Summary of City Sanitary Sewer Revenue and Expenses

	2019 Actual	2020 Estimated	2021 Projected	2022 Projected	2023 Projected	2024 Projected	2025 Projected	2026 Projected
Total Revenue								
Lateral Fees	\$ 1,755,985	\$ 1,768,500	\$ 2,031,296	\$ 2,111,877	\$ 2,111,877	\$ 2,111,877	\$ 2,111,877	\$ 2,111,877
Rehabilitation Fees	\$ 5,693,663	\$ 6,000,000	\$ 6,309,053	\$ 6,559,475	\$ 6,559,475	\$ 6,559,475	\$ 6,559,475	\$ 6,559,475
CSO Fees	\$ -	\$ -	\$ -	\$ -	\$ 361,000	\$ 721,000	\$ 1,082,000	\$ 1,446,000
Other Revenue	\$ 60,928	\$ 13,981	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loan and Bond Revenue	\$ 2,437,706	\$ -	\$ -	\$ 6,270,000	\$ 6,270,000	\$ 6,270,000	\$ 6,330,000	\$ 6,330,000
Total Revenue	\$ 9,948,282	\$ 7,782,481	\$ 8,340,349	\$ 14,941,352	\$ 15,302,352	\$ 15,662,352	\$ 16,083,352	\$ 16,447,352
Total Expenses								
Total Lateral Expenses Including Bonds	\$ 915,726	\$ 736,517	\$ 1,024,786	\$ 1,025,282	\$ 1,025,788	\$ 1,026,304	\$ 1,026,830	\$ 1,027,367
Total Rehabilitation Expenses Including Bonds	\$ 7,231,987	\$ 4,194,812	\$ 3,532,341	\$ 5,729,417	\$ 5,655,518	\$ 4,384,021	\$ 4,293,202	\$ 4,288,745
Total CSO Expense	\$ -	\$ -	\$ -	\$ 6,270,000	\$ 6,631,000	\$ 6,991,000	\$ 7,412,000	\$ 7,776,000
Total Expenses	\$ 8,147,713	\$ 4,931,329	\$ 4,557,127	\$ 13,024,699	\$ 13,312,306	\$ 12,401,325	\$ 12,732,032	\$ 13,092,112
Balance (Surplus or Deficit)	\$ 1,800,569	\$ 2,851,152	\$ 3,783,222	\$ 1,916,653	\$ 1,990,046	\$ 3,261,027	\$ 3,351,320	\$ 3,355,240
Revenue and expense details								
Laterals								
Lateral Fee Revenue	\$ 1,755,985	\$ 1,768,500	\$ 2,031,296	\$ 2,111,877	\$ 2,111,877	\$ 2,111,877	\$ 2,111,877	\$ 2,111,877
Lateral Expenses	\$ 176,340	\$ 736,517	\$ 1,024,786	\$ 1,025,282	\$ 1,025,788	\$ 1,026,304	\$ 1,026,830	\$ 1,027,367
Sewer	\$ -	\$ 712,217	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Contract-Other	\$ 26,340	\$ 24,300	\$ 24,786	\$ 25,282	\$ 25,788	\$ 26,304	\$ 26,830	\$ 27,367
Transfer to General	\$ 150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lateral Balance	\$ 1,579,645	\$ 1,031,983	\$ 1,006,510	\$ 1,086,595	\$ 1,086,089	\$ 1,085,573	\$ 1,085,047	\$ 1,084,510
Rehabilitation								
Rehabilitation Fee Revenue	\$ 5,693,663	\$ 6,000,000	\$ 6,309,053	\$ 6,559,475	\$ 6,559,475	\$ 6,559,475	\$ 6,559,475	\$ 6,559,475
Rehabilitation Expenses	\$ 4,569,191	\$ 3,718,570	\$ 3,255,841	\$ 3,249,417	\$ 3,250,518	\$ 3,254,021	\$ 3,223,202	\$ 3,218,745
Debt Service	\$ 3,485,913	\$ 3,630,954	\$ 3,166,473	\$ 3,158,262	\$ 3,157,540	\$ 3,159,183	\$ 3,126,467	\$ 3,120,075
Contract Other	\$ 85,405	\$ 87,616	\$ 89,368	\$ 91,155	\$ 92,978	\$ 94,838	\$ 96,735	\$ 98,670
Transfer to Capital	\$ 213,679	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer to SMFT	\$ 784,194	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rehabilitation Balance	\$ 1,124,472	\$ 2,281,430	\$ 3,053,212	\$ 3,310,058	\$ 3,308,957	\$ 3,305,454	\$ 3,336,273	\$ 3,340,730
CSO								
CSO Fee Revenue	\$ -	\$ -	\$ -	\$ -	\$ 361,000	\$ 721,000	\$ 1,082,000	\$ 1,446,000
CSO Expenses (debt service)	\$ -	\$ -	\$ -	\$ -	\$ 361,000	\$ 721,000	\$ 1,082,000	\$ 1,446,000
CSO Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Projects								
Capital - Other	\$ 964,476	\$ 476,242	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital - Sewer	\$ -	\$ -	\$ 276,500	\$ 1,350,000	\$ 1,275,000	\$ -	\$ -	\$ -
Capital - Future	\$ -	\$ -	\$ -	\$ 1,130,000	\$ 1,130,000	\$ 1,130,000	\$ 1,070,000	\$ 1,070,000
Total Capital Projects	\$ 964,476	\$ 476,242	\$ 276,500	\$ 2,480,000	\$ 2,405,000	\$ 1,130,000	\$ 1,070,000	\$ 1,070,000
Bond/Loan Expenditures								
CSO - Projects	\$ -	\$ -	\$ -	\$ 6,270,000	\$ 6,270,000	\$ 6,270,000	\$ 6,330,000	\$ 6,330,000
Other Sewer Projects	\$ 2,437,706	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Bond/Loan Expenditures	\$ 2,437,706	\$ -	\$ -	\$ 6,270,000	\$ 6,270,000	\$ 6,270,000	\$ 6,330,000	\$ 6,330,000



Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Stormwater Planning Submittal Checklist

Before the Agency will begin review of a Project Plan, **ALL of the items below** comprising the basic minimum requirements of a Project Plan must be included and the **page number(s) of ALL items** noted. **If any of the basic information is not provided, the planning and loan application will be returned.**

Project planning should contain all pertinent information detailed in the Ill Adm. Code Title 35, Section 365.320(e). Loan applicants should be familiar with their planning responsibilities as detailed in Section 365.320 and 330. To obtain loan funding, projects must provide an environmental benefit that improves or protects water quality.

Loan Applicant: City of Peoria, IL

Loan Number: L17

Consulting Engineer or USDA Natural Resources Conservation Service (NRCS) staff or NRCS certified technical services provider: Symbiont

Phone: (309) 249-8269

Project Description; see the attached list of IEPA loan eligible stormwater treatment projects:

Green infrastructure projects, generally consisting of permeable pavement and bioswales, constructed to reduce storm water routed to the City's combined sewer system.

Fill in the blanks with the page or section number where the information is found in the planning report.

- 1.1, 7.4

 1. Loan applicant's background information including location, existing and historical population, makeup of project area population and/or customer base, conditions affecting growth, and the proposed loan repayment period design population/customer base.
- 5.3

 2. Detailed discussion and data justifying projected population growth over the proposed loan repayment period or other information that will verify the correct sizing of the proposed project.
- 2.5

 3. Maps of the area's water shed, including identified impaired waters on the State's 303(d) list and hydrologic units. Include the 12-digit Hydrologic Unit Code(s) where the project is located. Reference www.rmms.illinois.edu for links to HUCs. The link for the State's 303(d) list is www.epa.illinois.gov/topics/water-quality/watershed-management/resource-assessments.
- 2.1 - 2.4

 4. Detailed description of the existing tributary water shed system, stormwater sewers and/or associated sanitary sewer collection systems and the receiving water body or area. Identify quantities and volumes from all sources and a unit by unit description of existing treatment facilities.
- 1.2, 2.5

 5. A clear identification of the need for the proposed project(s) and discussion of all problems or other system deficiencies, including flooding, overflows, bypasses, basement backups, surcharging, customer complaints, hydraulic conveyance/capacity problems, treatment plant performance problems/deficiencies and O, M & R programs. If no sanitary sewer system is involved, describe the existing stormwater problems and issues. Briefly describe the environmental problems and threats facing the local water bodies.
- 2.1-2.3, 3.2

 6. Detailed discussion of wet weather flow conditions and operations, the treatment facility's existing and proposed design average and design maximum flow. Where applicable, provide discussion of infiltration and inflow quantities and evaluation of sewer rehabilitation and/or separation.

- N/A (4.5) 7. Where applicable, discussion of existing and proposed NPDES Permit limits and information regarding an anti-degradation analysis pursuant to Ill Adm. Title 35, Section 302.105 for a new or modified NPDES Permit.
- 3.2, 5.3-5.4 8. Detailed discussion of all alternatives, including Best Management Practices (BMPs) and green infrastructure practices considered to address existing system deficiencies. Describe how the proposed stormwater treatment project will prevent, reduce or eliminate water quality impairments and the anticipated outputs and outcomes, including the resilience of the project to the effects of climate change, ability to increase efficiency, the capacity to restore natural hydrology, preserve or restore landscape features, environmental innovativeness and nutrient pollution removal. Explain the operational needs and requirements of the proposed project.
- 4.1-4.4 9. Cost comparison of the alternatives considered, including construction costs and O, M & R costs over the proposed project's lifetime and overall cost effectiveness.
- 1.2 10. Assessment of the chosen alternative's capability to maintain compliance with all applicable laws and regulations, including the current USDA NRCS Technical Guide and Engineering Manual and/or the Illinois Urban Manual. Are there any current violations of State or Federal laws and will the proposed project address these and future compliance issues?
- 5.0 11. Basis of design for the chosen alternative. The preliminary engineering data should include to the extent appropriate, volume and pollutant load reduction information, flow diagrams, unit process descriptions, detention times, flow rates, unit capacities, etc. to demonstrate that the proposed project will be designed in accordance with 35 Ill. Adm. Code, Section 370 and applicable USDA NRCS requirements. A website that can be used to calculate BMP pollutant load reductions can be found at <http://it.tetratech-ffx.com/steplweb>.
- 6.0 12. Inventory of environmental impacts from the chosen alternative and a discussion of the measures required during design and construction to mitigate or minimize negative environmental impacts. The discussion must address at a minimum; rare and endangered species, historic and cultural resources, prime agricultural land, air and water quality, recreational areas, wetlands, floodplains and other sensitive environmental areas.
- Note: The IEPA Loan Applicant Environmental Checklist must be signed by the loan applicant's authorized representative and submitted to the Agency with all applicable sign-offs before a final Planning approval can be issued. The checklist is available at www.epa.illinois.gov/Assets/iepa/forms/water-quality/financial-assurance/loan-applicant-environmental-checklist.pdf.
- N/A 13. Provide copies of any draft or final inter-governmental agreements and/or service agreements that are necessary to complete the proposed project, with endorsements from all parties.
- 2.4 14. Indicate whether any Watershed-based Plans and Total Maximum Daily Load (TMDL) Reports have been completed or are under development and provide copies of the report or a current website link.
- Attach. A 15. Reproducible 8.5 x 11 inch maps that show the project location in relation to the community.

4.7

16. Complete cost estimate for the proposed project including costs for design engineering, construction engineering, bidding, legal services, construction, contingency, etc. During project planning the contingency is based on 10% of the estimated project construction costs. After bidding and actual construction costs are known, the contingency allowed in the loan agreement is reduced to 3%.

N/A

17. If applicable, provide a construction cost breakdown that includes detailed quantities and associated costs for project items and detailed unit by unit costs for pipe, structures, equipment, etc.

4.8

18. An implementation plan for the proposed project that includes a schedule for design/permitting, bidding, construction start and construction completion.

7.5-7.7

19. A detailed description of how the loan will be repaid including: the estimated annual loan repayment amount; the proposed dedicated source of revenue, the estimated O, M & R costs; and financial arrangements that will be necessary to implement the proposed project.

7.1-7.7

20. If water or sewer rates will be used to repay the stormwater loan, provide a detailed description of the following: the existing sewer/water user charge system and rate structure; the basis for billing; the average customer's water consumption per billing period; the number of bill paying customers in the system; an example that shows the current costs for an average customer per billing period; any proposed user charge or rate changes; and, the projected costs for an average customer per billing period, after any proposed user charge or rate increases are added. Also provide a summary that shows the system's current annual revenue/income compared to the expenses of the system, including the proposed loan repayment.

Three copies of the Project Plan and related documents should be submitted to:

Infrastructure Financial Assistance Section (IFAS)
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Attachment #1

Water Pollution Control Loan Program (WPCLP) Project Planning Certification of Cost and Effectiveness Analysis

Loan Applicant: City of Peoria, IL

Loan Number: L17

Section 602(b)(13) of the federal Water Pollution Control Act requires all public loan recipients to complete a cost and effectiveness analysis prior to receiving a loan for wastewater-related projects from the State Revolving Fund (SRF).

Please verify that both requirements 1 and 2 have been met by checking the boxes below. The form must be signed by the loan applicant's authorized representative, and the professional engineer who completed the analysis on behalf of the loan applicant, as applicable.

- ☒ 1. Loan applicant has studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is sought under the Illinois Water Pollution Control Loan Program (WPCLP).
- ☒ 2. Loan applicant has selected, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation taking into account the following;
- a. The cost of constructing the project or activity;
 - b. The cost of operating and maintaining the project or activity over the life of the project or activity;
and
 - c. The cost of replacing the project or activity.

We certify that both requirements checked above have been completed for the project. To the best of my knowledge, this information is true and correct.

Pat H-L

Loan Applicant's Authorized Representative

11/25/30

Date

Gregory M. Myroth

Professional Engineer (P.E.)

11/25/20

Date

Symbiont

Engineering Company Name



Appendix 1

The information below provides examples of potential stormwater management best management practices (BMPs) eligible for financing under the Water Pollution Control Loan Program (Program). This list is not all-inclusive. Additional potential BMPs may be found in *Illinois' Nonpoint Source Management Program* (Illinois EPA, 2013). Inclusion of a BMP, here or in *Illinois' Nonpoint Source Management Program*, does not equate to automatic eligibility for funding under the Program. Appropriate practice location and the practice's ability to provide water quality benefits are also considered.

Streams (Rural and Urban)

- Stream channel and bioengineered bank stabilization
- Two-stage ditch
- Dam removal
- Dredging
- Meandering a channelized stream
- In-stream habitat restoration
- Reconnecting stream to floodplain

Wetlands (Rural and Urban)

- Wetland restoration or enhancement
- Wetland area protection
- New wetland development

Lakes (Rural and Urban)

- Lakeshore stabilization
- Detention practices (sediment and nutrient)
- Aeration/destratification

Agricultural

- Erosion and sediment control
- Livestock waste management
- Buffers and filter strips

Urban

- Rain gardens and rain barrels
- Permeable and porous pavements
- Green roofs
- Bioswales
- Stormwater
- Wetlands
- Infiltration basins/trenches
- Cisterns
- Downspout and illicit inflow disconnections (from CSOs and SSOs)
- Stormwater reuse systems
- Infiltration planters
- Detention basin retrofits
- Sand filters

Riparian Zone (Rural and Urban)

- Buffers and filter strips
- Riparian wetland restoration