CWSRF PROJECT PLAN AMENDMENT FOR SANITARY DISPOSAL SYSTEM REHABILITATION PROGRAM

FOR CITY OF PONTIAC

April 7, 2023
HRC Job No. 20220899

PREPARED BY:

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Versions:
Draft April 7, 2023

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SECTION 1.0 — SUMMARY AND RECOMMENDATION

1.1 SUMMARY

The 2023 Project Plan Amendment for the City of Pontiac Sewage Disposal System (SDS) Rehabilitation Program has been prepared using the Project Plan Preparation Guidance of the Clean Water State Revolving Fund (CWSRF) Administrative Rules updated in January of 2023. This Project Plan was prepared as an amendment to the submitted and approved 2022 Project Plan. While the rates have not been set yet for FY2024, the rates in FY2023 were 1.875% and 2.125% for 20-year loans and 30-year loans, respectively. These rules call for compliance with the basic Federal Planning Requirements and the National Environmental Policy Act (NEPA). This Project Plan will serve as a basis for project prioritization and must be submitted to the Michigan Department of Environment, Great Lakes, & Energy (EGLE) by May 1, 2023 in order to be on the project priority list for the fiscal year of 2024.

The proposed projects listed herein as part of the CWSRF Project Plan are to address National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) and Manhole Assessment Certification Program (MACP) structurally rated Level 4 and 5 defects that were found in pipes and structures in the sanitary sewerage system. These repairs and rehabilitations are anticipated to also help reduce inflow and infiltration (I/I) from the Pontiac SDS and the Clinton River Water Resource Recovery Facility (CRWRRF,) which are currently under a consent judgement with the State to reduce wet weather flows and/or build a sewage retention basin.

Because the system received an grant through the “American Recovery Plan” (ARP) that provided 100% funding for the $12.75M of work proposed in the FY2022 CWSRF Project Plan, the Oakland County Water Resources Commissioner (WRC) decided to pursue additional financing through a low interest loan and/or additional grant financing to continue with addressing the backlog of defects identified in the system. A copy of the FY2022 Project Plan is included in Appendix A.

1.2 CONCLUSIONS

The rehabilitation projects will be refined during the design phase, but will likely include all or some of the following types of rehabilitation:

- Removal of I/I from sanitary sewer lateral services (residential sanitary sewer leads.) The existing sanitary sewer laterals are vitrified clay pipe and leak at the joints. The proposed project would use either a Cured-In-Place (CIPP) to line the existing clay service laterals or possibly reconstruct the laterals, if needed. The goal of the project is to reduce I/I at the source to decrease the size of the sewage retention tank and the costs to the residents of Pontiac.
- Repair and/or rehabilitation of existing sanitary sewer pipes to address NASSCO PACP Level 4 and 5 structural defects that have been identified, in order to reduce overall risk to the system.
- Repair and/or rehabilitation of existing sanitary sewer structures to address NASSCO MACP Level 4 and 5 structural defects that have been identified, in order to reduce overall risk to the system.

1.3 RECOMMENDATIONS

The selected projects identified in this Plan are the most cost-effective and environmentally preferred alternatives. The following recommendations are therefore made:

- The WRC, which administers the Pontiac Sewage Disposal System, should pass the resolution formally adopting this Plan and identifying an authorized representative.
- WRC should apply for a low-interest loan under the CWSRF program and submit an overburdened community form to potentially be eligible for grant funding or principal forgiveness.

SECTION 2.0 — PROJECT BACKGROUND

2.1 STUDY AREA DESCRIPTION:

The city of Pontiac is located in the Mideast section of Oakland County. It is bordered by Bloomfield Township to the south, the city of Auburn Hills to the east, Waterford Township to the west and the cities of Auburn Hills and Lake Angelus to the north. The City consists of approximately 20.29 square miles (12,983.8 acres). The project areas are located in T3N-R10E-Sections 5, 7-10, 15-18, 19-22, 27-30, 31-34, and T3N-R10E-Sections 3-5 of the city of Pontiac. The Pontiac SDS consists of over 272 miles of various diameter sanitary sewers, 11 lift stations, and conveys sanitary flows to the Clinton River Water Resource Recovery Facility (CRWRRF) which is sometimes referred to as the Pontiac WRRF located within Section 27, Township 3N, Range 10E.

In addition to serving the City of Pontiac, the Pontiac SDS also serves a portion of the city of Sylvan Lake (829 parcels, a second-tier customer). The project locations will be coordinated with other planned water and road infrastructure projects around the city. Since the project locations will be spread out around the city SDS, the Study Area is anticipated to be city-wide.

2.2 ENVIRONMENTAL SETTING

A copy of the FY2022 Project Plan is included in Appendix A. There have been no changes to the environmental setting, system description, economic or demographic data for the Study Area since that Plan was developed.

2.3 WORK COMPLETED SINCE LAST PROJECT

The 2022 Project Plan work is currently on-going as is in the design phase with a goal of bidding the project(s) in summer/early fall. The proposed projects will focus on structural rehabilitation of sanitary sewer pipes and structures, with two primary areas identified, one on the east side of Woodward and the other on the west side of Woodward. Both projects will focus on structural CIPP lining and grouting projects due to the limited timeframe for spending the money and design.

2.4 NEED FOR PROJECT

Even after the FY2022 sewer and manhole rehabilitation projects are complete, there still will be a significant amount of sewer assets that have PACP and/or MACP Level 4 and 5 structural defects. The need for project is the same as the 2022 Project Plan. The primary issue resulting in the need for a project is that POCSDS is predicted to generate wastewater more than the CRWRRF capacity for the 25-year, 24-hour growing season design event that is described in the Consent Judgement.

SECTION 3.0 — ALTERNATIVE ANALYSIS/SELECTED ALTERNATIVE

3.1 ALTERNATIVE ANALYSIS

The FY2022 Project Plan reviewed the following alternatives:

- Alternative 1 – Storage
- Alternative 2 – Footing Drain Disconnection
- Alternative 3 – Sewer Rehabilitation and Lateral Lining
- Alternative 4 – Increased CRWRRF Capacity
- Alternative 5 – "No Action"
- Alternative 6 – Regionalization
- Alternative 7 – Hybrid of Sewer Lining and Storage

The present worth analysis found that the work proposed as part of Alternative 3, Sewer Rehabilitation and Lateral Lining was the most cost-effective and environmentally preferred alternative. This work proposed in this FY2023 Project Plan will include more of that work to address some of the remaining structural defects in the sanitary sewer system.

3.2 SCHEDULE

These projects will be coordinated with other City utility projects when applicable. Table 4-1 provides a proposed fiscal year 2024 quarter four (4) loan closing schedule for the project.

Table 3-1. Proposed Design and Construction Schedule

Engineering Service	FY2022 Q4 Timeframe	
	Design	Feb 2024 – Jun 2024
SDS Improvements	Construction Start	Aug 2024
	Construction End	Dec 2024

3.3 COST ESTIMATE

The estimated 2023 total project cost for the proposed project is approximately $7,250,000.

This is a budget developed using the previous cost estimates to continue to perform similar work. We understand that costs likely have increased over the previous year, so the unit costs and proposed length of sewer and number of structures to be rehabilitated will be adjusted using those new unit rates.

3.4 USER COSTS AND COST SHARING

The costs as described above will be paid for by user charges. Table 4-2 below shows a summary of estimated user cost for users associated with this project over a 20-year period for the City users. In summary, the anticipated impact to the average consumer household would be an approximate cost of $1.11 per month. This cost does not reflect the possibility of obtaining additional principal forgiveness and/or grant funding, if still available, which would lower the monthly cost to residents.

Table 3-2. User Cost Summary

	PONTIAC SDS CWSRF	
Total Capital & Annual O&M Costs, Alternative 3:	**Annual Cost:** $7,250,000	**Total Parcels:** 27,290
ESTIMATED MONTHLY USER COST: (With no principal forgiveness/grant)	**20 Year Loan** $1.11	

SECTION 4.0 — FISCAL SUSTAINABILITY, IMPACTS AND MITIGATION

4.1 GENERAL

Because the projects are the same types of rehabilitation and repair work proposed in the FY2022 CWSRF Project Plan, the impacts and mitigation will be similar. In general, the short and long-term impacts are anticipated to be minor, mainly related to the temporary disruption associated with construction. These include increased traffic, potential temporary road closures, and dust, etc. These impacts will be mitigated by working within the City's required construction ordinances, obtaining all required permits, and minimizing dust and soil erosion through proper controls and permitting.

The work will all take place on existing sanitary sewer assets that were constructed and are generally located in roadway rights-of-way and/or existing utility easements. Temporary easements may be required for construction, but there will be no impact to the aesthetic setting of any sites and all areas impacted by construction will be restored to the existing conditions.

The WRC also maintains a comprehensive asset management program, which will be updated and used to ensure that all assets associated with this project will have the fiscal resources to sustain their operation into the future.

SECTION 5.0 — PUBLIC PARTICIPATION

5.1 ADDITIONAL EGLE SUBMITTAL FORMS

Appendix B includes the following:

- EGLE's signed Project Plan Submittal Form
- The signed Project Useful Life and Cost Analysis Certification Form
- The Project Priority List (PPL) Scoring Data Form

5.2 PUBLIC MEETING

A Public Meeting is scheduled for April 25th, 2023.

- WRC Office: One Public Works Building #95W, Waterford Twp, MI 48328

5.3 PUBLIC MEETING ADVERTISEMENT AND SUMMARY

A summary of the public meeting, including any comments or questions from the public, will be provided in the final version of the project plan in Appendix C.

5.4 ADOPTION OF THE PROJECT PLANNING DOCUMENT

A resolution adopting the Project Plan, if approved by the WRC, will be provided in the final version of the project plan in Appendix D.

5.5 OVERBURDENED STATUS FORM

Appendix E includes the following:

- The Overburdened Community Status Determination Worksheet

Appendix A — FY2022 CWSRF Project Plan

CWSRF PROJECT PLAN
FOR THE CITY OF PONTIAC
SEWAGE DISPOSAL SYSTEM IMPROVEMENTS
FOR OAKLAND COUNTY WATER RESOURCES COMMISSIONER

May 31, 2022
HRC Job No. 20210994

PREPARED BY:

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Versions:

Draft March 27, 2022

Final May 31, 2022

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Appendix A – City of Pontiac Consent Judgement
Appendix B – CWSRF Agency Correspondence
Appendix C – Pontiac 2014 Project Performance Certification Monitoring and Modeling Report Executive Summary
Appendix D – Pontiac 2018 I/I Analysis using Mass Flow Monitoring Executive Summary & Quarterly Monitoring Report
Appendix E – Pontiac 2019 SSES Report Executive Summary
Appendix F – Clinton River WRRF 2020 Operation and Optimization Plan Executive Summary
Appendix G – Pontiac 2022 WWTF & Sewer System Annual Report
Appendix H – POCSDS SWMM Model Update
Appendix I – Huron Gardens Subdivision Sanitary Sewer Service Rehabilitation Executive Summary
Appendix J – CWSRF Project Costs
Appendix K – CWSRF FSP Supporting Documents
Appendix L – CWSRF Public Hearing Documents
Appendix M – CWSRF Project Submittal Forms

NOTE: FY 2022 PROJECT PLAN APPENDICES ARE AVAILABLE IN THE HARD COPY VERSION AT THE OFFICE OF THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER, ONE PUBLIC WORKS DRIVE, WATERFORD MI.

CHANGES MADE SINCE DRAFT PUBLICATION

The following items summarize the modifications made to this 2022 CWSRF Project Plan, since the Draft CWSRF Project Plan was issued on March 27, 2022. The Draft Project Plan was sent to EGLE for review. Comments from EGLE were received on May 11, 2022 and addressed on May 24, 2022.

Section 1 – Executive Summary

- The text was revised to indicated that a list of all National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) structurally rated 4 and 5 pipes in the sanitary sewerage system can be found in Appendix J.

Section 2 – Project Background

- *None*

Section 3 – Analysis of Alternatives

- The phrase "Pilot" was changed to "Phase 1" in order to eliminate confusion.
- The text was revised to indicate that all construction proposed in this Project Plan will be completed in fiscal year 2023.

Section 4 – Selected Alternative

- A summary list of all NASSCO structurally rated 4 and 5 sewer segments with associated planning-level rehabilitation costs is included in Appendix J.
- The schedule has been revised to clarify that all construction proposed in this Project Plan will be completed in fiscal year 2023.

Section 5 – Fiscal Sustainability Plan

- *None*

Section 6 - Evaluation of Environmental Impacts

- *None*

Section 7 – Mitigation

- *None*

Section 8 – Public Participation

- Public Participation documents and information were updated since Public Hearing took place on April 26, 2022.

SECTION 1.0 — SUMMARY AND RECOMMENDATION

1.1 SUMMARY

The Project Plan for the City of Pontiac Sewage Disposal System (SDS) Improvements Project has been prepared using the Project Plan Preparation Guidance of the Clean Water State Revolving Fund (CWSRF) Administrative Rules. While the rates have not been set yet for FY2023, the rates in 2022 are 1.875% and 2.125% for 20-year loans and 30-year loans, respectively. These rules call for compliance with the basic Federal Planning Requirements and the National Environmental Policy Act (NEPA). This Project Plan will serve as a basis for project prioritization and must be submitted to the Michigan Department of Environment, Great Lakes, & Energy (EGLE) by June 1, 2022 in order to be on the project priority list for the fiscal year of 2023.

The proposed projects listed herein as part of this CWSRF Project Plan are to remove inflow and infiltration (I/I) from the Pontiac SDS and to address National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) structurally rated 4 and 5 pipes and structures in the sanitary sewerage system. A list of these pipe segments can be found in Appendix J. The Pontiac SDS and the Clinton River Water Resource Recovery Facility (CRWRRF) are under a consent judgment with the State to reduce wet weather flows and/or build a sewage retention basin. Refer to Appendix A for a copy of the consent judgment.

One project consists of the removal of I/I from sanitary sewer lateral services (residential sanitary sewer leads) as the main priority, along with a potential footing drain disconnection program. The existing sanitary sewer laterals are vitrified clay pipe and leak at the joints. The proposed project would use either a Cured-In-Place Pipe (CIPP) to line the existing clay service laterals or possibly reconstruct the laterals, if needed. The goal of the project is to reduce I/I at the source to decrease the size of the sewage retention tank and the costs to the residents of Pontiac.

The other project is to address NASSCO structural 4's and 5's found in the sanitary system's sewers and manholes to reduce overall risk to the system.

The Oakland County Water Resources Commissioner (WRC) welcomes any funding available to assist with the Pontiac SDS to rehabilitate this aged system at a minimal cost to a community with limited financial resources.

1.2 CONCLUSIONS

The following is a summary of the proposed projects:

- CIPP lining of residential sanitary sewer service laterals to remove I/I from sanitary system.
- Structural repair, rehabilitation and/or replacement of sanitary sewers and manholes that have NASSCO structural 4's or 5's and have a high business risk evaluation score.

1.3 RECOMMENDATIONS

The selected projects identified in this Plan have been reviewed and found to be the most cost-effective and environmentally-sound alternatives. The following recommendations are therefore to be made:

- A resolution should be formally adopted approving acceptance and implementation of this Plan.
- The WRC should apply for a low-interest loan under the CWSRF program and apply for disadvantaged grant funding and/or principal forgiveness.

SECTION 2.0 — PROJECT BACKGROUND

2.1 STUDY AREA DESCRIPTION:

The city of Pontiac is located in the Mideast section of Oakland County. It is bordered by Bloomfield Township to the south, the city of Auburn Hills to the east, Waterford Township to the west and the cities of Auburn Hills and Lake Angelus to the north. The City consists of approximately 20.29 square miles (12,983.8 acres). The project areas are located in T3N-R10E-Sections 5, 7-10, 15-18, 19-22, 27-30, 31-34, and T3N-R10E-Sections 3-5 of the city of Pontiac. The Pontiac SDS consists of over 272 miles of various diameter sanitary sewers, 11 lift stations, and conveys sanitary flows to the Clinton River Water Resource Recovery Facility (CRWRRF) which is sometimes referred to as the Pontiac WRRF located within Section 27, Township 3N, Range 10E.

In additional to serving the City of Pontiac, the Pontiac SDS also serves a portion of the city of Sylvan Lake (829 parcels, a second-tier customer) and very small portions of Waterford Township and Bloomfield Township. The delineation of the City of Pontiac SDS and the city of Pontiac Sanitary Service Area are shown on Figure 2-1 and Figure 2-2, respectively.

The project locations will be coordinated with other planned water and road infrastructure projects around the city. Since the project locations will be spread out around the city SDS, the Study Area is anticipated to be city-wide.

2.1.1 Sanitary Sewerage System

The sanitary sewerage system includes the sewers, manholes and siphons that collect sanitary sewerage from the customers and convey it to the CRWRRF. There are approximately 272 miles of 4" to 78" diameter sewers, and 6,200 manholes in the system. The system was originally constructed and maintained by the city of Pontiac. However, in 2012, the office of the Oakland County Water Resources Commissioner (WRC) purchased the SDS from the city of Pontiac to assist address debt and other financial issues the City was experiencing.

Due to the transfer of ownership and lack of complete records, the actual age of the assets are often unknown and dates of any major rehabilitation undertaken is also unknown. See Figure 2-2 for a map of the general system.

2.1.2 Lift Stations

The sewerage system also includes 11 lift stations. Original installation dates are not known; however, rehabilitation took place in 2016 and 2017. See Figure 2-1 for a map of these locations.

2.1.3 Inflow and Infiltration

Significant portions of the Pontiac SDS, see Figure 2-1, consist of clay-pipe sewers that are estimated to be 75 years old or more, and that experience significant levels of inflow and infiltration (I/I.) During substantial wet weather events, total system flow rates can exceed the treatment capacity of the CRWRRF. Even though the system includes a three (3.5) million-gallon (MG) equalization basin, the CRWRRF must sometimes discharge partially treated wastewater to surface waters during these wet weather events.

Due to the history of partially treated wastewater discharges, the city of Pontiac and EGLE entered into a Consent Judgment in 2009 with specific actions to be taken to minimize the likelihood of future discharges. The WRC now has responsibility for the requirements of the Consent Judgment. Refer to Appendix A for a copy of the Judgment.

Figure 2-1:
City of Pontiac and Pontiac Township Sanitary Sewer Systems

CWSRF Project Plan
Job # 20210994
March 2022

Maps prepared by:

WRC
WATER RESOURCES COMMISSIONER
Jim Nash

1 Public Works Drive, Bldg 95W
Waterford, Michigan
48328-1907

DISCLAIMER:

The information displayed in this map is compiled from recorded deeds, plats, tax maps, surveys and other public records. Although this information is intended to accurately reflect public information, it is not a legally recorded map or survey and is not intended to be used as one. Users should consult primary/original information sources where appropriate.

N

1 inch = 2200 feet

LEGEND

- Sewer Flow Regulator
- Sanitary Wastewater Treatment Plant
- Community Septic
- Sanitary Retention Basin
- Sanitary Lift Station
- Sanitary Flow Level Monitoring Site
- Sanitary Flow Meter
- Sanitary Vault
- Sanitary Retention/Detention Vault/Basin
- Sanitary Large Pipe
- Sanitary Interceptor
- Sanitary Trunk
- Sanitary Lateral
- Sanitary Siphon
- Sanitary FM Inteceptor
- Sanitary FM Trunk
- Sanitary FM/PrS Lateral
- Municipal District
- Rain Gauge
- Combined Flow Regulator
- Combined Retention Treatment Basin
- Combined Lift Station
- Combined Flow Level Monitoring Site
- Combined Vault
- Combined Retention/Detention Vault/Basin
- Combined Large Pipe
- Combined Interceptor
- Combined Lateral
- Combined Siphon
- Combined FM Interceptor
- Combined FM Trunk
- Combined FM/PrS Lateral
- Clinton-Oakland Sewage Disposal System
- Commerce-White Lake Sewage Disposal System
- Evergreen-Farmington Sewage Disposal System
- Huron-Rouge Sewage Disposal System
- Oakland-Macomb Sewage Disposal System
- Pontiac Sewage Disposal System
- Southeastern Sewage Disposal System
- Walled Lake-Novi Sewage Disposal System

Revision Date: March 20, 2017
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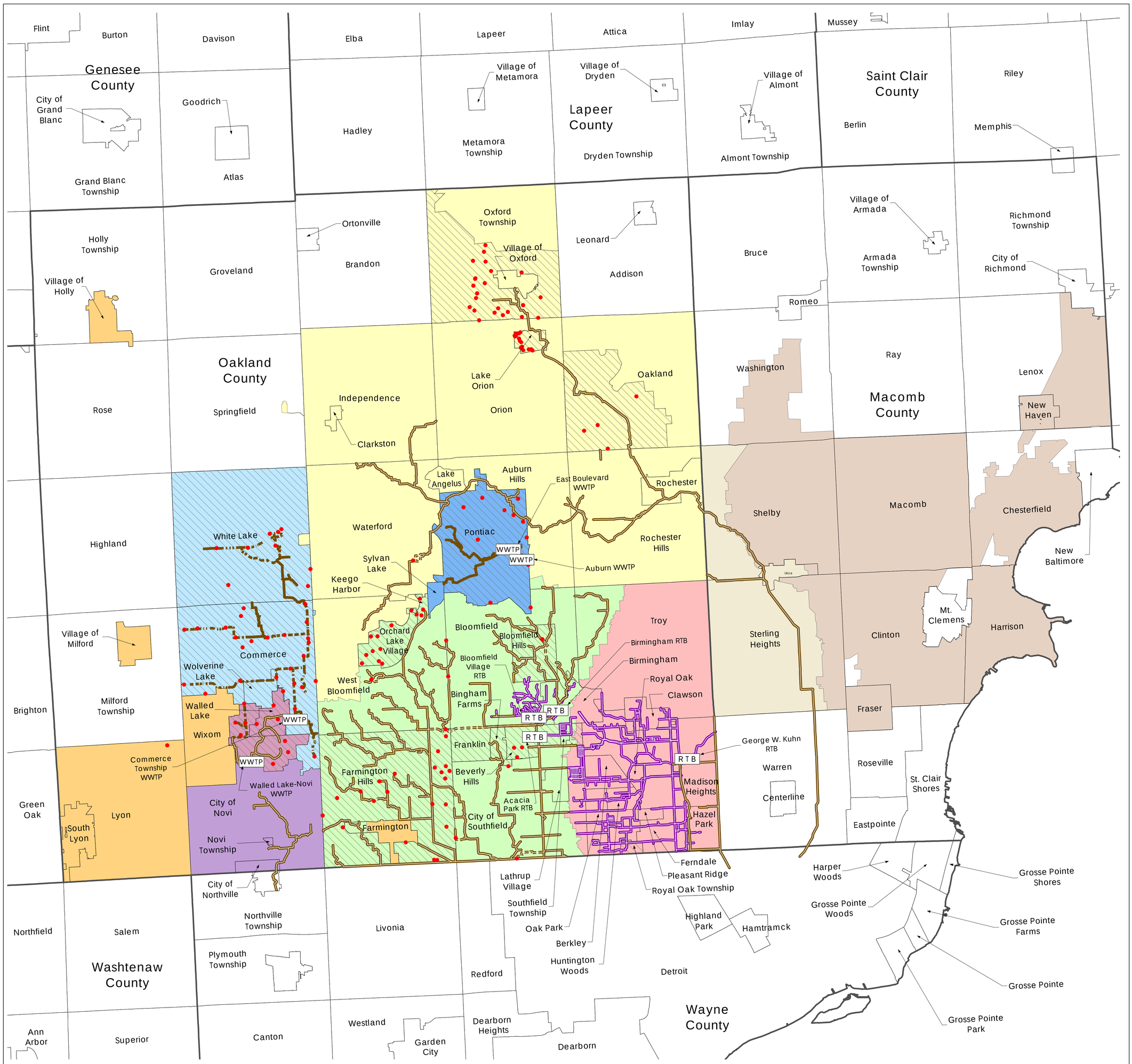


Legend

- WWTP — Wastewater Treatment Plant
- Online Sanitary Lift Station
- Online Sanitary Interceptor
- Online Sanitary Trunk
- Online Sanitary Interceptor Force Main
- Online Sanitary Trunk Force Main
- RTB — Retention Treatment Basin
- Online Combined Interceptor

Sewer Service Areas

- Municipal Lateral Sewer Systems Operated by WRC

Sewage Disposal Systems

- Clinton-Oakland Sewage Disposal System
- Commerce-White Lake Sewage Disposal System
- Evergreen-Farmington Sewage Disposal System
- Huron-Rouge Sewage Disposal System
- Macomb Sewage Disposal System
- Oakland-Macomb Sewage Disposal System
- Pontiac Sewage Disposal System
- Southeastern Sewage Disposal System
- Walled Lake-Novi Sewage Disposal System
- Municipally Operated Sewage Disposal Systems

Figure 2-2:
Oakland County Maintained Sanitary/Combined Interceptor and Trunk Sewers

N

Not To Scale

CWSRF Project Plan
Job # 20210994
March 2022

WRC
WATER RESOURCES COMMISSIONER
Jim Nash

Revision Date: August 22, 2013
J:\DrainMapping\Unit\System Maps\Sanitary-Combined\Sewage Disposal System Maps\36X48SDS Interceptor & Trunk Sewers.mxd

FIGURE 2-3: CITY OF PONTAIC NATIONAL WETLANDS MAP

City of Pontiac

CWSRF Project Plan
Job # 20210994
March 2022

Legend
Service Area

FIGURE 2-4: CITY OF PONTAIC WETLANDS MAP

Wetlands

- Lake
- Estuarine and Marine Wetland
- Freshwater Pond
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland

Legend

- Service Area

City of Pontiac

CWSRF Project Plan
Job # 20210994
March 2022

2.1.4 Lakes, Rivers, Ponds, and Wetlands

The general locations of wetlands are shown in relation to the proposed project locations according to data from the National Wetlands Inventory and the U.S. Fish and Wildlife Service (USFWS). Figure 2-3 and Figure 2-4 depicts natural wetland features within the city. An official field review would need to be performed during design of the project to determine the presence or absence of any potentially regulated Part 303 of Public Act 451 of 1994, as amended wetlands.

2.1.5 Parks and Recreation Areas

See Figure 2-5 for the City's zoning map and locations of recreation areas within the city.

2.2 LAND USE IN STUDY AREA

2.2.1 Current Use

According to the City of Pontiac – 2014 Master Plan Update, the largest three (3) land use types within the City of Pontiac (excluding open space and utilities) are single–family residential (23%), Public/Institutional (9%), and Industrial (7%). The existing zoning of each parcel within the City of Pontiac is shown in Figure 2-5 and summarized as follows in Table 2-1.

2.2.2 Predicted Land Use

The predicted future land use within the service area is expected to be consistent with the existing conditions since much of the service area is fully developed.

Table 2-1. Study Area Land Use Acreage

Land Cover Type	Acreage	Percent of Total Area
Single Family Residential	3002	23%
Multiple Family	535	4%
Mobile Home Park	67	1%
Commercial/Office	592	5%
Industrial	889	7%
Public/Institutional	1,106	9%
Recreation/Open Space	893	7%
Agricultural/ Rural	118	1%
TCU	1339	10%
Vacant	2,149	17%
Water	271	2%
Not Parceled	2,025	16%
Total	**12,986**	**100%**

**Data provided by SEMCOG land use data: https://semcog.org/community-profiles#Land*

FIGURE 2-5: CITY OF PONTIAC ZONING MAP

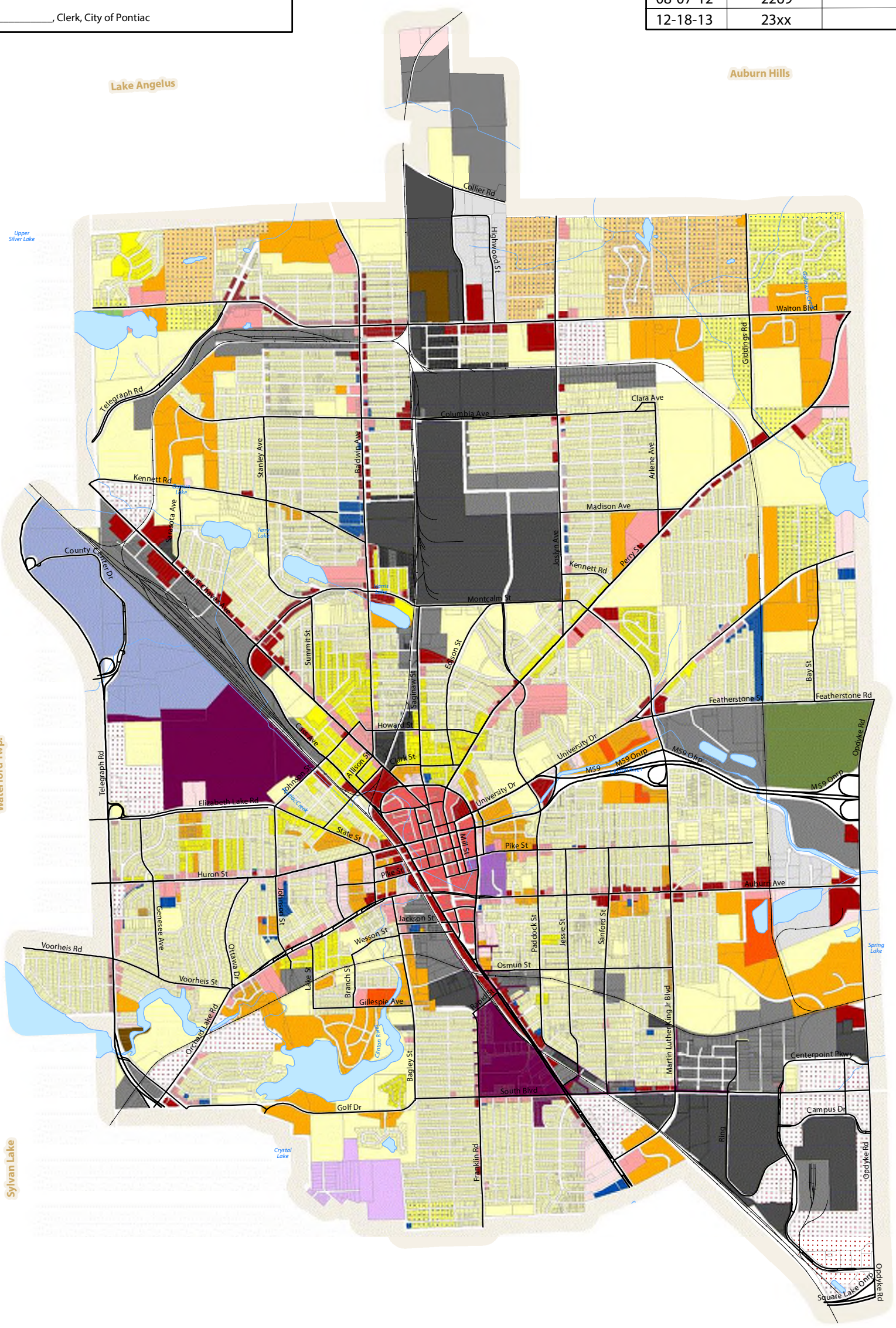
Zoning Map

City of Pontiac, Michigan

CERTIFICATION
I, _____, City Clerk, City of Pontiac, do hereby certify that this is a true copy of the map adopted by the Emergency Manager of the City of Pontiac, Oakland County, Michigan, on the _____ day of ___, ____, as well as those amendments made as of the revision dates shown.

_____, Clerk, City of Pontiac

Date	Ordinance #	Date	Ordinance #
02-02-12	2250	07-16-14	xxxx
04-17-12	2257	11-26-14	xxxx
03-27-12	2251		
06-22-12	2264		
08-07-12	2269		
12-18-13	23xx		



Residential Districts

- R1A Medium Lot One Family Dwelling
- R1B Large Lot One Family Dwelling
- R-1 One Family Dwelling
- R-2 Two Family and Terrace Family Dwelling
- R-3 Multiple Family Dwelling
- R-4 Multiple Family Dwelling Elevator Apartment
- R-5 Trailer Coach Park
- R-O Recreation Open Space

Mixed Use Districts

- C-0 Office Business
- C-1 Local Business
- C-2 Downtown
- C-3 Corridor Commercial
- C4 Suburban Business
- T-C Town Center
- C-C Civic Center
- MUD Mixed Use District
- GOT Government Office Technical District

Other Districts

- IP-1 Industrial Park
- M-1 Light Manufacturing
- M-2 Heavy Manufacturing
- P-1 Parking
- SP Special Purpose

The parcel lines of this map are representational of the actual parcel lines and are not intended to be substituted for an official survey or used to consult official City of Pontiac records for precise distances, boundaries and areas of parcels.

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0 750 1,500 3,000 Feet

WadeTrim

\\dtdata\projects\PON7000\01d\Gis-Data\Projects\Zoning_Map_January_2015.mxd

2.2.3 Population Data

According to Southeast Michigan Council of Governments (SEMCOG), the 2020 United States Census estimated the population for the City of Pontiac as 61,606, which is an increase of approximately 2,000 people since 2010. The U.S. 2020 Census Bureau data estimated the average household size in the County at 2.3 people per household. The population projections for Oakland County are shown below in Table 2-2:

Table 2-2. Population Projections

Year	City of Pontiac Population	Oakland County Population
1940	66,626	254,068
2000	67,506	1,194,156
2010	59,515	1,202,362
2020	61,606	1,274,395
2030	60,685*	1,286,750*
2040	*61,079**	*1,314,016**
2045	*61,667**	*1,319,089**

** SEMCOG projections: https://semcog.org/population-estimates*

Recent projections for the next 20 years show the population to have a slight increase from the 2020 Census in the City. Data shows the population slightly increased after 2010, decrease slightly after 2020, then continue to increase after 2030.

For the purposes of the CWSRF project plan, a 20-year projection is required for calculations of future system demand and total present worth. Forecast from SEMCOG projects population in 2040 to be approximately 61,079. See Appendix B for attached documentation of contact with the SEMCOG, notifying them of this proposed Project Plan.

2.2.4 Economic Characteristics

The major industries in the city are healthcare (7,235 people), information/ finance (4,646 people), professional and technical services and corporate HQ (4,141 people), and public administration (3,811 people) *. The median household income for the city is and $33,568, a 6.9% decrease since 2010. The median household income is significantly lower than the median Michigan household income of $59,584 and the U.S. median household income of $67,521.

** Source: https://semcog.org/Community-Profiles#EconomyJobs*

2.2.5 Cultural And Environmental Settings

Climate:

The project area's climate is controlled by its location with respect to major storm tracks that pass through the Midwest and by the influence of the Great Lakes. The normal wintertime storm track is southeast of the Study Area, and most passing storms bring periods of snow or rain. The Great Lakes tend to moderate and smooth out most climate extremes. Precipitation is distributed through all months of the year. The

most pronounced effect on the climate by the Great Lakes occurs in the colder part of the winter. Arctic air moving across the lakes is warmed and moistened. Cold waves approaching from the northern plains are reduced in intensity, which lessens the severity of these events. However, there is also an excess of cloudiness and very little sunshine in the winter.

Summers in the Detroit metropolitan area are warm and sunny. Showers usually occur every few days, but often fall on only part of the Metropolitan Detroit area. Extended periods of drought are unusual. Each year, there are two or three series of days with temperatures in the nineties. The highest temperatures are often accompanied by high humidity. In winter, skies are cloudy and temperature averages near the freezing point. Day to day changes typically is not significant. The temperature drops to near or a little below zero once or twice each year. Winter storms may bring rain, snow, or both. Freezing rain and sleet are not unusual. Snowstorms average about three (3) inches of accumulation, but heavier amounts are generally recorded several times each year.

The growing season averages 180 days in length and historically has ranged from 145 days to 205 days. Average date of the last freezing is April 23; average date of the first freezing temperature is October 21.

Climatological data is collected by the National Oceanic and Atmospheric Administration (NOAA) at Detroit Metropolitan Wayne County Airport. This project, and the alternatives discussed, will have no impact on the climate of the project area.

Air Quality:

In general, air quality in Oakland County is in compliance with all applicable standards. This project, and the alternatives discussed will have no impact on the quality of the air in the Project Area. No impacts on the NESHAP or Natural Resources and Environmental Protection Act (NREPA) regulations are anticipated. However, if encountered prior to or during the design and construction phases all hazardous wastes, liquid industrial by-products, solid wastes (including contaminated soils), building materials containing asbestos shall be managed accordingly and disposed of properly.

Environmental Contaminants:

EGLE's Environmental Contaminants online mapper was used to determine that no known contaminants are anticipated to be located within the project areas. However, if encountered prior to or during the design and construction phases EGLE shall be notified immediately and all environmental contaminants shall be managed accordingly. See Figure 2-6 for the mapper results.

Wetlands:

There are areas identified as wetlands on the National Wetlands Inventory (NWI) or Michigan Resource Information System (MIRIS) Land Cover maps within the City or associated with the proposed limits of work. The proposed work will be located mainly within roadway rights-of-way or on private property. Since the proposed work will be rehabilitating existing SDS pipes and service lines, no impacts to any existing wetland areas are expected. However, for final design, any wetlands that may be impacted would be flagged, applications for the appropriate permits will be submitted and necessary mitigation measures will

be undertaken to protect the influenced wetlands. However, it is not anticipated to be an issue for this project.

The wetland map for the City of Pontiac is shown in Figures 2-3 and Figure 2-4. Correspondence was sent to EGLE's Water Resources Division (WRD) requesting concurrence with this determination. All correspondence with this office can and will be found in Appendix B.

Great Lake Coastal Zones:

There are no coastal zones located with the Project Area and therefore no impacts are anticipated.

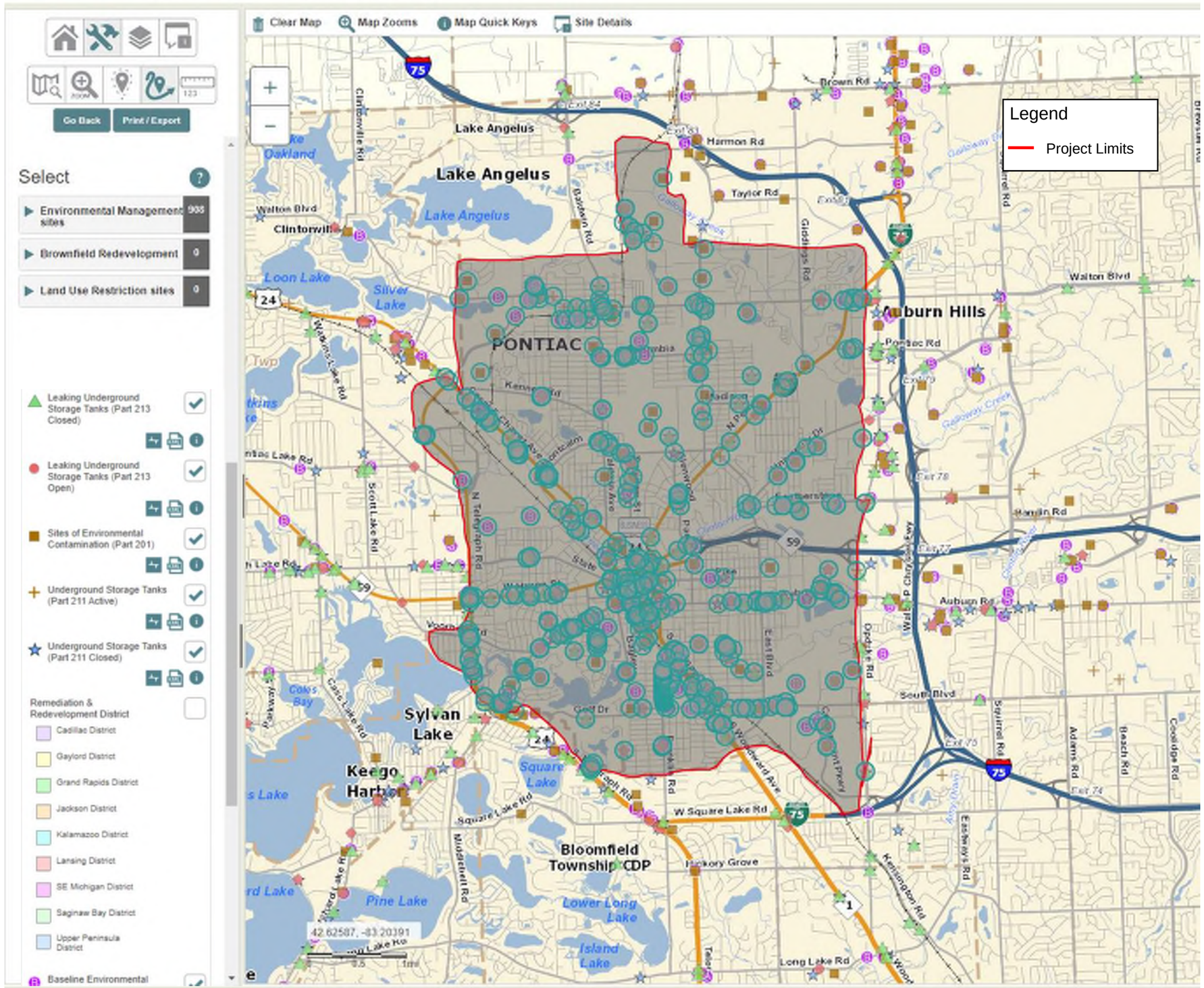
See Appendix B for attached documentation of contact with the WRD at EGLE, showing that no coastal zones or other land and water interfaces will be impacted by the proposed project.

Floodplains & Surface Waters:

We have identified various floodplains located within the project limits based on the Flood Insurance Rate Maps (FIRM) for the City of Pontiac on the Federal Emergency Management Agency (FEMA) website. However, the proposed work will be located mainly within roadway rights-of-way or on private property. Since the proposed work will be rehabilitate existing SDS pipes and service lines within roadway rights-of-way and on private property, no impacts to any existing floodplains are expected. However, if isolated excavations must be located within the 100-year floodplain, construction will only be undertaken after first contacting EGLE and obtaining the appropriate permits. Appropriate mitigation measures and soil erosion efforts will be undertaken to protect the floodplains influenced by the project, including but not limited to silt fences, turbidity curtains, stone check dams, gravel access drives, rip-rap, etc. Additionally, excavations will be filled with appropriate backfill materials, compacted and restored to existing grade with surface restoration matching existing vegetation.

Since the proposed work will be rehabilitating existing SDS pipes and service lines within roadway rights-of-way and on private property, no impacts to any existing floodplain areas are expected. The floodplain map for the City of Pontiac is shown in Figure 2-7. Correspondence was sent to EGLE's WRD requesting concurrence with this determination. All correspondence with this office can and will be found in Appendix B.

FIGURE 2-6: EGLE RRD LISTED FACILITIES MAP



Natural or Wild and Scenic Rivers:

According to the National Wild and Scenic Rivers System and the Nationwide Rivers Inventory on the National Park Service Website, the Clinton River is the only river or tributary located within the project limits as shown in Figure 2-8. However, the Nationwide Rivers Inventory indicates that the segment of the Clinton River located within the City of Pontiac is not considered a federal-designated river segment, as only the Clinton River from the mouth at Lake St. Clair to Lake Orion is the federal-designated segment (Figure 2-9). The Michigan's Designated Natural Rivers Map from the Michigan Department of Natural Resources Website (Figure 2-10) shows that there are no state-designated rivers within the project limits. Therefore, this proposed project should not interface with or impact the portion of the Clinton River that is considered a state-designated segment. Even though the segment of the Clinton River that is located within the project limits is not classified as a state-designated segment, the locations of these proposed projects are planned to not occur near the Clinton River, so as to not impact the waterway.

The Department of Natural Resources (DNR) Fisheries Division was contacted, requesting concurrence with this determination that the proposed project will not impact any state or federally designated wild, scenic, or natural rivers or tributaries in the project vicinity. All correspondence with this office can be found in Appendix B.

Major Surface Waters:

The City of Pontiac has various inland lakes and ponds throughout the city limits including Crystal Lake, Spring Lake, Harris Lake, Terry Lake, Osmun Lake, Galloway Lake, Upper Silver Lake, Dawsons Millpond and Hadsells Pond. These waterways are tributaries for the Clinton River which enters Lake St. Clair, some waterways are located within parks and golf courses which allows the public access to the waterway, while other waterways are surrounded by residential areas with only private access to the waterway. While various inland waterways are present throughout the City, the proposed work will be located mainly within roadway rights-of-way, on private property or within existing buildings and will have no impact on any existing major surface waters.

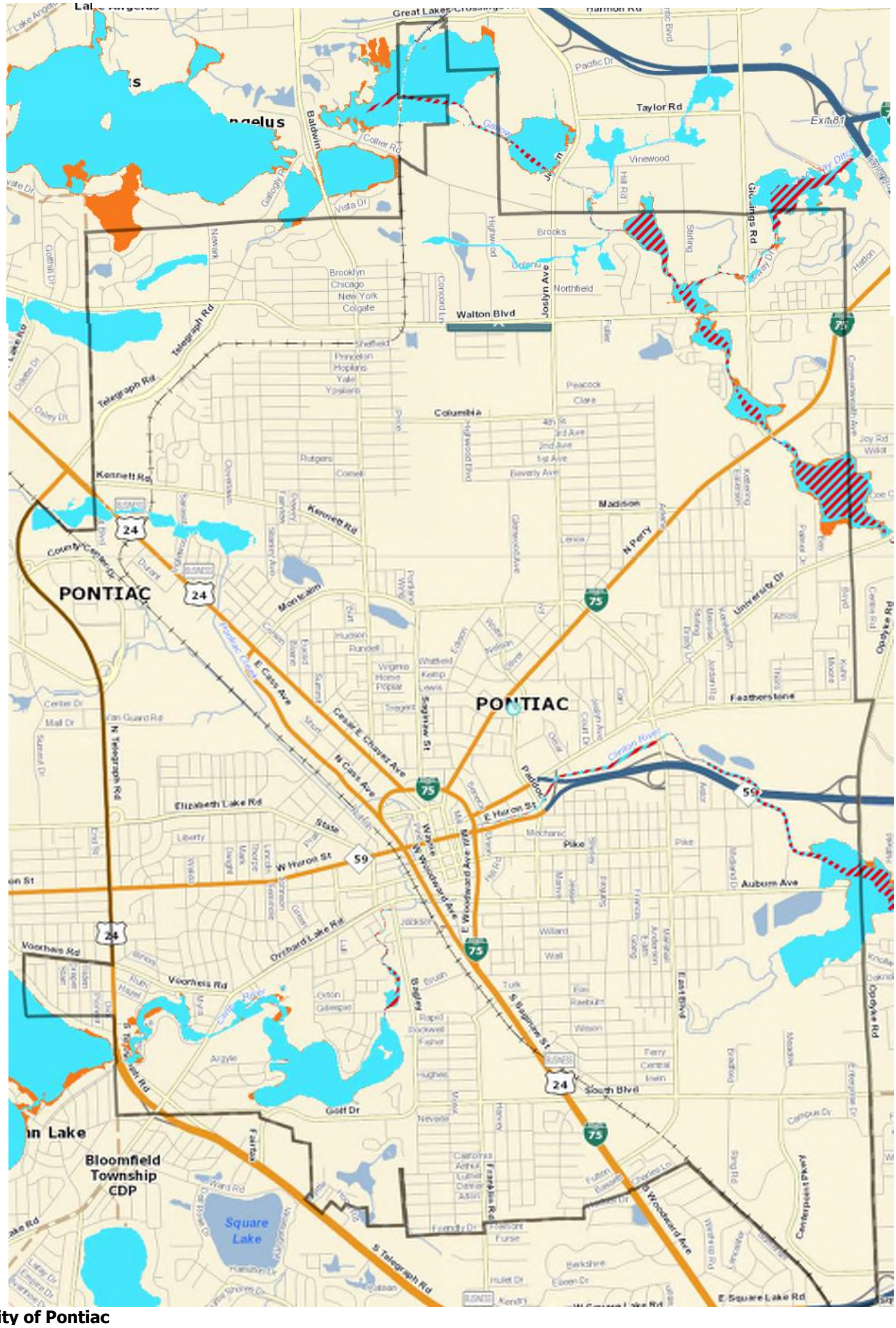
Drinking water in the City is purchased from the North Oakland County Water Authority (NOCWA), who purchases it from the Great Lakes Water Authority (GLWA). The water comes from the Lake Huron watershed via the Lake Huron Water Treatment Plant in Port Huron.

Recreation Facilities:

The City of Pontiac owns and operates significant recreational areas such as a commercial area and a total of 30 varying local parks. In addition to these parks, the City has several other publicly owned facilities including a Recreation Field, three (3) Metroparks and six (6) State Parks. Parks or other publicly owned facilities will not be impacted by the proposed work.

A National Natural Landmarks guide for the State of Michigan, which is available from the National Park Service, was reviewed. This guide was utilized to identify if any of the designated landmarks were within the Project Area. From this list, it is observed that there are no National Natural Landmarks within the City of Pontiac.

FIGURE 2-7: CITY OF PONTIAC FEMA FLOODPLAINS MAP



Legend

- Project Area
- Regulatory Flood-Way
- 1% Annual Chance of Flood Hazard
- 2% Annual Chance of Flood Hazard

N W E S

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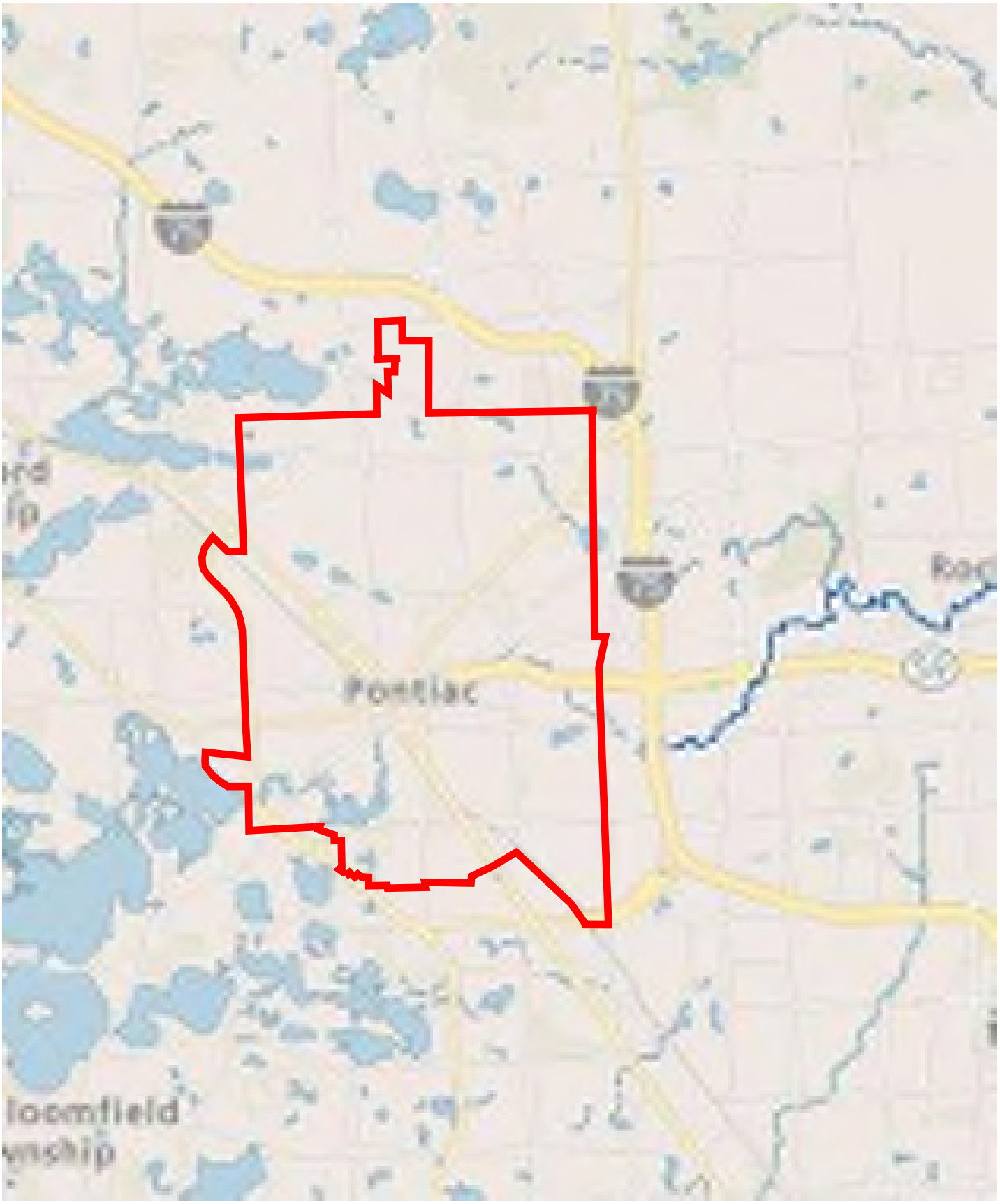
FIGURE 2-8: NATIONWIDE RIVERS INVENTORY MAP (CLOSE-UP)



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Legend
Service Area
Clinton River
N

FIGURE 2-9: City of Pontiac Nationwide Rivers Inventory Map

City of Pontiac

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Legend

* **City of Pontiac**

Rivers/Streams

Figure 2-10: Michigan's Designated Natural Rivers

AU SABLE RIVER	BETSIE RIVER	BOARDMAN RIVER	FLAT RIVER
FOX RIVER	HURON RIVER	JORDAN RIVER	LOWER KALAMAZOO
PERE MARQUETTE	PIGEON RIVER	PINE RIVER	RIFLE RIVER
ROGUE RIVER	TWO HEARTED RIVER	UPPER MANISTEE RIVER	WHITE RIVER

Topography:

The terrain within the City of Pontiac is characterized by a sloped topography generally decreasing from west to east and ranging from 1,090 to 860 feet throughout the City.

Geology:

The City of Pontiac and surrounding area is typified by Coldwater Shale bedrock, overlain by a thin layer of unconsolidated glacial deposits. The sedimentary strata were deposited during the Mississippian period in the Michigan Basin (360 to 325 million years old); just above or below sea level. The sedimentary deposits consist primarily of sand and gravel.

Soils:

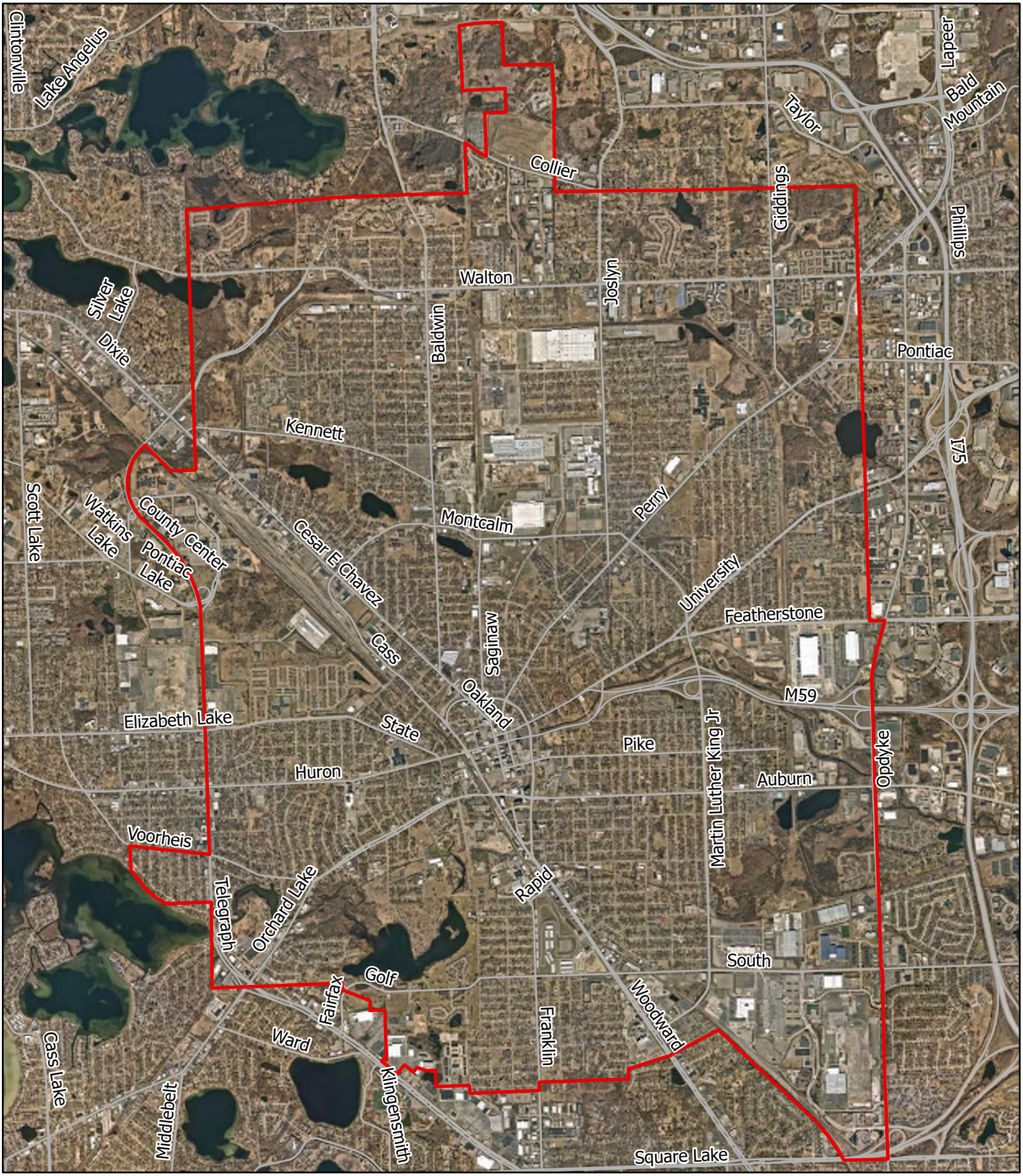
According to the United States Department of Agriculture (USDA) online Web Soil Survey, the project area consists of a variety of different types of soils, the most common types of soil are: Urban, Aquents, Udorthents, Marlette, Houghton & Adrian mucks and Glynwood. See documentation of these soils found in the City of Pontiac in Appendix B.

Agricultural Resources:

There is no agricultural land located within the city limits. Therefore, no City agricultural resources will be impacted by the proposed work. See Figure 2-5 for the existing zoning of each parcel and Figure 2-11 for an aerial map of the City of Pontiac for concurrence with this determination.

See Appendix B for attached documentation of contact with the USDA showing that no significant farmland will be impacted by the proposed project.

FIGURE 2-11: PROJECT PLAN AERIAL MAP



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0 0.5 1 Miles

N

Legend

Service Area

2.3 EXISTING FACILITIES AND ASSETS – GENERAL

The City of Pontiac Collection SDS (POCSDS) infrastructure consists of critical assets for conveying wastewater to be treated at the CRWRRF. A description of the wastewater infrastructure is provided in the following sections.

2.3.1 Sewage Disposal System Background

The POCSDS was originally constructed starting in the 1920's, with significant portions of the system as a combined sewer system. In the 1970s, the combined sewers were separated. Today, the POCSDS assets include approximately 272 miles of sanitary sewers ranging between 4-inch and 78-inch diameter pipes and about 6,200 manhole structures. The POCSDS includes 11 lift stations. While not part of the POCSDS, all wastewater collected and transported by the POCSDS receives treatment at the CRWRRF wastewater treatment facilities. Figure 2-1 depicts the existing sanitary sewer system.

Starting in the early 2000s, the POCSDS has studied and addressed its wet weather inflow and infiltration through a series of efforts, including the following:

- 2003 Flow Monitoring Program documented in a report dated October 2004
- Enhanced System Evaluation Survey documented in a report dated August 30, 2009
- Sewer System Rehabilitation (Consent Judgment Phase I) Basis of Design documented in a report dated November 1, 2009
- City of Pontiac Project Performance Certification (PPC) documented in a report dated December 1, 2014, which includes a summary of the earlier studies and is provided as Appendix C

The 2014 PPC report supports two main conclusions:

1) The sewer system rehabilitation completed between the 2003 flow monitoring and the PPC period were effective in reducing the peak flow rate from POCSDS by at least 19 million gallons per day (MGD).
2) The wet weather peak flow rate from the POCSDS was still greater than the treatment capacity of the downstream CRWRRF. A future condition, wet weather peak volume greater than the treatment capacity of 10.9 MG was identified.

POCSDS and EGLE recognized that the wet weather volume generated within the POCSDS remained significant and that the data showed potential for additional reductions in wet weather flow rates. POCSDS was provided with relief from the schedule outlined in the Consent Judgement to continue to study and address its wet weather inflow and infiltration instead of initiating design and construction of a large volume storage facility. The CRWRRF has also been upgraded significantly in recent years and its capacity, an important part of addressing the POCSDS wet weather peak flow rates, has been increased.

Since 2015, POCSDS and CRWRRF have completed the following efforts:

- Pontiac SDS: Inflow and Infiltration Analysis using Mass Flow Monitoring documented in a report dated June 2018, provided in Appendix D. This document presents a study of 27 small service areas through POCSDS. This study presents flow rates for each of these areas and identifies areas where inflow and infiltration efforts are expected to be effective.
- Sanitary Sewer System Evaluation Survey for City of Pontiac documented in a report dated June 2019, provided in Appendix E. This document provides the details of the Sanitary Sewer System Evaluation Survey, which focused on those areas of the POCSDS that were identified in the June 2018 Mass Flow

Monitoring report as having high inflow and infiltration. This report identified rehabilitation recommendations that have been included in the POCSDS maintenance efforts since the report was issued. POCSDS continues to address some long-range recommendations of this report. The maintenance activities identified have clearly addressed some sources of inflow and infiltration at these locations. However, significant inflow and infiltration remains in the POCSDS.

- CRWRRF Operation Optimization Plan documented in a technical memorandum dated November 30, 2020, provided in Appendix F. This plan identified projects at the CRWRRF that would increase the capacity from the existing 30.6 MGD to 40 MGD. While these projects relate to the CRWRRF, which is a separate financial and municipal entity from the POCSDS, additional CRWRRF capacity is an important part of addressing the wet weather peak from the POCSDS. Implementation of the recommendations in this memorandum is still being planned. If a storage solution is selected for the POCSDS wet weather peak flow rate, the volume of storage needed will be directly linked to the treatment capacity of the CRWRRF.
- The AMP documented in the Oakland County Pontiac WWTF and Sewer System Annual Reports from 2018 through 2022, provided in Appendix G. These reports present activities and plans for both the CRWRRF and the POCSDS. For the purposes of this project plan, the POCSDS portion of the reports has been focused upon. These reports show that the POCSDS has invested significant effort in identifying and addressing maintenance needs and has plans to continue to make significant investment in the POCSDS. The completed maintenance work includes some of the maintenance needs identified in the Sanitary Sewer System Evaluation Survey (SSES). A summary of the maintenance efforts for the five-year period covered by these five reports is provided below in Table 2-3. Figures 2-12 and 2-13 provide a summary of inspected gravity sewers and manholes over time in terms of percent of POCSDS.

Table 2-3. Summary of POCSDS Maintenance Work Orders

Work Order Type	2017 through 2021	
	# of Work Orders	Cost
Predictive Maintenance*	6,836	$489,542
Preventive Maintenance	655	$212,713
Corrective Maintenance	1,183	$5,093,319
Total Maintenance	8,674	$5,795,574

** Asset inspections are included as part of Predictive Maintenance*

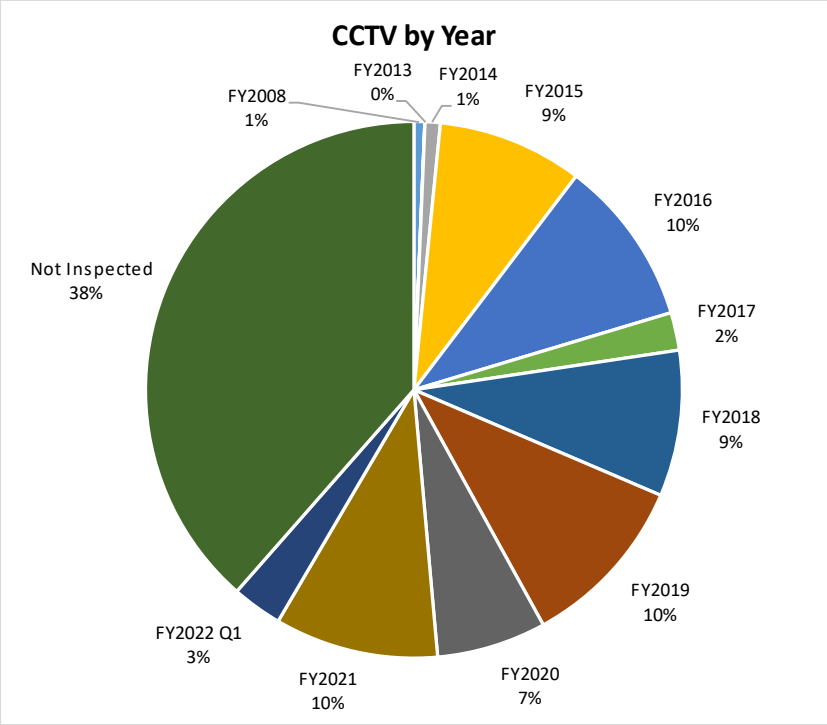

Figure 2-12. Pontiac Gravity Sewer Inspections by Year

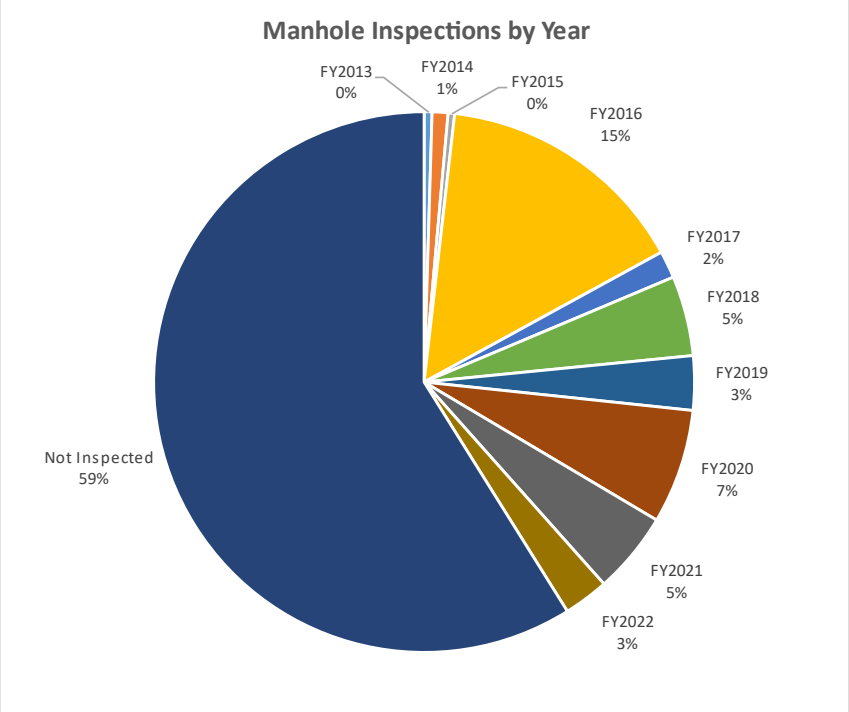

Figure 2-13. Pontiac Manhole Inspections by Year

- Pontiac Sewage Disposal System: Inflow and Infiltration Analysis using Mass Flow Monitoring Round 2 still in the process of being documented. This report will present the study of additional areas within the POCSDS using the same methods employed for the in the June 2018 report (now thought of as Round 1). Flow rates will be characterized for these additional areas. Figure 2-14 provides a preliminary map that brings the results from the two rounds of mass flow monitoring together. It is anticipated that an updated version of this map will be included in the report.

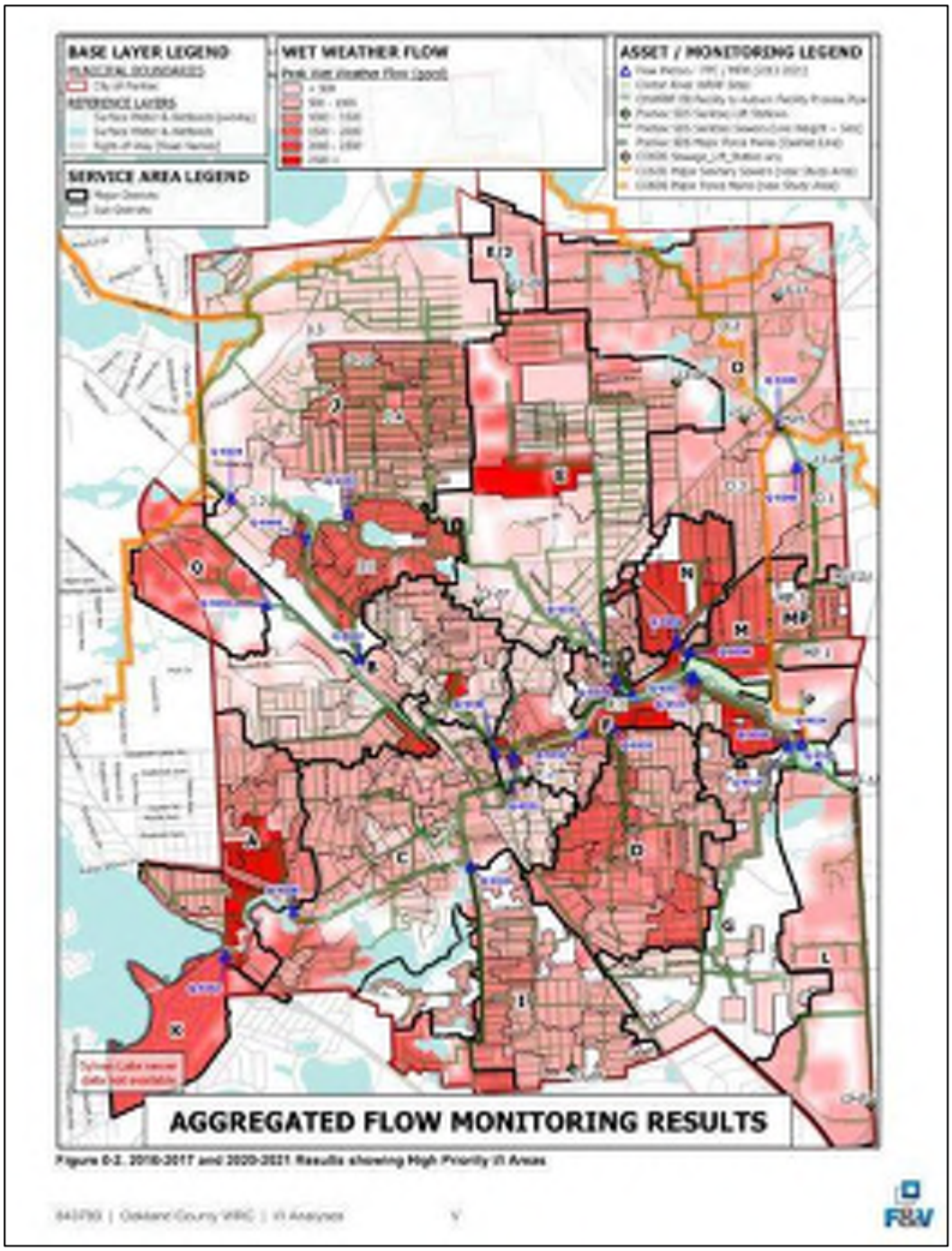

Figure 2-14. Pontiac. Mass Flow Monitoring Round 1 and Round 2 Results

- POCSDS Storm Water Management Model (SWMM) Update documented in a memorandum dated March 2022 and included in Appendix H. The POCSDS SWMM model was updated in three main ways: 1) representations of piping and manholes were added to extend the model to each Mass Flow Monitoring Location from the two rounds, 2) overall hydrology was updated to reference large storms that occurred in the Summer of 2021 (calibration has previously been made to a 2013 storm), and 3) the hydrology was redistributed within the long-term meter districts based on Mass Flow Monitoring flow rates. This updated model confirms that the wet weather peak flow rate from the POCSDS was still greater than the treatment capacity of the downstream CRWRRF. A future conditions wet weather peak volume greater than the future treatment capacity of 7.0 million gallons was identified based on POCSDS alone.

2.4 NEED FOR PROJECT

The primary issue resulting in the need for a project is that the POCSDS is predicted to generate wastewater in excess of the CRWRRF capacity for the 25-year, 24-hour growing season design event that is prescribed in the Consent Judgement. Figure 2-15 provides the predicted hydrograph and shows a volume greater than the CRWRRF capacity of 7.0 MG for the design event. This design event hydrograph is supported by the reported discharges from the CRWRRF for actual wet weather events.

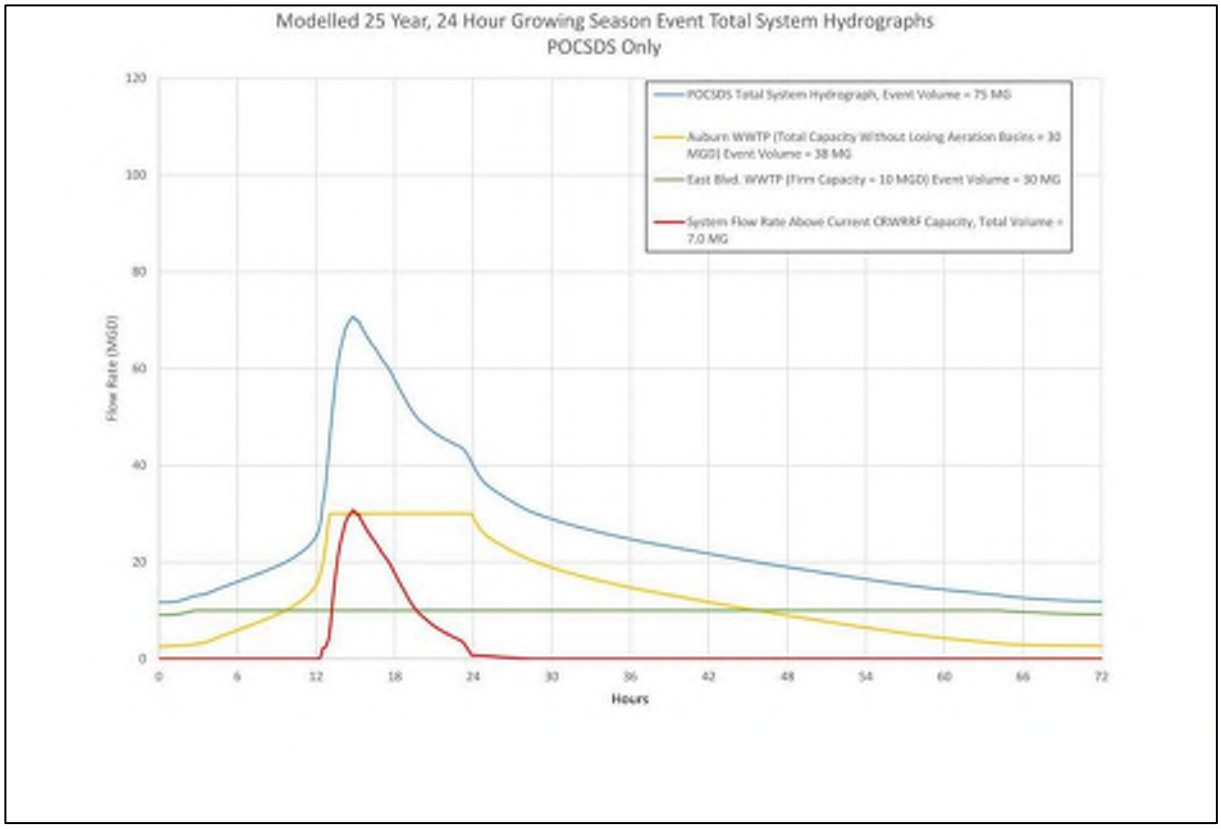

Figure 2-15. POCSDS Design Event Hydrograph

While the on-going and upcoming POCSDS maintenance is expected to continue to decrease the magnitude of the wet weather response while providing system integrity and restoring useful life, it is very unlikely that these efforts will diminish the POCSDS wet weather report to be within the CRWRRF capacity

SECTION 3.0 — ALTERNATIVE ANALYSIS

The alternatives considered for each improvement element are:

- Alternative 1 – Storage
- Alternative 2 – Footing Drain Disconnection
- Alternative 3 – Sewer Rehabilitation and Lateral Lining
- Alternative 4 – Increased CRWRRF Capacity
- Alternative 5 – No Action
- Alternative 6 – Regionalization
- Alternative 7 – Hybrid of Sewer Lining and Storage

It is important to recognize that each of these alternatives are in conjunction with on-going POCSDS maintenance (inspection, rehabilitation, and repair). A technical basis has been developed for each improvement element and an economic comparison of alternatives has been completed for technically viable alternatives.

3.1 ALTERNATIVE 1 – STORAGE

The POCSDS wet weather flows that are greater than the CRWRRF capacity could be addressed through providing temporary storage for the excess wet weather flows. This would involve the construction of a storage facility with a volume of 7.0 MG. While this is a technically viable option, it is problematic for several reasons, including the following:

- The POCSDS is the subject of a robust maintenance program that WRC initiated when it took on the system. This program is expected to continue to result in reductions to peak flow rates. Construction of a storage tank while this program is on-going is likely to result in a storage facility that is built larger than ultimately necessary, resulting in excessive costs to the system.
- The Mass Flow Monitoring work has identified areas with unusually high wet weather response. Targeted work in these areas is expected to be effective at reducing the peak flow rate in the POCSDS and foregoing the need for some of the projected storage volume.
- Storage will not address the wet weather issue at its source. Addressing the issue at its source has the added benefit that wet weather flows within the POCSDS are reduced also lowered, reducing the potential for any backups or overflows in the collection system. Wet weather flow rates will also be reduced for storms that differ from the design event such as larger intensity, back-to-back, and extended duration storms.

3.2 ALTERNATIVE 2 – FOOTING DRAIN DISCONNECTION

The 2018 and 2022 Mass Flow Monitoring study reports identified discrete areas with unusually high flow rates (see Figure 3-1). Since the 2018 study had focused on meter districts where the long-term flow meters show significant responses, most of the high flow rates were identified in that round of Mass Flow Monitoring. In 2019, the Sanitary SSES focused on the public assets within these areas. While some rehabilitation opportunities were identified, the sources for the unusually high flow rates were not located. This indicates that the sources are private, not public. This alternative considers addressing the private sources of inflow and infiltration through a footing drain disconnection program. Given that 85% of the City of Pontiac's housing was constructed prior to 1970, it is likely that 85% were constructed with footing drains. Removal of these footing drains could be an effective measure to

reduce wet weather flow rates in the POCSDS. However, there are several obstacles to executing a footing drain disconnection program:

- The City of Pontiac is largely an urban community and is therefore heavily paved. When the footing drains are disconnected from the sanitary sewer system, the stormwater needs to be directed to a municipal storm drain or surface water. There is very little open surface water available to receive the storm water from the footing drains. While there are municipal storm drains, their location relative to the homes would require significant pavement removal and restoration to connect the storm water from some homes to the existing municipal storm drains. This factor in expected to inordinately increase the cost of a footing drain disconnection program.
- A footing drain disconnection program is not mandated in the City of Pontiac, so voluntary participation would be needed. A high degree of participation in an area is needed for a measurable benefit. Developing a meaningful pool of volunteers is expected to be difficult since the benefit to the participating homeowners is not very direct, as it is ultimately a reduction of cost for a future project that is shared throughout the POCSDS. In fact, in some cases the homeowners would gain additional plumbing and equipment to maintain, which may be viewed as a detriment.
- Footing drain disconnection is an invasive process for the participating homeowners. Due to this, it is often unwelcomed. Paired with the need to develop voluntary participants, it is likely that the volunteer pool would be too low for success. This is exacerbated in areas where the resident is not the homeowner, such as rental properties. In a poll of neighboring communities, the Oakland Water Resources Commissioners office has found that footing drain disconnection was not a viable option due to the public engagement difficulties associated with it.

Given the low likelihood of success, footing drain disconnection was not considered to be technically viable. If, in the future, a substantial change occurs such as an ordinance that mandates disconnection upon the sale of a home, this option could become viable. However, that type of program would have a very long timeline and is not anticipated to yield reductions on a timeline that would meet EGLE expectations.

3.3 ALTERNATIVE 3 – SEWER REHABILITATION AND LATERAL LINING

3.3.1 Sewer Pipe and Manhole Structure Repairs

Using recent and ongoing gravity main CCTV inspection work in the system, POCSDS plans to review the data collected and identify sewer segments for rehabilitation projects. All pipes that have been televised and were found to have a NASSCO PACP structural defect score of 4 or 5 will be flagged for additional review. These pipes will then be individually evaluated to prioritize required rehabilitation work and the most cost-effective rehabilitation method.

Manholes and other structures on the POCSDS sewerage system have also been inspected recently and continue to be inspected. These data will be reviewed similar to the sewers to identify structure assets with NASSCO MACP structural defect scores of 4 or 5. These structures will then be individually evaluated to prioritize required rehabilitation work and the most cost-effective rehabilitation method.

The actual project locations for the sewer pipe and manhole structure rehabilitations are currently being determined. WRC recently entered into an agreement with Hubbell, Roth & Clark, Inc. who will be assisting with creation of a Capital Improvement Plan. This will reduce the overall cost of the proposed work by allowing coordination of sewer and manhole structure repairs with other infrastructure, such as with proposed water main repairs, lead service line

removals, M-59 and other road improvements, and potentially sidewalk and gas projects. By performing this coordination, a "dig once" approach can be used to reduce the cost of and need to restore areas impacted by construction. It also reduces the overall impact of construction disruption on the residents and community. A Capital Improvement Plan that is coordinated across water, sewer and road projects has been shown to reduce infrastructure costs by up to 30%.

Based on a preliminary review of the quantity of PACP and MACP structural 4 and 5 NASSCO rated scores found to date, a sewer and manhole rehabilitation budget of $10 million is proposed for fiscal year 2023 construction of these improvements. The Capital Improvements Plan will include a recommendation for future budgets for rehabilitation based on the findings of the additional CCTV inspections and rehabilitation completed.

3.3.2 Sewer Lateral Lining

POCSDS has also observed private sewer service laterals that are in poor condition with clear water inflowing and infiltrating into the sewer main. Based on these observations, it is believed that significant portion of the wet weather flow is from the sewer service lateral and tap in the discrete areas with unusually high flow rates identified through the Mass Flow Monitoring. This alternative includes lining of the sewer laterals, tap, and a portion of the gravity sewer main at each point of connection.

A similar project was completed in a neighboring area in the City of Waterford known as Huron Gardens, see Appendix I. This effort was very effective with 60% reduction in inflow and infiltration. This work is significantly less invasive than footing drain disconnection since all the work occurs outside of the home. It also does not have the challenge of needing to identify a discharge location for the stormwater; it simply prevents the inflow and infiltration from entering the collection system.

Because of the private sewer service lateral lining portion of this alternative, this is a relatively novel approach to address I/I. This work is planned in two (2) stages. Stage 1 would be a Phase 1 study to be implemented in a small neighborhood identified through the Mass Flow Monitoring work as having high I/I. The proposed Phase 1 project study area is located in southeast Pontiac and is generally bounded by Auburn Ave to the north, Woodward Ave to the west, Martin Luther King Jr Blvd to the east, and South Blvd to the South. The Phase 1 project would perform private sewer service lining for 123 houses with a service area of 19 acres. During Stage 1, a secondary area would be left in its current state to be used as a control area. The control area consists of 200 houses with a service area of 34 acres. Figure 3-1 shows a map of the Phase 1 study area and the control area that will be left unimproved as a benchmark.

Stage 2 would be a full-scale program. The detailed full-scale program would not be developed until after the Stage 1 work is complete and flow reduction observations have been made. If Stage 1 demonstrates the high degree of effectiveness that was seen in Huron Gardens, Stage 2 would include a broad expansion to most of the areas that were flagged as having unusually high flow rates. If Stage 1 shows more limited effectiveness, Stage 2 may be limited to only the highest flow rate areas. If Stage 1 shows negligible effectiveness, Stage 2 may be cancelled.

For the purposes of this project plan, it has been assumed that Stage 2 will include the broad expansion. Gravity main sewer lining will continue through both Stage 1 and Stage 2. A budget of $2,750,000 was estimated for the Phase 1 work.

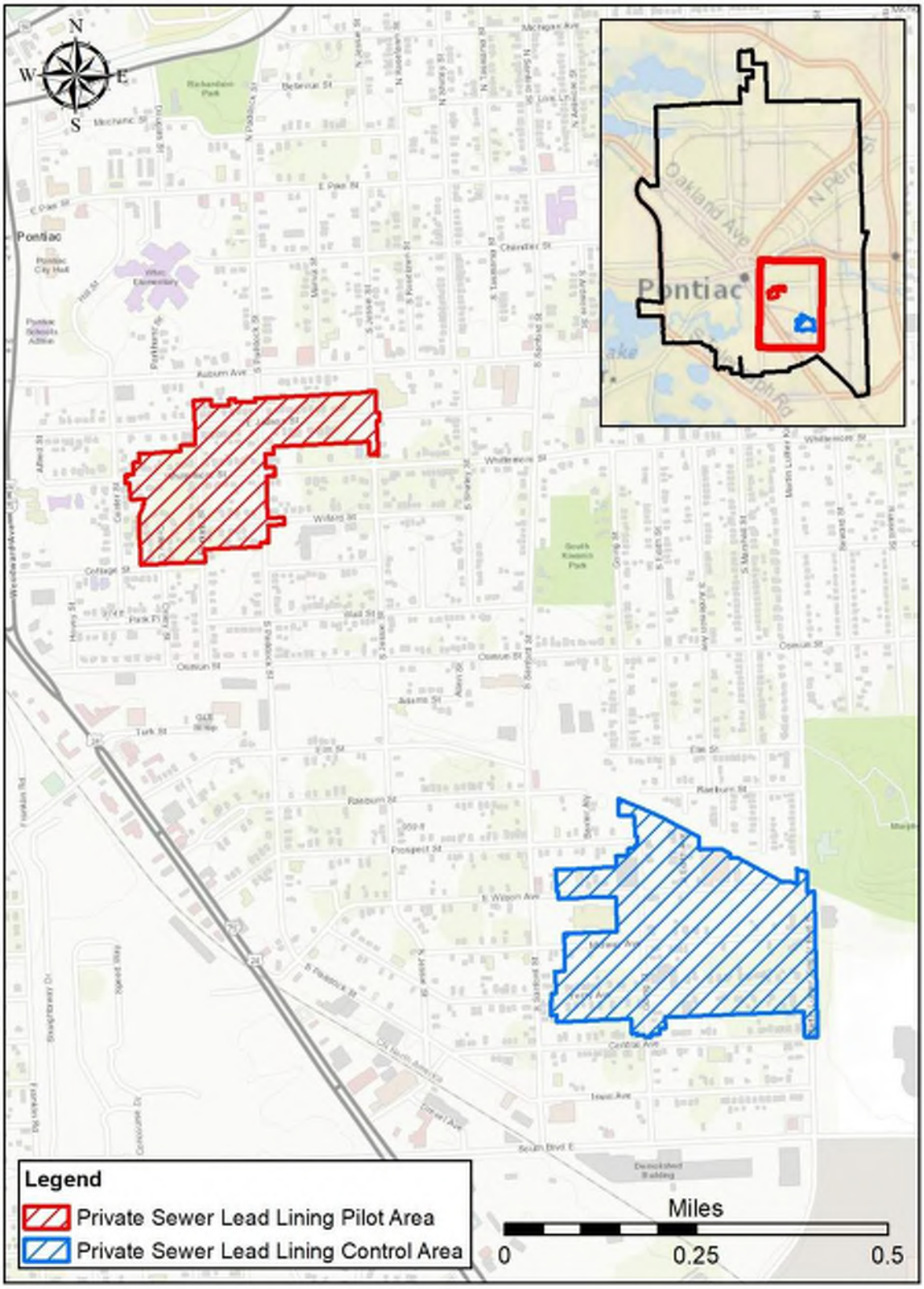

Figure 3-1. Pontiac Private Sewer Service Lining Phase 1 Areas

3.4 ALTERNATIVE 4 – INCREASED CRWRRF CAPACITY

The CRWRRF Operation Optimization Plan identified modifications to the CRWRRF that would increase the capacity from 30.6 MGD to 40 MGD. A capacity of 40 MGD is considered as an upper limit for the CRWRRF without major changes and expansion. Even at this increased capacity, however, there is not sufficient capacity to address the POCSDS wet weather peak flow rate. Therefore, increase CRWRRF capacity is not a viable alternative on its own. If all or part of the CRWRRF optimization plan is implemented, the additional capacity will help to address a portion of the POCSDS wet weather flow rate, but not the peak wet weather flow rate identified in the Consent Judgement. As the POCSDS alternatives are designed, the available CRWRRF capacity should continue to be coordinated with the collection system flow rates.

3.5 ALTERNATIVE 5 – NO ACTION

If no action is taken within the POCSDS, there will continue to be wet weather flow rates in excess of the CRWRRF capacity for actual wet weather events that are less than or equal to the design event. This will result in continued discharges from the CRWRRF and the Consent Judgement will not be satisfied. No Action is not a viable alternative.

3.6 ALTERNATIVE 6 – REGIONALIZATION

There are no readily available regional solutions, other than continued coordination with the CRWRRF system. The neighboring Clinton Oakland Sewage Disposal System and Evergreen-Farmington Sanitary Drain Drainage District do not have excess capacity that can be provided to POCSDS. Regionalization beyond these systems would require transport distances that are cost prohibitive, pipe construction routes that are disruptive to communities that would see no benefit and may not be technically or administratively viable. Thus, there are no regional alternatives to be evaluated.

3.7 ALTERNATIVE 7 – HYBRID OF SEWER LINING AND STORAGE

Ultimately, Alternative 7 is likely to be the required solution for POCSDS wet weather flows over the long term. If private sewer service lining is shown to be effective in the Phase 1 area, then scaled up to other areas, it is anticipated there still may be a need to construct a storage tank in order to address flows from larger storms up to the design event. However, the tank sizing is expected to be much less than the storage described in Alternative 1, as there would be reduced wet weather flows due to the on-going POCSDS projects and possible increased capacity at the CRWRRF. Therefore, this alternative, while likely valid in the longer term, cannot be included in the monetary evaluation at this time because the required size of the storage tank cannot yet be estimated.

The POCSDS will re-evaluate the possible need for construction of a smaller storage tank in a future project plan or project plan amendment, after proposed sewer lining and CRWRRF capacity projects are complete.

3.8 ALTERNATIVES ANALYSIS

The principal alternatives that will be considered for this analysis are:

- Alternative 1 – Storage
- Alternative 3 – Sewer Rehabilitation and Lateral Lining

3.8.1 Cost-Benefit Analysis

Monetary Evaluation

A preliminary cost estimate has been prepared for both "Alternative 1 – Storage" and the "Alternative 3 – Sewer Rehabilitation and Lateral Lining" discussed above. A cost estimate was not prepared for "Alternative 7 – Hybrid of Sewer Lining and Storage" because the required size of the storage tank cannot be estimated at this time. The effectiveness of the Phase 1 lateral and structural sewer lining work will be evaluated preliminarily following Stage 1 and again following Stage 2. After Stage 2, and CRWRRF capacity projects, the required size of the tank can be estimated along with costs for "Alternative 7 – Hybrid of Sewer Lining and Storage."

"Alternative 2 – Footing Drain Disconnection", "Alternative 5 - No Action", and "Alternative 6 – Regionalization," were not part of the monetary evaluation due to lack of technical feasibility. "Alternative 4 – Increased CRWRRF Capacity" is not part of the monetary evaluation because there will still be a need to address the wet weather peak flow rate within the POCSDS and the CRWRRF is a separate entity. However, projects will continue to be coordinated as capacity issues continue to be addressed in both systems.

Escalation costs were not included in this monetary evaluation. The majority of the work will be completed within the ROW or existing easements. Any new easements that are necessary will be temporary and will vary based on the selected alternative.

The present worth of the construction cost within the project period of 20 years is determined by using the formula provided below:

$$\text{Present Worth} = \frac{F}{(1+i)^n}$$

where, F – future value/estimated project cost

n – number of years

i – EPA discount rate (-0.05)

The OM&R costs throughout the project period of 20 years are determined by using the formula provided below:

$$\text{Present Worth} = A * \left[(1+i)^n - \frac{1}{i(1+i)^n} \right]$$

where, A – annual expenditure

n – number of years

i – EPA discount rate (-0.05)

As indicated by the CWSRF guidance document, the salvage value has been calculated based on in-place construction cost with straight-line depreciation over the estimated design life. For newly constructed pipelines, a design life of 100 years has been estimated based on manufacturer certifications for pipeline performance and testing results. The CWSRF guidance document does not provide information on useful life estimates on rehabilitation methods. Therefore, the estimated design life for the anticipated rehabilitation repairs is predicted based on engineering judgement, past sewer rehabilitation experience, manufacturer test data, and manufacturer's recommended service life. The salvage value for rehabilitation repairs has been calculated based on installation and material cost with straight-line depreciation over the anticipated design life of the various projects and components.

Appendix J details the present worth analysis taking into consideration O&M costs and salvage value, considering the Environmental Protection Agency (EPA) discount rate. The cost estimation also includes the operation, maintenance, and replacement costs for the improvements, covering a period of 20 years. Table 3-1 provides a summary of the monetary evaluation for the two (2) alternatives.

Table 3-1. Monetary Evaluation Summary

Alternative	CWSRF Loan Amount	20-Year Values		
		OM&R Costs	Salvage Value	Net-Present Worth
Storage	$91,000,000	$20,000	$60,357,000	$34,477,000
Sewer Rehabilitation and Lateral Lining	$12,750,000	-	$8,457,000	$4,771,000

Staging Construction

Most of the alternatives require inspection, evaluation, design phases, and implementation phases; however, the Alternatives 2, 4, and 6 require extensive amounts of work. Additionally, these alternatives must be planned in stages in order to be completed without increased social impacts. Since Alternative 3 is trenchless and will only involve minimal sewer replacements, the staging phase will be less impactful.

Partitioning the Project

No discrete component of this project must be completed prior to completion of the entire project plan to remedy a severe public health, water quality or other environmental problem. Therefore, partitioning of the project is not necessary.

Environmental Evaluation

The expected environmental impacts of the proposed alternatives, mainly the impact of the isolated excavations, will be similar in nature. Proper traffic control, soil erosion and sedimentation control, and odor control measures, mitigate impacts to the general public. The costs for increased mitigation measures are minimal in comparison to the major work items involved in each alternative. The social impacts generated by the lengthier construction duration for the Alternatives 2, 4, and 6 differs significantly

with the Lining Alternative. These social impacts are difficult to measure monetarily but will be considered when choosing the selected alternative should the monetary evaluation be relatively equal.

Implementability & Public Participation

The public will be provided with a 30-day Draft Project Plan review period as well as a public hearing in accordance with the guidelines set forth in the CWSRF guidance documents on the EGLE website. This will provide the public with an opportunity to comment on the Project Plan before it is finalized. The need for the project is well-described within this Project Plan; there should be minimal issue implementing the selected alternative.

3.8.2 Conclusions

Alternative 3 is recommended as the selected alternative. In time, Alternative 3 may transition into Alternative 7 in the longer term as the results of implementing Alternative 3 on wet weather peak flows is evaluated.

SECTION 4.0 — SELECTED ALTERNATIVES

4.1 PROPOSED FACILITIES

The proposed project consists of all improvements described previously under Alternative 3.

4.2 SCHEDULE

These projects will be coordinated with other City utility projects when applicable. Table 4-1 provides a proposed third quarter loan closing schedule for the $12.75 million project to be completed in fiscal year 2023.

Table 4-1. Proposed Design and Construction Schedule

Engineering Service	FY2023 Q3 Timeframe	
Sewer Rehabilitation and Lateral Lining	Design	Feb 2023 – Jun 2023
	Construction Start	Jun 2023
	Construction End	Dec 2023

4.3 COST ESTIMATE

The estimated total project cost for the proposed project is approximately $12,750,000. A cost summary for the SDS improvements is shown in Appendix J.

4.4 USER COSTS AND COST SHARING

The costs as described above will be paid for by user charges. Detailed user cost calculations are shown in Appendix J. Table 4-2 below shows a summary of estimated user cost for users associated with this project over a 20-year period for the City of Pontiac users. In summary, the anticipated cost to the average consumer household would be approximately $1.95 per month.

Table 4-2. User Cost Summary

Description	Expense Opinion
Total Project Cost	$12,750,000
OM&R Yearly Cost	--
Total Yearly Cost	$637,500
Residential equivalent customers	27,290
Residential User Monthly Cost	$1.95

SECTION 5.0 — FISCAL SUSTAINABILITY PLAN

A fiscal sustainability plan (FSP) will be developed for those facilities which are replaced or rehabilitated under this project. The signed FSP form can be found in Appendix K. The projects included involve activities on the remaining 49% SDS assets of the city that were not completed as part of the SAW program. The following projects are proposed:

- CCTV remaining sanitary and combined sewer segments

POCSDS plans to CCTV the remaining approximately 700,000 linear feet of sanitary sewer segments not previously inspected as resources and budget allows. The inspection will be added to the City's AMP and have budget for programming of required immediate repairs.

In addition, the existing asset registry will be updated with information on facilities impacted by the project. Data for existing facilities will be updated with new data and rehabilitation dates. At the conclusion of the project the inventory will be fully updated to accurately reflect the improvements. Condition and performance data will be updated as well. This will provide a benchmark to judge future performance by.

Lastly, useful life estimates will be updated for rehabilitated assets and solicited from manufacturers of newly installed assets. These estimates will be used to plan for future service and replacement costs.

SECTION 6.0 — ENVIRONMENTAL & CUSTOMER IMPACTS

6.1 GENERAL

The anticipated environmental impacts resulting from the construction of the selected plan include beneficial and adverse, short term and long term, and irreversible impacts. The following is a discussion of the environmental impacts of the selected plan.

6.1.1 Beneficial and Construction-Related Adverse Impacts

Construction activities associated with the proposed SDS improvements will take place on existing facilities. Construction and equipment manufacturing related jobs would be generated, and local contractors would have an equal opportunity to bid on the construction contracts.

The environmental impacts for each alternative are expected to be minimal to none. All elements of improvement efforts in this project aim to have the least impact possible on the community and environment. No long-lasting negative impacts are expected for any alternative. Implementation of the Project Plan would create temporary disruption to near-by residents/businesses and customers due to required construction. This includes noise and dust generated by the work and possible erosion of spoils from open excavation. However, there will be no major disruptions to the service connections. The assessment of alternate solutions and sites for the proposed project included identification of any important resources of either historic or environmental value which are protected by law and should be avoided.

The majority of the SDS locations are existing facilities within the right-of-way so no mature trees are anticipated to be impacted as a result of the construction activities.

No registered contamination sites were found within the project area using the EGLE site contamination online mapper tool. Documentation of the research can be found in Appendix B.

6.1.2 Short-Term and Long-Term Impacts

The short-term adverse impacts associated with construction activities would be minimal, and mitigatable, in comparison to the resulting long-term beneficial impacts. Impacts from the SDS improvements include dewatering during replacement of pipes and temporary damage to surface vegetation. Temporary dewatering would slightly lower the groundwater table in the improvement area if required, but there are few to no residential drinking wells in the area. All restoration required post-rehab/replacement should return the impacted area to existing conditions. Short-term impacts for customers and resident include traffic disruption, dust, and noise. No long-term negative impacts are anticipated.

In addition, there are many sewer assets within the POCSDS that require rehabilitation in the immediate future, as described above. Without the construction of the proposed project, the structural integrity of the system may be degraded as the system may not be able to convey the wastewater properly.

6.1.3 IRREVERSIBLE IMPACTS

The investment in non-recoverable resources committed to the Project Plan would be traded off for the improved performance of the facilities during the life of the system. The commitment of resources includes public capital, energy, labor, and unsalvageable materials. These non-recoverable resources would be foregone for the provision of the proposed improvements.

Construction accidents associated with this project may cause irreversible bodily injuries or death. Accidents may also cause damage to or destruction of equipment and other resources.

6.2 ANALYSIS OF IMPACTS

6.2.1 Direct Impacts

Local Air Quality

There will be minimal direct impacts on local air quality during the construction phases of these projects. Any effects on air quality will be due to dust and emissions from construction equipment and minimal possible styrene emissions from the CIPP curing material.

Archeological, Historical or Cultural Resources

There are no anticipated impacts on archaeological, tribal, historical, or cultural resources due to this project.

Impacts Upon the Existing or Future Quality of Local Groundwater and Surface Waters

There are no impacts anticipated to the local groundwater, as all construction and improvements will be made within existing facilities.

Impacts Upon Sensitive Features

There are no floodplain or wetland areas within the project footprint as the work is expected to take place within the right-of-way of existing SDS locations; therefore, all construction will take place outside of the designated floodplain, wetland areas, or other sensitive areas.

Impacts Upon People and The Local Economy

Short-term impacts to people will occur during the construction phase. Minor disruptions to sanitary sewer service may occur as rehabilitation is completed on the sanitary sewer system. All SDS users will experience beneficial long-term impacts due to the level of service to which they expect being maintained by these improvements.

The local economy will be stimulated for contractors and suppliers of the materials, labor, and equipment necessary to construct the project.

Operational Impacts

The proposed project will improve the operational efficiency of the SDS and lower future O&M costs for the SDS.

6.2.2 Indirect Impacts

Changes in Rate, Density, Or Type of Residential, Commercial, or Industrial Development and the Associated Transportation Changes

No changes are anticipated to the above.

Changes in Land Use

No changes are anticipated to the above. All improvements to the SDS will be completed within the existing system footprint.

Changes in Air or Water Quality Due to Facilitated Development

There will be no changes to air quality due to development.

Changes to The Natural Setting or Sensitive Features Resulting from Secondary Growth

There should be no changes to the natural setting or sensitive features resulting from secondary growth.

Impacts on Cultural, Human, Social and Economic Resources

No changes are anticipated to the above.

Impacts of Area Aesthetics

All of the proposed work will be completed underground, which is isolated from public view.

Resource Consumption Over the Useful Life of the Treatment Works, Especially the Generation of Solid Wastes

No changes are anticipated to the above.

6.2.3 Cumulative Impacts

Siltation

Siltation may occur during the construction phase of the project. Proper soil erosion and sedimentation control practices will be followed to reduce the impacts of siltation on surrounding areas.

Water Quality Impacts from Direct Discharges and Non-Point Sources

No changes are anticipated to the above, as direct discharges and non-point sources are not a concern within the project limits.

Indirect Impacts from Development

There should not be any development as a result of this project.

The Impacts from Multiple Public Works Projects Occurring in the Same Vicinity

There will only be short term traffic impacts during the construction phase of this project and proper traffic control measures will be followed.

SECTION 7.0 — MITIGATION

7.1 SHORT-TERM, CONSTRUCTION-RELATED MITIGATION

Minimal environmental disruption will occur during construction. Guidelines will be established for cover vegetation removal, dust control, traffic control and accident prevention. Once construction is completed those short-term effects will stop and the area will be returned to the original conditions.

The soil erosion impact would be mitigated through the contractor's required compliance with a program for control of soil erosion and sedimentation as specified in Part 91 of Michigan Act 451, P.A. of 1994. The use of soil erosion and sedimentation controls (i.e., straw bales, sedimentation basins, catch basin inserts, silt fencing, etc.) will be properly implemented when necessary.

Careful considerations will be taken during the construction planning process to ensure that the system remains in service while the improvements are underway. Notifications will be provided to residents for them to note that usage during CIPP installation may need to be kept to a minimum for a short period of time in order for proper installation of the new pipe to take place. Since majority of the SDS locations are within the road, no mature trees are anticipated to be impacted as a result of the construction activities. Construction equipment will be maintained in good condition to decrease noise. All access roads will be swept as necessary to avoid tracking sediment onto public roads.

7.2 MITIGATION OF LONG-TERM IMPACTS

General construction activities will prohibit the disposal of soils in wetlands, floodplains, or other sensitive areas. Catch basins will be protected where earth changing activities will take place.

7.3 MITIGATION OF INDIRECT IMPACTS

The current trend in the City is that the land use is mainly dominated by residential properties. According to the City's planning for land use, this will not change. Considering that a vast majority of the residents within the City limits already are connected to the wastewater system, a substantial increase in flow is not expected from within the limits.

SECTION 8.0 — PUBLIC PARTICIPATION

8.1 GENERAL

The Project Plan was advertised in the Oakland County newspaper on March 27, 2022 (refer to Appendix L for all public participation documentation.) A hard copy of the Draft Project Plan was made available at the location below for public viewing:

- WRC Office: One Public Works Building #95W, Waterford Twp, MI 48328

A formal public hearing was held on April 26, 2022 to review the work associated with the proposed Project Plan. The hearing reviewed the information presented in the Project Plan, including estimated user costs and offered comments of interested persons. Copies of correspondence related to agency notifications, as well as other relevant correspondence, is included in Appendix B.

8.2 RESOLUTION

A formal resolution regarding this Plan was presented during the public hearing on April 26, 2022. The resolution is included in Appendix L.

8.3 PUBLIC HEARING

Appendix L includes a transcribed copy of the public hearing, attendance list, the signed Project Plan resolution, and a photocopy of the slides presented at the hearing. No public comments or questions were received during the public hearing on April 26, 2022.

8.4 ADDITIONAL EGLE SUBMITTAL FORMS

Appendix M includes the following:

- EGLE's signed Project Plan Submittal Form
- The signed Project Useful Life and Cost Analysis Certification Form
- The Project Priority List (PPL) Scoring Data Form

NOTE: FY 2022 PROJECT PLAN APPENDICES ARE AVAILABLE IN THE HARD COPY VERSION AT THE OFFICE OF THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER, ONE PUBLIC WORKS DRIVE, WATERFORD MI.

Appendix B — EGLE Submittal Forms

Fiscal Sustainability Plan Certification Form

Describe SRF Project to be Funded: OR SRF Project Number _____

Pontiac SDS Plan Amendment

Check one box below:

☐ FSP does not apply because:

- ☐ The project is for a new treatment works system.
- ☐ The project involves an upgrade that does not involve repair/replacement or expansion of a treatment works system.
- ☐ The project is for nonpoint source work.
- ☐ Other (explain)

☒ FSP is complete for the SRF-funded project and is available for review by contacting:

Sally Duffy (Name) 734-776-7336 (Phone)

I certify that Pontiac SDS Plan Amendment (Applicant's Name) has developed and implemented a plan that meets the requirements of Section 603(d)(1)(E)(i) of the Water Resources Reform and Development Act of 2014. The FSP includes an inventory of critical assets, an evaluation of the condition and performance of inventoried assets, a plan for maintaining, repairing, and as necessary, replacing the treatment works, and a plan for funding such activities. The applicant also certifies that the water and energy conservation efforts have been evaluated and will be implemented.

Drew Sandahl, P.E., Chief Engineer

Name and Title of Authorized Representative *(Please Print or Type)*

Signature of Authorized Representative Date

Project Useful Life and Cost Analysis Certification Form

Project Information

Applicant Name: Pontiac SDS Plan Amendment

SRF Project to be Funded: _____

Per Section 602(b)(13) of the Federal Water Pollution Control Act (FWPCA), all Clean Water State Revolving Fund (CWSRF) assistance recipients must certify that they have conducted the studies and evaluations described in 602(b)(13)(A) and (B), collectively known as a cost and effectiveness analysis.

☒ 1) The 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 CWSRF; and

☒ 2) The 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 cost of:
- constructing the project or activity;
- operating and maintaining the project or activity over the life of the project; and
- replacing the project or activity.

☒ 3) The applicant has completed a Project Useful Life analysis for the project or activity. **Attach appropriate documentation**

I certify that requirements (1), (2), and (3) as checked above have been met.

Sally Duffy

Name of Professional Engineer *(Please Print or Type)*

Signature of Professional Engineer Date

Drew Sandahl, P.E., Chief Engineer

Name and Title of Authorized Representative *(Please Print or Type)*

Signature of Authorized Representative Date

Appendix C — Public Meeting Documents

(to be provided in final)

NOTICE OF PROJECT PLANNING PUBLIC MEETING

The **City of Pontiac Sewage Disposal System** will hold a public meeting on the proposed **Clean Water State Revolving Fund (CWSRF) Sanitary System Improvements** project for the purpose of receiving comments from interested persons.

The meeting will be held at **4:00 p.m.** on **Tuesday, April 25, 2023, virtually and at the Oakland County Water Resources Commissioner's Office (1 Public Works Dr., Waterford, MI.)**

The purpose of the proposed project is **to make improvements to the existing sanitary sewer systems in order to continue to meet the required level of service for the systems.**

Project construction will involve **upgrades to and rehabilitation of existing sanitary pipes and structures.**

Impacts of the proposed project include **temporary noise and disruption to the public due to construction of the required improvements, which will be offset by improvements that will reduce the likelihood of system failures.**

The estimated cost to users for the proposed project is approximately **$1.11 per household over 20 years. However, the system will likely qualify as "overburdened" and may be eligible for additional grant funding and/or principal forgiveness, which would reduce the cost. The system will also have the opportunity to reduce the scope of work and potential cost during the design phase and/or defer the project should funding not be awarded.**

Copies of the plan detailing the proposed project are available for inspection at the following location: **Oakland County Water Resources Commissioner's Office (1 Public Works Dr., Waterford, MI.)**

Written comments received before the meeting record is closed on **Tuesday, April 25, 2023,** will receive responses in the final project planning document. Written comments should be sent to Stephanie Lajdziak at lajdziaks@oakgov.com before TUESDAY, APRIL 25, 2022 at 4:00 P.M.

Appendix D — Resolution and Submittal Form

A RESOLUTION ADOPTING THE
PONTIAC SEWAGE DISPOSAL SYSTEM
2024 CLEAN WATER STATE REVOLVING FUND PROJECT PLAN AND
DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE

WHEREAS, the Oakland County Water Resources Commissioner's Office recognizes the need to make improvements to its existing City of Pontiac Sewage Disposal System in accordance with a Consent Judgement with the State of Michigan; and

WHEREAS, the Oakland County Water Resources Commissioner's Office authorized Hubbell, Roth & Clark, Inc. to prepare a Clean Water State Revolving Fund Project Plan, which recommends the construction of various improvements to the system; and

WHEREAS, said Project Plan was presented at a Public Hearing held at the offices of the Oakland County Water Resources Commissioner held on April 25, 2023;

NOW THEREFORE BE IT RESOLVED, that the Oakland County Water Resources Commissioner's Office formally adopts said Project Plan and agrees to implement the selected alternatives for improvements.

BE IT FURTHER RESOLVED, that the Oakland County Water Resources Commissioner's Office's Chief Engineer, a position currently held by Drew Sandahl, P.E., is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Plan as the first step in applying to the State of Michigan for a Clean Water Revolving Fund Loan to assist in the implementation of the selected alternative.

BY:

_____ April 25, 2023
Jim Nash, Oakland County Water Resources Commissioner and Date

I certify that the above Resolution was adopted by the Pontiac Sewage Disposal System on Tuesday, April 25, 2023.

BY:

_____ April 25, 2023
Kelsey Cooke Date
Oakland County Water Resources Commissioner
Manager and Chief Legal Officer

Michigan Department of Environment, Great Lakes, and Energy
Gretchen Whitmer, Governor
Liesl Eichler Clark, Director

http://www.michigan.gov/egle

Clean Water Revolving Funds
SRF/SWQIF Project Plan Submittal Form

Name of the Project Pontiac-Clinton No.1 Drain Drainage District Improvements	**Applicant's Federal Employer Identification Number (EIN)**
Legal Name of Applicant (The legal name of the applicant may be different than the name of the project. For example, a county may be the applicant for bonding purposes, while the project may be named for the particular village or township it serves.) Pontiac-Clinton No.1 Drain Drainage District	**Areas Served by this Project** Counties Oakland County Congressional Districts 11 State Senate Districts 7 State House Districts 54
Address of Applicant (Street, P O Box, City, State & Zip) One Public Works Building #95W Waterford Twp, MI 48328	
NPDES Permit Number (if permit holder)	**Associated SAW Grant Number** (if applicable)
Brief Description of the SRF/SWQIF Project Storm pipe improvements	
Disadvantaged Community Determination ☒ The applicant is requesting a disadvantaged community determination, and a completed *Disadvantaged Community Status Determination Worksheet* is attached.	
Estimated Total Cost of the SRF/SWQIF Project	**SRF/SWQIF Construction Start Target Date**
Name and Title of Applicant's Authorized Representative Carrie Cox, P.E., Special Projects Manager	
Address of Authorized Representative (if different from above) One Public Works Building #95W Waterford Twp, MI 48328	**Telephone** 248-858-0958 **E-Mail Address** coxc@oakgov.com
Signature of Authorized Representative	**Date**
Joint Resolution(s) of Project Plan Adoption/Authorized Representative Designation is attached. check here ☒	

A final project plan, prepared and adopted in accordance with the Department's *Clean Water Revolving Funds (SRF and SWQIF) Project Plan Preparation Guidance*, must be submitted by July 1st in order for a proposed project to be considered for placement on a Project Priority List for the next fiscal year. Please send your final project plan with this form to:

WATER INFRASTRUCTURE FINANCING SECTION
FINANCE DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
P O BOX 30457
LANSING MI 48909-7957

Appendix E — Overburdened Status Worksheet

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

OVERBURDENED AND SIGNIFICANTLY OVERBURDENED COMMUNITY STATUS DETERMINATION WORKSHEET

The following data is required from each State Revolving Fund (SRF) applicant requesting a determination for overburdened and significantly overburdened community status.

The most recent census and tax data are available in a searchable table on EGLE's State Revolving Fund – Overburdened Community Definition and Scoring Criteria Development webpage along with an excel worksheet to help determine blended Median Annual Household Income (MAHI) and blended taxable value per capita for regional systems. The MAHI and taxable value per capita table will be used to make all FY24 determinations. Applicants are encouraged to visit this page prior to completing this form to see if they qualify based on MAHI (blended MAHI if applicable) or taxable value per capita (blended taxable value per capita if applicable) alone. If so, they only need to fill out lines 1 and 2 of this form, electronically sign it on page 2, and submit.

Alternately, **if the applicant's MAHI or blended MAHI is above the state average - $63,498 for FY24 – they cannot be determined as being overburdened or significantly overburdened for FY24 funding and should not complete or turn in this form**.

For applicants whose MAHI or blended MAHI is below $63,498 but do not automatically qualify based on MAHI or taxable value per capita alone, please complete the entire form and return to:

Mark Conradi
conradim@michigan.gov

Name of Applicant

Pontiac Clinton River No1 Drain Drainage District (Oakland County WRC)

Please check the box indicating which funding source this determination is for:

DWSRF ☐

CWSRF ☑

1. Is this a regional system? A regional system refers to any system that serves more than one municipality (cities, townships, and/or villages)

Yes ☐
No ☑

If yes, refer to the instructions at the end of this form to complete calculations for a blended MAHI and blended taxable value per capita. Additionally, page 3 of this form will also need to be completed.

2. Median Annual Household Income from table on the overburdened webpage (blended if applicable)

$36,214

3. Taxable Value Per Capita from table on the overburdened webpage (blended if applicable)

$14,274

4. Total amount of anticipated debt for the proposed project (amount of loan requested for FY24 loan)

0

5. Annual payments on the existing debt for the system

N/A

6. Total operation, maintenance, and replacement expenses (OM&R) for the system on an annual basis

N/A

7. Number of residential equivalent users (REUs) in the system

N/A

***I (Sally Duffy) hereby certify that the information in this form is complete, true, and correct to the best of my knowledge.**

Signature Date

For determinations made using anticipated debt, a final determination will be made based upon the awarded loan amount and not the anticipated amount provided on this form.

Overburdened and Significantly Overburdened Calculation Worksheet

2. Median Annual Household Income (blended if necessary)	$36,214
3. Taxable Value Per Capita (blended if necessary)	$14,274
4. Amount of anicipated debt - FY24 SRF loan only	
Terms	20
Rate	2.75%
New Annual debt from SRF loan	$0
5. Annual Payments on existing debt	
6. Total OM&R	
7. Number of REUs	
Total Annual Cost	$0
Annual User Cost	$0
MAHI Threshold $ amount	**$362**

Applicant Name:
Pontiac Clinton River No. 1 Drainage District
Oakland County Water Resources Commissioner

			Result
125% of Federal Poverty MAHI	$37,500	**Significantly Overburdened**	**YES**
Lowest 10% TVPC	$15,170	**Significantly Overburdened**	**YES**
Lowest 20% TVPC	$22,920	**Overburdened without calculation needed**	**YES**
Michigan MAHI	$63,498	**Overburdened with calculation**	**NO**

HRC OFFICE LOCATIONS

- **Bloomfield Hills**
  555 Hulet Drive
  Bloomfield Hills, MI 48302
  (248) 454-6300 | Fax: (248) 454-6312
- **Detroit**
  Buhl Building, Suite 1650
  535 Griswold Street | Detroit, MI 48226
  (313) 965-3330
- **Howell**
  105 West Grand River
  Howell, MI 48843
  (517) 552-9199
- **Kalamazoo**
  834 King Highway, Suite 107
  Kalamazoo, MI 49001
  (269) 665-2005
- **Delhi Township**
  2101 Aurelius Road, Suite 2
  Holt, MI 48842
  (517) 694-7760
- **Grand Rapids**
  801 Broadway NW, Suite 215
  Grand Rapids, MI 49504
  (616) 454-4286
- **Jackson**
  401 S. Mechanic Street, Suite B
  Jackson, MI 49201
  (517) 292-1295
- **Lansing**
  215 South Washington Square
  Lansing, MI 48933
  (517) 292-1488