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Wastewater System Improvements
Clean Water State Revolving Fund
Project Planning Document

Project No. 2501903
March 16, 2026

Draft

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Prepared For:
City of Grand Rapids, Michigan

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List of Abbreviations/Acronyms

AMP	Asset Management Plan
BFE	base flood elevation
CAP	Corrective Action Plan
City	City of Grand Rapids
CMP	Comprehensive Master Plan
CWSRF	Clean Water State Revolving Fund
DPW	Department of Public Works
ESTS	Eastside Trunk Sewer
EGLE	Michigan Department of Environment, Great Lakes, and Energy
gpd	gallons per day
gpm	gallons per minute
HGL	hydraulic grade line
I/I	inflow and infiltration
LP	low pressure
MAPS	Market Avenue Pumping Station
MARB	Market Avenue Retention Basin
MAHI	median annual household income
Mg	million gallon
mgd	million gallons per day
Mg/L	milligrams per liter
MP	medium pressure
MNFI	Michigan Natural Features Inventory
NASSCO	National Association of Sewer Services Companies Organization
NEC	National Electric Code
NFPA	National Fire Protection Association
NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance
PACP	Pipeline Assessment Certification Program
PERB	Primary Effluent Retention Basin
PPC	Project Performance Certification
RDS	Remedial Design Storm
SEMCOG	Southeast Michigan Council of Governments
SESC	soil erosion sedimentation control
SHPO	State Historic Preservation Office
SSO	sanitary sewer overflows
THPO	Tribal Historic Preservation Office
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Services
VFD	variable frequency drive
WRRF	Water Resources Recovery Facility
WWTP	wastewater treatment plant

1.0 Introduction

The City of Grand Rapids (City) is preparing this Project Planning Document to obtain a Fiscal Year 2027 Clean Water State Revolving Fund (CWSRF) loan from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for construction of sewer separation improvements in Godfrey Avenue. The City provides sanitary sewer service within the Grand Rapids Metropolitan Area to the City and a number of individual municipalities as show on Figure 1. However, this project will occur entirely within the City limits.

The proposed project involves completion of sewer separation in Godfrey Avenue from the Grand River to Oxford Street (approximately 3,000 feet). Nearly all of the upstream 184-acre drainage area has been locally separated with storm sewers discharging back to a 60-inch combined sewer in Godfrey Avenue at Oxford Street. See Figure No. 2. A new larger diameter storm sewer will be installed to route rainfall runoff to the Grand River rather than the Water Resources Recovery Facility (treatment plant). New sanitary sewer will replace the aged 60-inch combined sewer. See Figure 3.

The total estimated CWSRF-eligible construction cost for this project is $20,700,000. The City is seeking a $20,700,000 CWSRF loan for funding this critical project. Non-eligible costs associated with replacement of aged water mains or other underground utilities (estimated at $7,300,000) are not included in these numbers

The City is seeking Quarter 3.0 financing with anticipated loan closing in August 2027 and substantial completion expected by December 2029.

2.0 Project Background

2.1 Study and Service Areas

The Grand Rapids Wastewater Collection System sewer service area (including customer communities) consists of approximately 122 square miles, including the 45.35 square miles within the City. The Godfrey Avenue project area is 0.29 square miles and is entirely within the City. See Figure 1.

2.2 Population

2.2.1 Customers Served

Within the City, the total “population” equals the total “customers served” for both water and sewer. The overall population and the customers served according to 2025 data is 204,841 within the City corporate limits.

2.2.2 Population Trends

The future population projections within the City were updated as a part of the 2025 Comprehensive Master Plan (CMP) to reflect the additional contribution of future customers adding to the wastewater collection system. The City population information based on this update is included in Table 1 through 2045.

Table 1 – Study Area Population Projections

Year	Population
2030	211,019
2035	213,895
2040	215,056
2045	216,038

There are approximately 58,000 REUs in the City and 340 REUs within the Godfrey Avenue sewer sheds.

2.3 Existing Environmental Evaluation

2.3.1 Cultural and Historic Resources

The project area (Godfrey Avenue) is entirely within 66-foot right-of-way that was established in the late 1800s. Major underground utilities were installed between 1898 to 1931.

Properties adjacent to the project area were initially developed for heavy industry and power generation, except for a green space property on the east side of Godfrey Avenue between Rumsey and B Streets. The power station has been demolished and the site redeveloped for educational use by Grand Rapids Community College. The greenspace property remains as Clemente Park operated by the City. All major industrial activities have stopped. Several of these properties have been redeveloped for multiuse small business and residential. Most buildings and parking areas remain vacant.

The National Register of Historic Places and the Michigan Department of Natural Resources have publicly made available Geographic Information System data that were referenced to determine if historic or culturally significant locations are present within the study area. No impact on historic or cultural resources is anticipated at this time. If the project is considered "Equivalent" all State Historic Preservation Office (SHPO) and Tribal Historic Preservation Office (THPO) will be completed.

A list of historic properties for Kent County is included in Appendix 1.

2.3.2 Natural Environment

2.3.2.1 Air Quality

The proposed projects will have no significant effect on local air quality. Heavy equipment used for construction will temporarily increase emissions in work areas but is not expected to produce significant or lasting effects.

2.3.2.2 Wetlands

The wetlands inventory map from the National Wetlands Inventory was reviewed to determine if wetlands exist near the proposed projects. As indicated on Map 1, there are no wetlands within the proposed project area.

2.3.2.3 Great Lakes Shorelands, Coastal Zones, and Coastal Management Areas

The project areas are not within coastal zones.

2.3.2.4 Floodplains

The floodplain limits are included in Map 2. The project area consists of a 66-foot road right-of-way extending inland 3,150 feet more-or-less perpendicular to the Grand River dockline. An existing FEMA certified concrete floodwall exists on the dockline to protect up to the base flood elevation (BFE).

The base flood elevation at this location is 608.60 and the 500-years flood elevation is 611.84. Approximately 1,700 feet of right-of-way within the project area has a surface elevation below the BFE and is designated as Zone D. An additional 1,025 feet is below 500-year flood elevation and designated as Zone X.

The stormwater from the project area is primarily routed to the Water Resources Recovery Facility (WRRF) through a large diameter combined sewer. However, the Godfrey/Market intersection drains via storm sewer at the Market Avenue Storm Water Pump Station and then to the Grand River. Both facilities have backflow prevention should an extreme flood occur.

2.3.2.5 Natural or Wild and Scenic Rivers

A natural or wild and scenic river is an official federal designation created by Congress in 1968. There project will occur in the vicinity of Grand River.

2.3.2.6 Major Surface Waters

The project area relative to the Grand River is indicated in Map 3.

2.3.2.7 Topography

The project area (Godfrey Avenue) is built upon a valley bottom that once drained overland to the Grand River. The elevation of Godfrey Avenue ranges from a low elevation of 602.8 at the Godfrey/Market intersection to a high elevation of 612.8 at Oxford Street. The grade to the east and west of Godfrey Avenue rises rapidly to a crest of 672.0 to the east and 666.0 to the west. The overall drainage area is approximately 184 acres.

2.3.2.8 Geology

The predevelopment material consisted of glacial outwash sand/gravel and post glacial alluvium including poorly graded sand on lean clay with bed rock at approximately 20-foot depth.

The surficial geology within the project area has been entirely altered by past road and utility construction starting in the late 1800s. Excavated material, urban fill and imported sand were used for trench backfill.

Major changes included construction of:

- 1898 – 8-inch water main (roughly 6 feet deep)
- 1900 – 36-inch to 44-inch combined sewer (roughly 15 feet deep)
- 1923 – 12-inch water main (roughly 7 feet deep)
- 1929 – 24-inch transmission water main (roughly 8 feet deep)
- 1931 – 60-inch combined sewer (roughly 18 feet deep)

Groundwater levels vary seasonally but are generally approximately 10 feet below grade during the summer months. The groundwater gradient is toward the Grand River.

Refer to Maps 4 and 5.

2.3.2.9 Soil Types

As described in 2.3.2.8 the project area has been completely disturbed since the late 1800s. The entire project area therefor has an NRCS soil classification Type 78 – Urban Land. The adjacent drainage area is fully developed and classified as either Urban Land 81B, 82D or 82B depending on slope. The soils have poor infiltration properties.

Refer to Map 6.

2.3.2.10 Contamination

Soil and groundwater contamination including mercury, cyanide, PFAS, and copper exists throughout the project area because of previous heavy industry and power generation activities. This is summarized in a technical memorandum dated June 10, 2025. Extension effort and costs have been incurred to deal with this contamination during recent upstream construction in Godfrey Avenue.

Refer to Map 7 for regional contamination summary.

2.3.2.11 Agricultural Resources

The Godfrey Avenue corridor has been fully developed with industry and adjacent residential neighborhoods since the late 1800s. No agricultural land or resources existing within or tributary to the proposed project limits.

Refer to Map 8.

2.3.2.12 Fauna and Flora

Endangered or threatened species are defined as those species that are or could become endangered or threatened and, therefore, are protected under the Endangered Species Act. The objective of the act is to preserve and restore species threatened with extinction. The U.S. Fish and Wildlife Services (USFWS) Environmental Conservation Online System was used to identify endangered and threatened species by state. A list of endangered and threatened species within the State of Michigan is provided in Appendix 2.

The Michigan Natural Features Inventory (MNFI) by county has additional listings of fauna and flora with a state status of endangered, threatened, or special concern. Appendix 3 lists the species for Kent County.

The project area is urbanized. No trees exist except for one red maple and one honey locust located in the parkway. No natural areas or native greenspaces exist within the project areas. Construction or operational activities for the proposed projects are not anticipated to have long-term negative impacts.

Snuffbox mussel habitat exists in the Grand River and will be impacted by the project. Any mussel relocation required will be according to plan to be approved by EGLE. Refer to Map 9 for Michigan Natural Features Inventory.

2.3.3 Land Use in the Study Area

2.3.3.1 Existing Land Use

The existing land use in the study area is included in Map 10. No changes are anticipated in land use.

2.3.3.2 Future Land Use

The future land use in the study area is indicated in Map 11.

2.4 Existing Facilities

This section includes information pertaining to the study area.

2.4.1 Collection System Overview

The City provides sanitary sewer service within the Grand Rapids Metropolitan Area to the City and several individual municipalities. These municipalities are termed customer communities and are further identified as either retail or wholesale customers.

The Grand Rapids Wastewater Collection System sewer service area (including customer communities) consists of approximately 122 square miles, including the 45.35 square miles within the City. The collection system is divided into the following subsystems:

- West Side Subsystem: This portion of the system is located west of the Grand River and is tributary to the Market Avenue Pump Station (MAPS).
- East Side Subsystem: This portion of the system is located east of the Grand River and is a tributary to MAPS. The proposed Godfrey Avenue project area is located at the extreme downstream end of this subsystem.
- Southeast Subsystem: This portion of the system is tributary to the Southeast Interceptor that flows directly to the Grand Rapids Water Resource Recovery Facility (WRRF).

2.4.2 Major Facilities and Treatment

The facilities described below are all located in close proximity on the east side of the Grand River at its extreme downstream end within the City corporate limits. The proposed Godfrey Avenue project site is located just upstream. See Figures 2 and 3.

- Water Resources Recovery Facility (WRRF): Provides primary and secondary treatment up to 90 mgd prior to discharging to the Grand River.
- Market Avenue Pump Station (MAPS): Lifts flow from East and West Side Subsystems to the WWRF. Also diverts flow to Market Avenue Retention Basin if capacity of WRRF is exceeded.
- Primary Effluent Retention Basin (PERB): Located within the WRRF to provided 9.8 mg of storage if the secondary treatment capacity of the WRRF is exceeded. Also used for wet weather and hazardous flow storage.
- Market Avenue Retention Basin (MARB): A 30 mg storage facility located upstream of MAPS utilized for wet weather volumes exceeding the 90 mgd secondary treatment capacity of WRRF. MARB includes an overflow to the Grand River if capacity is exceeded.
- Eastside Trunk Sewer (ESTS): The Godfrey Avenue combined sewer (12 feet x 13 feet) conveys the East Side Subdistrict to MAPS. The 60-inch combined sewer in Godfrey Avenue connects to the ESTS.

Current modeling shows these collective facilities to have capacity to store and provided secondary treatment for the Remedial Design Storm (RDS) provided the PERB is available for wet weather storage. If not, overflows to the Grand River will occur at MARB.

2.4.3 Combined Sewers

The City wastewater collection system is considered separated from a regulatory standpoint. Still 490 acres remain unseparated and contain combined sewers, including 184 acres tributary to Godfrey Avenue. See Figure 4.

Within Godfrey Avenue exists a 60-inch combined sewer built in 1931. Flows from this pipe discharge to the ESTS just upstream of MAPS before being routed to WRRF. Most local streets tributary to Godfrey Avenue, have recently been separated and currently discharge both sanitary and storm sewers to the 60-inch combined sewer pipe.

2.4.4 System Bypasses

Wet weather flow volumes exceeding the treatment capacity of WRRF are diverted to MARB. East Side Subsystem and West Side Subsystem flows can be diverted to MARB.

Variable frequency drives (VFDs) on the pumps at MAPS allow pumping to slow and decrease output once the downstream flows have reached or exceeded 90 mgd. This allows the hydraulic grade line (HGL) upstream of MAPS to increase such that incoming flows overtop a weir to MARB. Once the wet weather event has subsided and flows to the WRRF begin to decrease, MARB drains back to MAPS to be pumped to the WRRF. If MARB is filled to its capacity while the WRRF is still receiving 90 mgd limiting capacity, excess flow is discharged through MARB to the Grand River under the City's NPDES permit.

2.4.5 Sanitary Sewer Overflows

The one remaining sewer overflow point in the overall collection system is at the MARB. Overflows can only occur when the WRRF is at peak capacity of 90 mgd, and PERB and MARB storage capacity has been exceeded. Current modeling shows that such an overflow to the Grand River will occur during the RDS if PERB storage is not available.

There is no history of basement backups or overflows within the actual Godfrey Avenue project limits; however, the project area contributes a large percentage of wet weather volumes that creates an overflow at the MARB during the RDS.

2.4.6 Wet Weather Capacity Issues in Sewage Collection System

While there is no history of basement backups, the Godfrey Avenue project area contributes a large percentage of wet weather volumes to the downstream WWRF and MARB.

The recent Project Performance Certification (PPC) evaluation report identified isolated locations in the overall wastewater collection system that may surcharge during the remedial design storm event. A Corrective Action Plan (CAP), due October 2026, is currently being prepared to address these areas.

2.4.6.1 Wet Weather Detention Storage

Market Avenue Retention Basin (MARB): A 30 mg storage facility located upstream of MAPS utilized for wet weather volumes exceeding the 90 mgd capacity of WRRF. MARB includes an overflow to the Grand River if capacity is exceeded.

Primary Effluent Retention Basin (PERB): Located within the WRRF to provided 9.8 mg of storage if the secondary treatment capacity of the WRRF is exceeded. Also used for wet weather and hazardous flow storage.

2.4.6.2 Secondary Treatment

Water Resources Recovery Facility (WRRF): Provides primary and secondary treatment up to 90 mgd. Above this rate wet weather flows are retained at MARB and PERB.

2.4.7 Physical Condition of Facilities (within project area)

Within the project area is a 60-inch combined sewer and the ESTS. The 60-inch sewer is in fair condition, with leaking joints and laterals, and will be replaced. The ESTS is in good condition and will remain. No mainline storm sewer exists.

2.4.8 Design Capacity, Existing Flows, and Characteristics

See section 2.4.2.

2.4.9 Septage Receiving

This does not apply to the project.

2.4.10 Major Industrial Discharges

No current industrial discharges.

2.4.11 Operation and Maintenance Problems

The existing operation and maintenance (O&M) problems within the study area are indicated below:

- Leaking joints and laterals related to 60-inch combined sewer.
- Catch basin and manhole cleaning challenges due to size, condition, and difficult access.
- Leaking local water mains.
- Poor condition of pavement and curb.

2.4.12 Climate Resiliency

Based on the U.S. Environmental Protection Agency's Climate Scenarios Projection Map, Michigan may experience increased rainfall and snowmelt. This will result in additional surface runoff and a higher wet weather flow through the system. The proposed project will help mitigate the effects of climate change across the system.

The storm sewer will be conservatively sized to convey the 2-year rainfall event during the 100-year flood event without street flooding. The project will reduce wet weather flow to the WWRF thereby providing additional

treatment capacity during extreme rainfall events. MARB storage will become available for events greater than the RDS.

2.5 Fiscal Sustainability Plan

2.5.1 Inventory of Critical Assets

Critical assets within the Godfrey Avenue project area: a 60-inch combined sewer, ESTS, Grand River floodwall, clay laterals and basin connections, brick catch basin and manhole structures.

2.5.2 Condition and Performance Evaluation

The existing 60-inch combined sewer was video inspected for condition and lateral locations. The pipe functions well from a conveyance standpoint but considerable infiltration occurs at damaged joints, cracks, and lateral taps. The pipe does not have adequate capacity to become a dedicated storm sewer discharging to the Grand River. This will be discussed further in 3.1.2.2.

The ESTS is integral with the Grand River floodwall. Both are in good condition. Modification to both structures will be made for the proposed stormwater outfall.

All catch basins, manholes, laterals and basin connections are aged and in poor condition. They will all be replaced to meet current standards.

2.5.3 Water and Energy Conservation

The proposed sewer separation will reduce the annual treatment volume to the WRRF by approximately 70 mg.

Water main replacement will eliminate the leaking mains currently within the project limits.

2.6 Need for Project

The statewide SSO policy indicates that a classified SSO system must provide adequate capacity to convey and treat the RDS, which is defined as a 25-year, 24-hour storm event (3.9 inches of rainfall) occurring under growth conditions (April 1 – November 1), assuming normal antecedent soil moisture conditions and an SCS Type II rainfall distribution.

Based on the recent PPC evaluation the MARB will overflow to the Grand River during the RDS. Modeling shows this overflow will be eliminated with completion of Godfrey Avenue sewer separation.

2.6.1 Asset Management Program

The City has a Wastewater Collection System Asset Management Plan (AMP). In addition to the typical updates to the AMP according to physical condition assessments, the recommendations will be in alignment with the City's Strategic Plan. The City will implement a formal sewer condition assessment program and AMP to identify, prioritize, and budget for these improvements.

2.6.2 Compliance Status

The NPDES permit indicates additional corrective actions. This includes demonstrating that the transport, total system storage, and secondary treatment capacity of the Grand Rapids collection system and Wastewater Resource Recovery Facility (WRRF) can adequately handle wet weather flows generated as a result of the Department defined RDS, equivalent to a 25-year, 24-hour storm (3.9 inches in 24 hours). Among the requirements, there shall also be no discharge from Outfall 003 (MARB) resulting from an RDS storm event. The proposed project will fulfill the requirement at MARB.

2.6.3 Orders

There are no orders. However, the NPDES permit requires the City to submit a CAP on or before October 1, 2026.

2.6.4 Water Quality Problems

Currently contaminated groundwater enters the wastewater collection system within the project limits and is treated at the WWRF.

2.6.5 Projected Needs for the Next 20 Years

The population in the study area is projected to remain steady.

The proposed project will address the requirements in the NPDES permit of no SSO discharges to the Grand River at the MARB.

2.7 Future Environment Without the Proposed Projects

Upstream sewer separation benefits would not be realized; Wet weather flows from 184 acres would still be routed to WRRF.

Potential for SSOs at the MARB remains during the RSD; sewer separation and I/I reduction improvements would need to be completed elsewhere in the system to eliminate this potential.

No reduction in wet weather flows to WRRF and related treatment cost.

PERB remains needed for extreme events to prevent an SSO at MARB.

Interior flood control remains dependent on the wastewater collection sewer system and capacity of WRRF and MARB.

Contaminated ground water would continue to enter the wastewater collection system through the aged 60-inch combined sewer.

3.0 Analysis of Alternatives

3.1 Godfrey Avenue Potential Alternatives

3.1.1 Alternative 1 – No Action

Nearly all local sewer separation upstream of Godfrey Avenue has been completed with storm flows discharging back to the 60-inch combined sewer at the Godfrey/Oxford intersection. The proposed project downstream of this intersection is the last required to complete full sewer separation of the 184-acre Godfrey Avenue drainage district thereby routing storm flows to the Grand River rather than WRRF.

Implications of the no action alternative:

- Godfrey Avenue sewer separation would not be completed as planned; recent investments to separate the Godfrey drainage district would not be realized.
- Potential for overflows at the MARB for events near the RDS remain.
- Estimate annual wet weather flow reduction of 70 mg to WRRF would not be realized; treatment cost would remain.
- Aged infrastructure near or greater than 100 years old would remain, including the 60-inch combined sewer and three water mains.
- Contaminated groundwater would continue to infiltrate into wastewater collection system.

3.1.2 Alternative 2 – Optimize Existing Facilities

3.1.2.1 Alternate 2A – Provide Additional Retention Storage

The City's objectives are water usage reduction, sewer separation, I/I removal, and asset management. Providing additional storage is not consistent with this objective.

3.1.2.2 Alternate 2B – Re-use Existing 60-inch Combined Sewer

The existing 60-inch combined sewer in Godfrey Avenue from Market Avenue to Oxford Street was constructed in 1931 and is in fair/poor condition. It is at roughly 17-foot depth with groundwater infiltration at joints/cracks common. The pipe is undersized for post separation peak design storm flow rates and very oversized for sanitary sewer flows.

Though not recommended, possible options for reuse of the 60-combined sewer are discussed below. All options would require full pipe rehabilitation and manhole reconstructions.

Build New 72- to 84-inch Storm Sewer (60-inch Combined Sewer Becomes Dedicated Sanitary Sewer)

- Line 60-inch pipe, replace manholes and laterals. The 60-inch pipe is very flat and would provide poor flow characteristics for the small post separation sanitary flow rates.
- The proposed storm sewer size needed is 72- and 84-inch diameter. This pipe would block gravity laterals from reaching the 60-inch pipe from the far side of road. A second parallel sanitary sewer would be required for these laterals.
- Given the tight constraints of the Godfrey Avenue right-of-way width, the depth of construction, location of utility poles and 8- and 12-inch and 24-inch water mains, it would be difficult to salvage the 60-inch pipe while constructing the large and deep storm sewer.

Build New 36-inch Sanitary Sewer (60-inch Combined Sewer Becomes Dedicated Storm Sewer)

- Currently flows from the 60-inch combined sewer and eventually discharges to the WRRF. If converted to storm sewer, the pipe must be rerouted to discharge to the Grand River. Under this situation the 60-inch pipe would be severely undersized at high river levels.
- A major pump station would be required for internal drainage during high river events. This is not desirable from an initial capital investment or life-time operation and maintenance perspective. An emergency overflow to the ESTS is another alternative but is not approvable from a regulatory standpoint.

In summary reuse of the 60-inch combined sewer (1931) was evaluated but ultimately dismissed due to age/condition, capacity/flow characteristics for future conditions, and difficulty to construct around without creating further damage.

3.1.3 Alternative 3 – Construction Alternative

Godfrey Avenue is a major utility and traffic corridor that was last reconstructed in the 1930s. All major underground utilities date back to at least this time. For this reason, comprehensive utility and road improvements are proposed that avoid the need for pumping stations, additional retention, or mechanically operated facilities.

New 36-inch Sanitary Sewer

Install new 36-inch sanitary sewer, approximately 3,000 feet, in Godfrey Avenue from Market Avenue to Oxford Street. The pipe will be installed deeper than the proposed storm sewer to allow lateral service to each side of road. Pipe will be PVC, sized and sloped to accommodate current upstream wet weather flows without surcharging but still maintain acceptable flow characteristics after weather flows are removed.

New 72- and 84-inch Storm Sewer (Upland)

Remove existing 60-inch combined sewer and install new 72- and 84-inch upland storm sewer in Godfrey Avenue from the Grand River to Oxford Street (approximately, 3,100 feet) to drain areas above the 100-year flood elevation directly to the Grand River. The pipe will be installed deeper than the existing 60-inch combined sewer (to be removed) but shallower than the proposed sanitary sewer. Pipe will be of reinforced concrete construction with rubber gaskets.

To meet FEMA interior drainage standards the storm sewer will be sized to discharge approximately a 2-year rainfall event to the Grand River during the 100-year flood event. Below the 100-year flood elevation no inlets will exist and all manhole castings/covers will be bolted down. A new large stormwater pump station is not required.

New 24- and 42-inch Storm Sewer (Lowland)

Construct new 24- to 42-inch lowland storm sewer in Godfrey Avenue from Market Avenue to approximately 2,050 feet south. The pipe will be shallow and drain to an existing stormwater pump station. The pump station was designed to drain inland areas below the 100-year flood elevation should an extreme river flood occur.

New 16- and 24-inch Water main

Replacement of 2,900 feet or 8-inch MP (1898) and 2,900 feet or 12-inch MP (1923) cast-iron water mains with a single new 16-inch medium pressure ductile iron water main.

Replacement of 3,050 feet for 24-inch LP (1929) cast iron transmission water main with new 24-inch LP ductile iron transmission water main.

DWRSF financing is being sought for this work.

New Roadway (Full Depth and Width)

The road section will be narrowed and parking provided to accommodate proposed redevelopment and meet current City street design criteria. A multiuse pathway will be provided, and the existing railroad crossing will be improved.

Due to the depth and width of utility construction all existing pavement and sidewalks will be removed as a result of sewer and watermain construction.

3.1.4 Alternative 4 – Regionalization Alternative

Regionalization is an alternative that must be considered for all project groupings in this Project Planning Document. For the scope of the project, a regional alternative does not apply and will not be discussed further in the project alternatives analysis.

3.2 Monetary Evaluation

A monetary evaluation was completed to compare the present worth of each principal alternative for a 20-year planning period. The 20-year present worth incorporates a real discount (interest) rate that is released annually by the Office of Management and Budget and is recommended by the U.S. Environmental Protection Agency for CWSRF project planning. The real discount rate of 2.2% was applied for the monetary evaluation calculations.

The total present worth is the sum of the capital cost plus the present worth of the O&M costs, minus the present worth of the project salvage value. The capital cost reflects the preliminary opinion of probable construction cost. The 20-year salvage value was calculated using a straight-line depreciation and the useful life for each component recommended in the CWSRF project planning guidance. A summary of the monetary evaluation results is presented in Table 2.

Table 2 – Monetary Evaluation – Godfrey Avenue Sewer Separation

	Construction Alternative – Sewer Separation
Capital Cost	$20,700,000
Total Estimated Project Cost	$23,250,000
Annual O&M Cost	$83,000
Salvage Value	$11,220,000
Present Worth of O&M Cost	$1,331,300
Present Worth of Salvage Value	(S7,261,000)
20-Year Total Present Worth	**$14,770,300**

The monetary evaluation was completed under the following assumptions:

- Each principal alternative would be constructed using the traditional design bid build delivery method.
- Sunk costs such as outstanding bond indebtedness and the cost of existing facilities were excluded from the analysis.
- Energy and land cost escalation were not factors in the analysis.
- Project partitioning is not required for any of the principal alternatives.

3.2.1 Sunk Costs

Sunk costs are the investments or financial commitments made before or during project planning. Sunk costs have not been included in the cost effectiveness analysis since they have already been committed regardless of the alternative selected.

3.2.2 Salvage Value

The planning period for the monetary evaluation is 20 years. At the end of this period, portions of the proposed structures and equipment will have a salvage value. A straight-line depreciation has been used to calculate the salvage values for the principal alternatives. The present worth of the salvage value for the assets has been computed using the real discount rate.

3.2.3 Escalation

The monetary evaluation allows for energy costs and land values to be escalated. The cost of labor, equipment, and materials is not escalated. For this monetary evaluation, energy costs have not been escalated and land values are not included in the evaluation.

3.2.4 Mitigation Costs

A budget of $2,000,000 is included in the total estimated cost for handling, treatment, and disposal of contaminated groundwater and soil. This number is based on previous sewer separation in Godfrey Avenue upstream of Oxford Street.

3.3 Partitioning the Projects

The project will not be partitioned.

3.4 Environmental Evaluation

Due to the location of the project alternative, no impacts to cultural and historic resources, natural or wild and scenic rivers, agricultural resources, fauna and flora, or land use are expected.

Construction of the new storm sewer outfall to the Grand River requires a Joint Permit from EGLE and Army Corp of Engineers. This permit application has been submitted. Approval has been obtained from the Corp and final

approval from EGLE is expected. The work will include mussel relocation, installation of turbidity barrier, shallow drenching, and placement of natural armoring for river bottom protection.

Project requires the use of construction equipment that may have a temporary negative impact on local air quality at the project site. These effects would dissipate post construction.

3.5 Implementability and Public Participation

The City is the Owner and is in a position to implement the project. The public will be provided with an opportunity to participate in a public meeting. A copy of the meeting transcription will be included in the final document. The public has been and will continue to be provided with opportunities to comment on the project. Public concerns will be considered whenever possible throughout the design and construction of the proposed improvements.

3.6 Technical and Other Considerations

3.6.1 Infiltration and Inflow Removal

The existing 60-inch combined sewer in Godfrey Avenue from Market Avenue to Oxford Street was constructed in 1931. It is below the groundwater table and considerable infiltration occurs at joints, cracks, and lateral connections. All catch basins and many roof drains discharge to this sewer. Inflow also comes from adjacent upstream areas recently separated. Based on the system model an estimated annual reduction in wet weather flows of 70 mg is expected. Further the remaining sanitary overflow at MARB would be eliminated during the RDS.

3.6.2 Structural Integrity

The 60-inch combined sewer is a reinforced concrete pipe in fair/poor condition. It is roughly 17 feet deep and groundwater infiltration at joints and cracks is common. Laterals are generally vitrified clay pipe in poor condition. Catch basins are in poor condition and do not meet current standards for size, access and water quality treatment.

3.6.3 Sludge and Residuals

This does not apply to the project.

3.6.4 Industrial Pretreatment

This does not apply to the project.

3.6.5 Growth Capacity

The sewer shed is at ultimate development. The 20-year planning period has been considered for the proposed project.

3.6.6 Areas Currently Without Sewers

The project area currently has combined sewers. The proposed project would provide new separate storm and sanitary sewers.

3.6.7 Reliability

Each alternative has been evaluated based on its ability to meet and consistently maintain permit requirements throughout the useful life of the project. Alternative 3 improvements will be designed to meet all reliability requirements included in the NPDES permit. Alternative 3 provides the best overall system reliability of the alternatives evaluated.

3.6.8 Alternative Sites and Routings

Two routes were evaluated between the Grand River and Chestnut Street. The first and most direct route would continue the new sanitary and storm sewers north 1,100 feet in Godfrey Avenue to the Grand River. The second route bypasses Godfrey Avenue by routing the new sewers westerly on Chestnut Avenue then north outside right-of-way to the Grand River. Both routes require challenging crossings of the CSX railroad tracks. The estimate cost for each alternative is nearly the same.

The Godfrey Avenue route was chosen because aged water mains, street, and sidewalks could concurrently be reconstructed. The second route would necessitate a separate project to replace these facilities.

3.6.9 Sanitary Sewer Overflows

As previously discussed, the proposed project would eliminate the need for the remaining overflow to the Grand River for wet weather situations.

3.6.10 Contamination at Project Sites

Soil and groundwater contamination including mercury, cyanide, PFAS, and copper exists throughout the project area because of previous heavy industry and power generation activities.

3.6.11 Green Project Reserve

The proposed includes sewer separation. There are no known components of that project that would qualify for green project reserves.

4.0 Selected Alternative

4.1 Design Parameters

Sanitary Sewer

The sanitary sewer will be sized for wet weather flows from approximately 19 unseparated acres currently routed from Grandville Avenue to Godfrey Avenue via B Street. Once separated, storm flow from the 19 acres will no longer be routed to Godfrey Avenue. However sanitary flows will continue to go to Godfrey Avenue. The sanitary sewer will be designed so minimum flow velocities are maintained post separation. There is no planned schedule to separate this area.

Storm Sewer

Flood control considerations control storm sewer design. The upland storm sewer will be designed to convey the 2-year rainfall event to the Grand River during the 100-year flood with no street flooding. The lowland sewer is designed for the 10-year event. The Market Avenue Stormwater Pump Station will push the lowland flows to the Grand River during high river stages.

4.2 Project Maps

Refer to Figure 1 for a map of the sewer service area, to Figure 2 for a map of existing project area, to Figure 3 for a map of the proposed project area, and to Figure 4 for a map of the remaining unseparated areas (July 2025).

4.3 Project Useful Life

To determine the overall useful life of the projects, a weighted useful life was calculated by multiplying the dollar value of each component by the individual useful life for each component, then divided by the total estimated project cost. The useful life for the individual components is based on CWSRF project guidance.

Table 3 – Weighted Useful Life

Component	Capital Cost	Useful Life (Years)
Sanitary Sewer	$9,400,000	50
Storm Sewer	$9,300,000	50
	Weighted Useful Life	*50*

4.4 Schedule for Design and Construction

Final design is approximately 80% complete. The City will target Quarter 3.0 financing schedule. The milestone dates are indicated in Table 4.

Table 4 – Project Schedule

Task	Estimated Milestone
EGLE Fiscal Year and Quarter Planned for Project	FY2027, Quarter 3
Final Design	February 2027
Construction Permit	March 2027
Bidding	March 2027
CWSRF Funding Award	June 2027
Anticipated Project Start	August 2027

4.5 Cost Summary

A summary of the project costs is provided in Table 5. Detailed cost breakdowns for each project are provided in Appendix 5, in 2026-dollar amounts.

Table 5 – Proposed Project Cost Summary

Item	Estimated Cost
Capital Cost	$20,700,000
Total Cost of Proposed Project	**$23,250,000**

4.5.1 User Cost

CWSRF funding provides a low interest 20-year loan that will help mitigate the increase to rates. The annual projected debt over the 20-year term of the loan assuming a 3.0% interest rate is $ 6,852,409 The 3.0% interest rate is only a projection by EGLE at this time and will be set by the Michigan Finance Authority during the loan approval process.

The monthly cost to finance the project, for a family of four, consuming 400 gpd total, is $3.39.

4.5.2 Overburdened Community

EGLE's revised overburdened and significantly overburdened criteria have been reviewed. Median annual household income (MAHI) and taxable values for the City were reviewed. The overburdened survey will be submitted.

4.6 Implementability

The City, as the operating manager of the system, has the authority to operate, administer, and maintain the wastewater system. The proposed project will occur within the City limits.

5.0 Environmental and Public Health Impacts

5.1 Direct Impacts

5.1.1 Construction Impacts

5.1.1.1 Project Setting

The construction area will primarily be in City right-of-way and property. No adverse impacts to sensitive features are anticipated due to the construction activities associated with the proposed improvements.

The endangered and threatened species were reviewed and identified. Long term impacts associated with the construction activities on these species is not anticipated. Historical and cultural sites were reviewed. There are no known sites within the project sites.

Any short-term impacts on the Grand River due to the construction activities will be mitigated by measures such as soil erosion and sedimentation control to protect and prevent any surface water impacts. No changes to the current drainage within the project area are anticipated currently. All areas disturbed during construction activities will be restored to their original condition.

5.1.1.2 Construction Methods

Construction will be limited to the Godfrey Avenue. Any short-term impacts related to the construction activities will be mitigated or reversed by site restoration efforts. There will not be any long-term impacts associated with the proposed construction activities. Sufficient mitigation measures will be taken to dispose of any soils or stockpile excess material in a manner that will not impact the Grand River.

5.1.1.3 Traffic Impacts

There are no long-term traffic impacts anticipated due to construction. There may be short-term traffic impacts due to construction activities, but no changes to traffic patterns are anticipated. Construction hours for projects of this type are generally limited to 7:00 a.m. to 7:00 p.m., Monday through Friday, and 7:00 a.m. to 1:00 p.m. on Saturday. Emergency vehicular access will be maintained within the project sites throughout construction.

5.1.2 Operational Impacts

Operational impacts typically include odors, noise, traffic, and other impacts. There is not expected to be any increase in odors, noise, or traffic from operation of the project. The proposed project will improve the overall wastewater collection and treatment system reliability.

5.1.3 Social Impacts

The proposed construction activities are a required step in revitalizing the Godfrey Avenue corridor from abandoned industrial sites to new mixed-use development that better serve adjacent residential neighborhoods. Continued redevelopment and job creation is anticipated thus contributing to the economy. Road, sidewalk, and trails will be modernized to meet the current residential and redevelopment needs.

5.2 Indirect Impacts

The proposed projects will provide reliable conveyance and treatment of wastewater. Following construction, the project sites will be restored to its original condition. Adverse impacts from the construction activities associated with the projects are not anticipated.

5.3 Cumulative Impacts

Continued water quality improvement to the Grand River with the separated sewer system, elimination of reaming overflow, and reliable wastewater treatment is the primary cumulative impact anticipated. The surface water discharge will remain in accordance with NPDES permit regulations and is not anticipated to have a negative impact on the surface water quality of the receiving stream.

6.0 Mitigation

Where adverse impacts cannot be avoided, structural and non-structural measures will be taken to eliminate and mitigate adverse impacts on the environment. Structural measures include mitigation related to the design and construction of the project. Non-structural measures include mitigation related to governmental, institutional, or private plans/policies/regulations as well as phasing of project construction.

6.1 Mitigation of Short-Term Construction-Related Impacts

The short-term impacts associated with the proposed projects are related to the construction work. These impacts will be temporary in nature and will subside at the end of construction. Measures that will be taken to avoid, eliminate, or mitigate potential short-term environmental impacts include the following:

- *Traffic*: Designated traffic routes for construction traffic, flagmen, warning signs, barricades, and cones will be in use. Any potential increase in traffic due to construction should be minimal and should not impact the flow of traffic in the area.
- *Air Emissions*: Standard construction mitigation treatments including controlling fugitive dust by watering or covering exposed soil/dust areas, maintaining equipment, using emission control devices on construction equipment, and prohibiting idling of inactive equipment or vehicles. Construction activities will result in increased dust in the vicinity of the construction sites during the length of the proposed construction. Mitigation measures to minimize the negative effect of dust on residents and construction workers will be defined in the project specifications. It is anticipated that dust control will be provided by the application of water and/or dust palliative during dry and dusty periods. The contractor will be required to control dust in accordance with methods described in the project specifications.
- *Noise Control*: Work on weekends and/or holidays will be minimized, and designated daytime work hours will be enforced. All equipment should also have mufflers or noise reduction devices.
- *Soil Erosion and Sedimentation Control*: The contractor will be required to obtain a soil erosion and sedimentation control permit from the local agency prior to the start of the work. Mitigation measures that may be utilized will include silt fence, straw bales, riprap, geotextile fabric, and other such methods, as appropriate.
- *Vegetation Protection*: An attempt will be made to minimize the removal of existing vegetation and restore areas to their pre-construction appearance to the greatest extent possible. Prior to construction, a plan for protecting existing trees and vegetation that are to remain or could be impacted during construction activity will be developed.
- *Floodplain*: All work and any disturbance within a floodplain will be minimized to the greatest extent possible. All necessary permits will be obtained during design and mitigation measures will be enforced during construction.
- *Soil and Groundwater*: The site contains contaminated soil and groundwater. All groundwater will be pumped to storage tanks and then through an onsite treatment train before being discharged to the wastewater collection system. Clay barriers will be installed to prevent migration of contaminated groundwater via new utility trenches. All contaminated soil encountered will be disposed of at Type II landfill.

- *Restoration*: Any disturbance to existing pavement, vegetation, and utilities will be repaired or replaced in accordance with the project specifications developed during design.

6.2 Long-Term Impact Mitigation

The selected alternatives were evaluated for long term adverse impacts. There will not be any long-term impacts associated with the construction activities. However, suitable mitigation measures will be considered to ensure there are no irreversible adverse impacts on the environment.

6.2.1 Siting Decisions

The proposed improvements, and therefore construction activities, will occur along Godfrey Avenue. Therefore, no irreversible damage to sensitive features is anticipated. All impacts to the environment and surrounding areas will be minimized as much as possible, and all necessary permits will be obtained.

6.2.2 Operational Impacts

There are no negative, long-term impacts associated with the proposed project. On the contrary, the sewer separation project will have positive long-term impacts by establishing reliable wastewater conveyance and treatment into the future.

6.3 Indirect Impact Mitigation

6.3.1 Master Plan and Zoning

There are no indirect impact mitigation anticipated and no changes in the land use due to the project.

6.4 Special Assessment District Projects

This does not apply to the project.

7.0 Public Participation

7.1 Public Meeting Advertisement

On March 20, 2026, a notice of the public meeting for the CWSRF Project Planning Document Proposed Improvements will be posted on the City's website (https://www.grandrapidsmi.gov). The EGLE Project Manager will be provided a link to this posted public meeting advertisement. The advertisement briefly describes the proposed projects and estimated costs; it mentioned the availability of the report for viewing and invited written comments from the public. The Project Planning Document will be made available on the City's website for public review and comment. Written comments will be requested to be received no later than April 7th, 2026, the date of the public meeting.

7.2 Public Meeting Summary

A public meeting will be held at the City of Grand Rapids Water Administration Building, 1900 Oak Industrial Drive, on April 7, 2026. The meeting minutes and presentation slides from the public meeting will be included in the final report.

7.2.1 Public Meeting Contents

Fishbeck will provide a presentation of the proposed improvements at the public meeting. The contents of the presentation include the following:

- A description of the project needs and problems to be addressed by the proposed projects and the principal alternatives that were considered.
- A description of the selected alternatives, including capital costs.
- A description of project financing and anticipated costs to users, including the proposed method of project financing and the proposed annual charge to the typical residential customer.
- A description of the anticipated social and environmental impacts associated with the recommended alternatives and the measures that will be taken to mitigate adverse impacts.

7.3 Comments Received and Answered

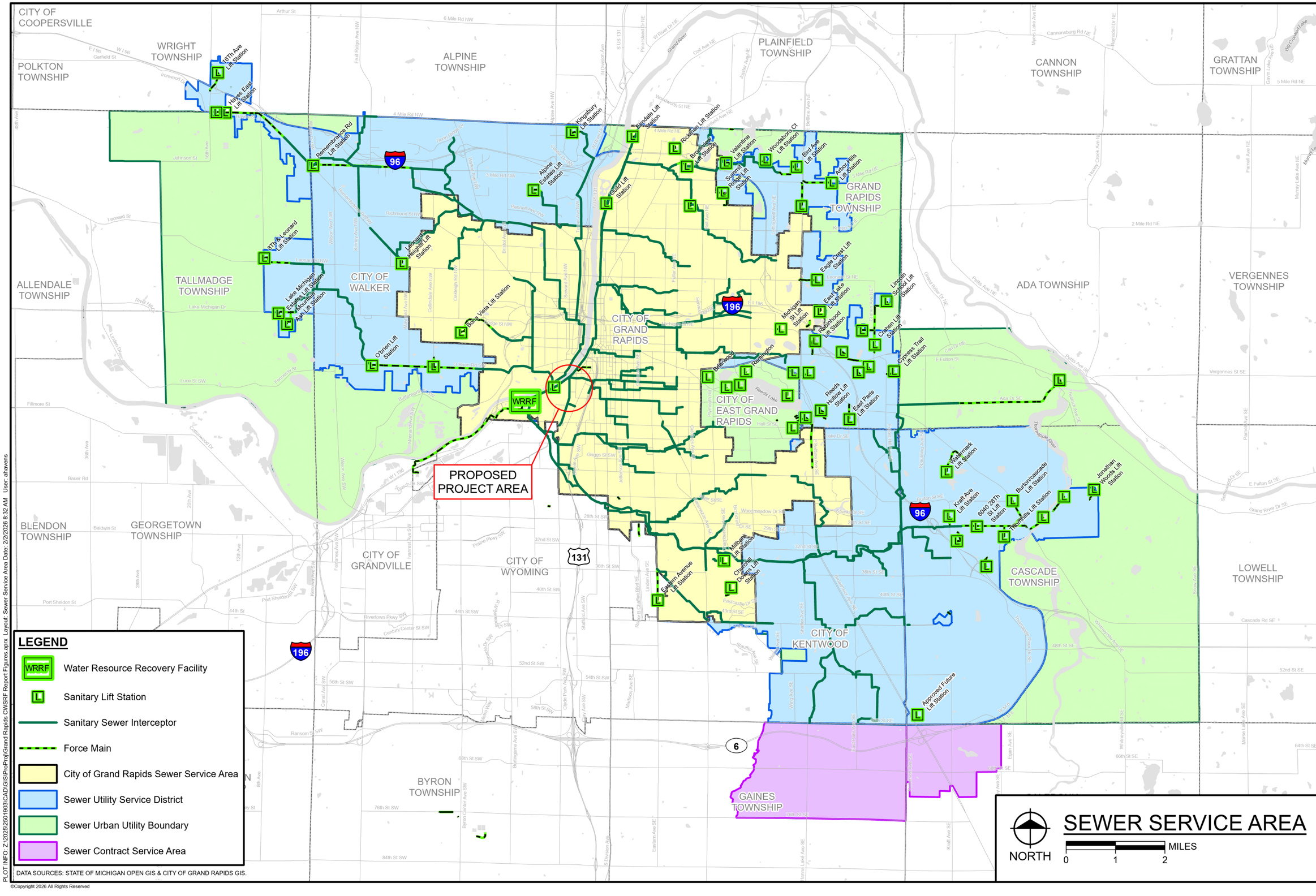
Any comments received will be addressed and included in the final report.

7.4 Adoption of the Project Planning Document

A resolution to formally adopt the Project Planning Document and implement the selected alternatives will be passed at a regular City Council meeting to be held on April 14, 2026 and included in the final report.

fishbeck

Figures



LEGEND

- WRRF — Water Resource Recovery Facility
- L — Sanitary Lift Station
- Sanitary Sewer Interceptor
- Force Main
- City of Grand Rapids Sewer Service Area
- Sewer Utility Service District
- Sewer Urban Utility Boundary
- Sewer Contract Service Area

DATA SOURCES: STATE OF MICHIGAN OPEN GIS & CITY OF GRAND RAPIDS GIS.

NORTH

SEWER SERVICE AREA

0 1 2 MILES

PROJECT NO. 2501903

FIGURE NO. 1

City of Grand Rapids

Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

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PLOT INFO: Z:\2025\2501903\CAD\GIS\ProjGrand Rapids CWSRF Report Figures.aprx Layout: Sewer Service Area Date: 2/2/2026 8:32 AM User: ahavens

LEGEND

- Combined Sanitary Gravity Main
- Sanitary Gravity Main
- Stormwater Gravity Main
- Proposed Project Limits

Wealthy St SW

WFUR 1570AM / 92.9FM

Standard Ave SW

Wabash Ave

West Side Subsystem

East Side Subsystem

Box Board Lofts

GRCC Leslie Tassell M-TE

Market Avenue Pump Station MAPS

Overflow Weir to MARB

MARB Overflow

Market Ave SW

Chestnut St SW

Godfrey Ave SW

Market Avenue Retention Basin MARB (Storage Capacity = 30 MG)

60" Combined Sewer

Grand River

City of Grand Rapids

90 MGD

Water Resources Recovery Facility WRRF (Secindary Treatment Capacity = 90 MGD)

Primary Effluent Recovery Facility PERB (Storage Capacity = 9.8 MGD)

Freeman Ave SW

C and O Railroad

Hayden St SW

Woolsey Dr SW

Merrill St SW

Kensington Ave SW

Dorchester Ave SW

Oxford St SW

Kensington School

Southeast Subsystem

City of Wyoming

Imperial Me

DATA SOURCES: STATE OF MICHIGAN OPEN DATA & NEARMAP IMAGERY.

NORTH

PROJECT AREA EXISTING CONDITIONS

0 250 500 FEET

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City of Grand Rapids
Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

FIGURE NO.
2

PLOT INFO: Z:\2025\2501903\CAD\GIS\PreProjFY27_Grand Rapids CWSRF Report Figures.aprx Layout: Project Area Existing Conditions Date: 3/3/2026 1:44 PM User: ahavens

LEGEND

- Combined Sanitary Gravity Main
- Sanitary Gravity Main
- Stormwater Gravity Main
- Proposed Project Limits

Wealthy St SW

WFUR 1570AM / 92.9FM

Standard Ave SW

Wabash Ave

West Side Subsystem

East Side Subsystem

Box Board Lofts

GRCC Leslie Tassell M-TE

Market Ave SW

Market Avenue Pump Station MAPS

Overflow Weir to MARB

MARB Overflow

Chestnut St SW

Godfrey Ave SW

Market Avenue Retention Basin MARB (Storage Capacity = 30 MG)

30"/36" Sanitary Sewer (Future)

72"/84" Storm Sewer (Future)

Hayden St SW

Grand River

City of Grand Rapids

90 MGD

Water Resources Recovery Facility WRRF (Secindary Treatment Capacity = 90 MGD)

Primary Effluent Recovery Facility PERB (Storage Capacity = 9.8 MGD)

Freeman Ave SW

C and O Railroad

Woolsey Dr SW

Merrill St SW

Kensington Ave SW

Dorchester Ave SW

Oxford St SW

Kensington School

Southeast Subsystem

City of Wyoming

Imperial

DATA SOURCES: STATE OF MICHIGAN OPEN DATA & NEARMAP IMAGERY.

PROJECT AREA PROPOSED CONDITIONS

NORTH

0 250 500 FEET

PLOT INFO: Z:\2025\2501903\CAD\GIS\ProjFY27_Grand Rapids CWSRF Report Figures.aprx Layout: Project Area Proposed Conditions Date: 3/3/2026 3:24 PM User: ahavens

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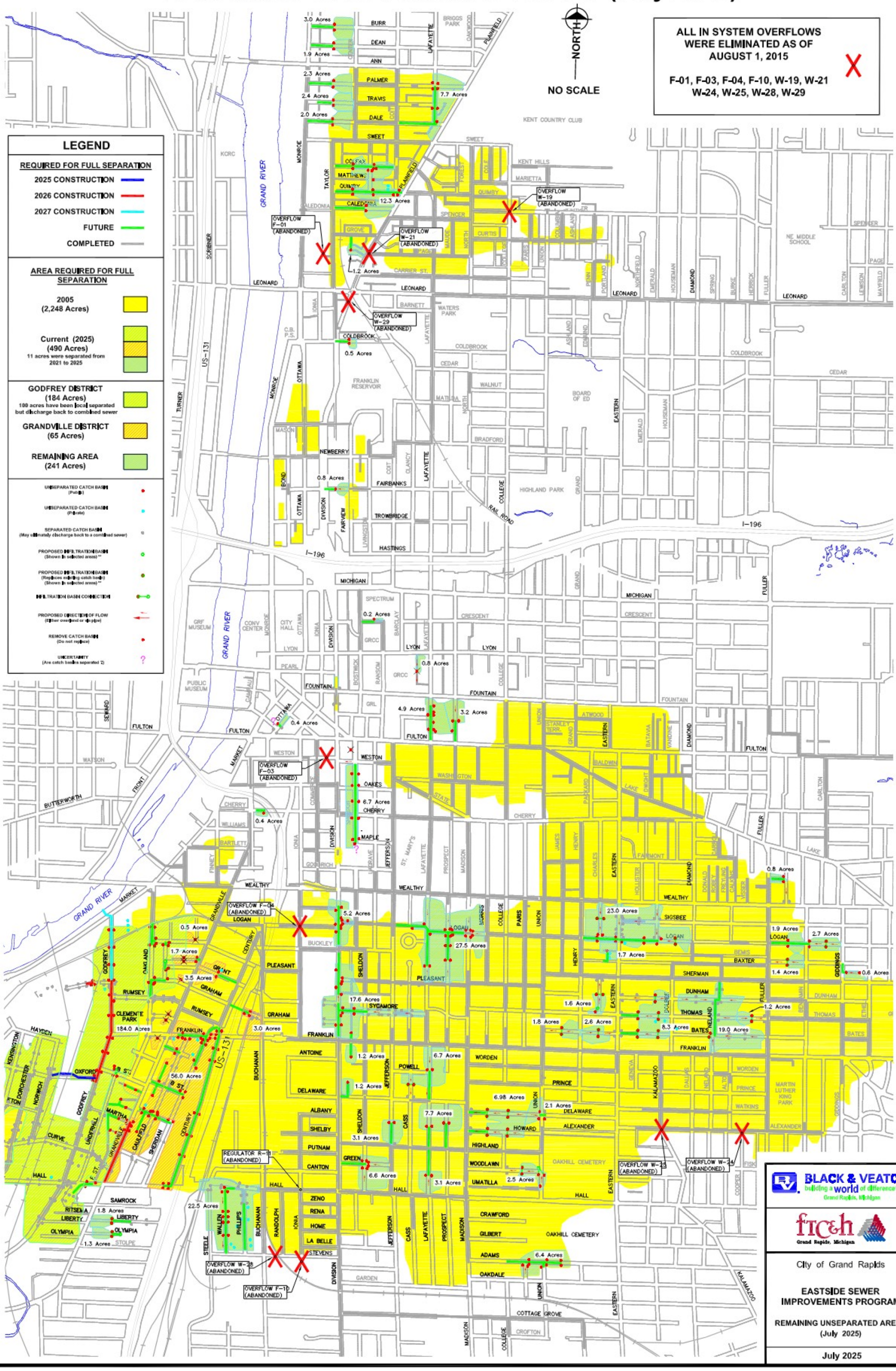
City of Grand Rapids
Kent County, Michigan
Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

FIGURE NO.
3

EASTSIDE SEWER IMPROVEMENTS PROGRAM

REMAINING UNSEPARATED AREAS (July 2025)



City of Grand Rapids
Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

FIGURE NO. 4

PROJECT NO. 2501903

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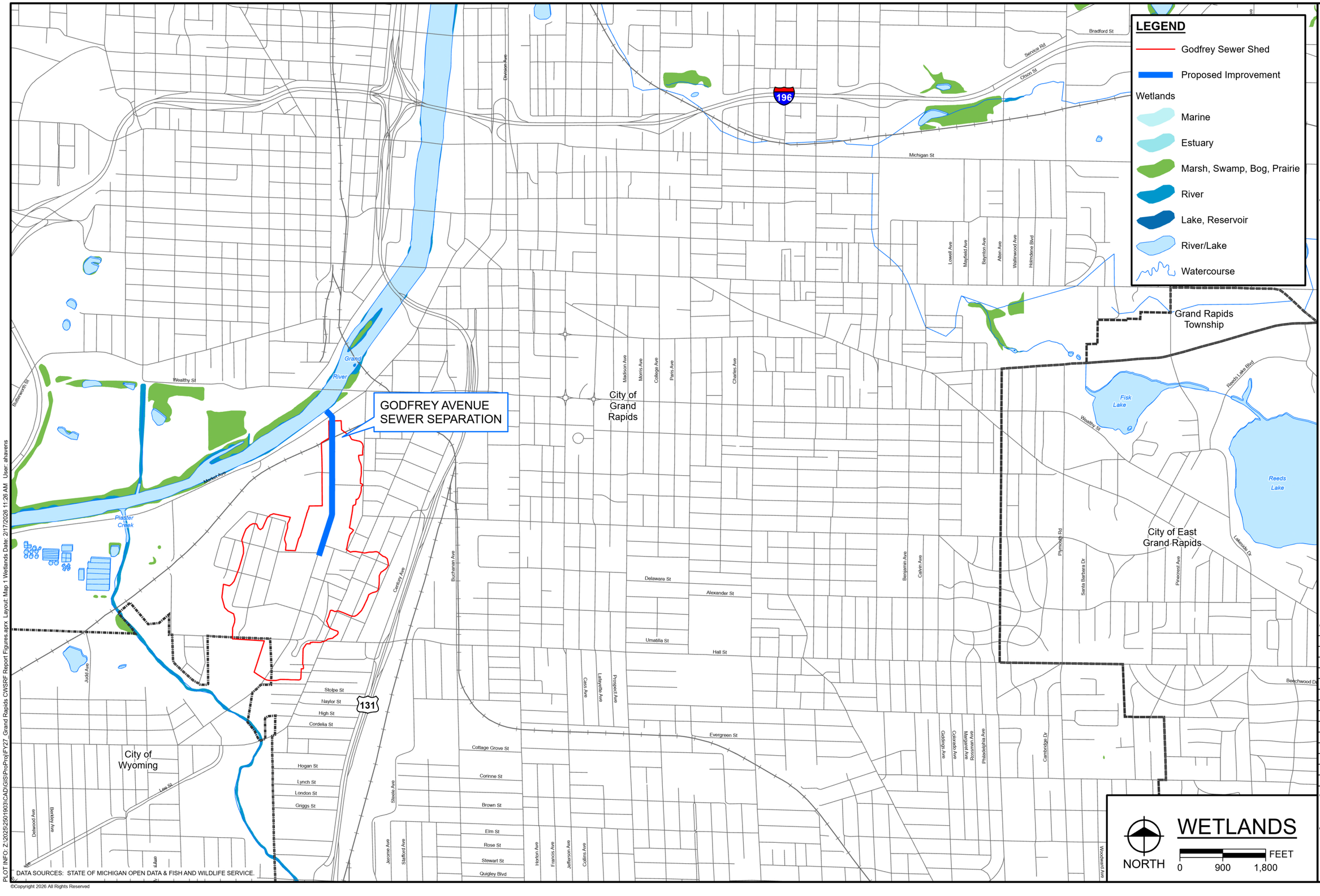
Maps



DATA SOURCES: STATE OF MICHIGAN OPEN DATA & FISH AND WILDLIFE SERVICE.

NORTH

WETLANDS

0 900 1,800 FEET

PLOT INFO: Z:\2025\2501903\CAD\GIS\ProjFY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 1 Wetlands Date: 2/17/2026 11:26 AM User: ahavens

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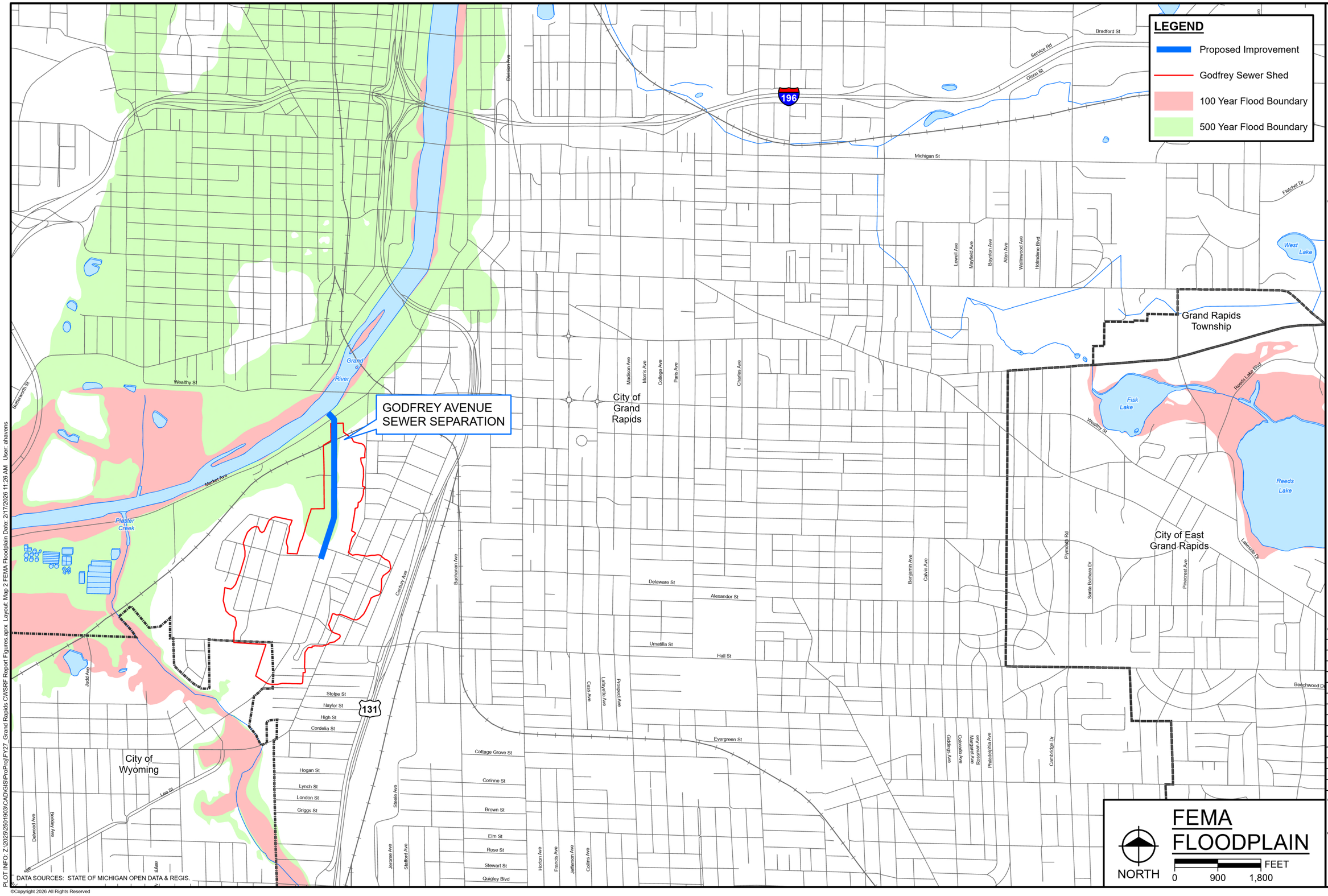
City of Grand Rapids
Kent County, Michigan
Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
1



DATA SOURCES: STATE OF MICHIGAN OPEN DATA & REGIS.

PLOT INFO: Z:\2025\2501903\CAD\GIS\Proj\FY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 2 FEMA Floodplain Date: 2/17/2026 11:26 AM User: ahavens

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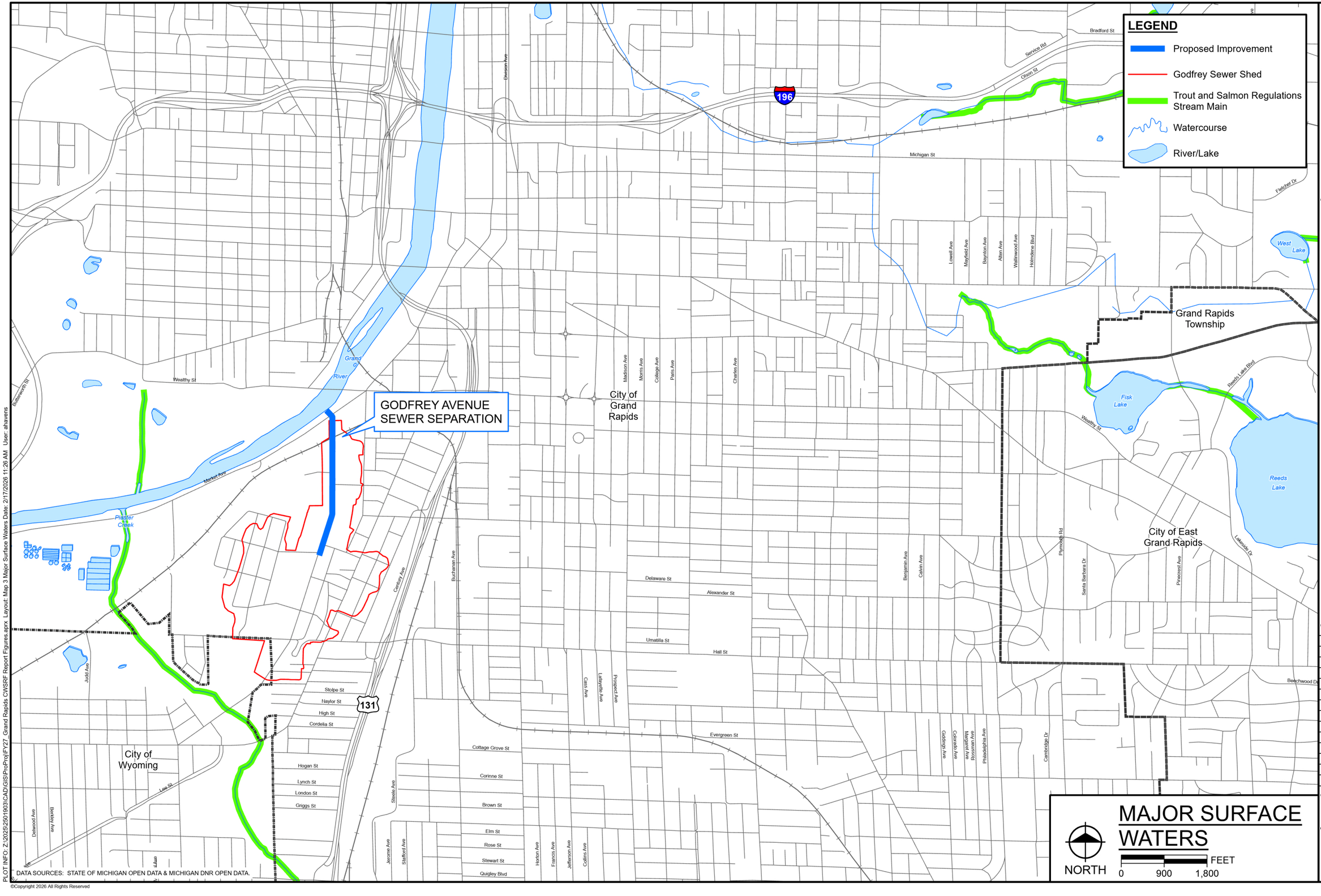
City of Grand Rapids

Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
2



DATA SOURCES: STATE OF MICHIGAN OPEN DATA & MICHIGAN DNR OPEN DATA.

PLOT INFO: Z:\2025\2501903\CAD\GIS\Proj\FY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 3 Major Surface Waters Date: 2/17/2026 11:26 AM User: ahavens

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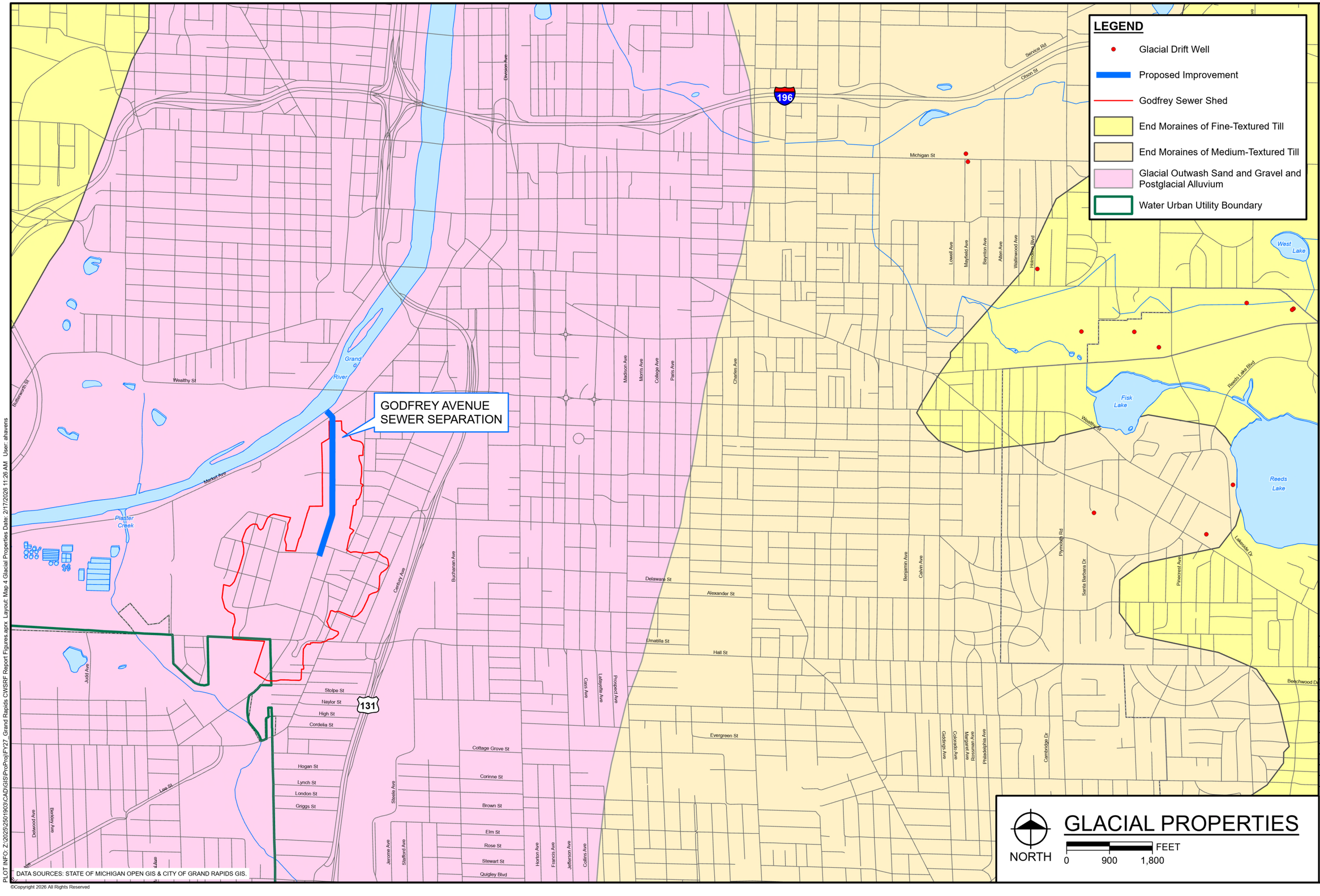
City of Grand Rapids
Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

MAJOR SURFACE WATERS

PROJECT NO.
2501903

MAP NO.
3



DATA SOURCES: STATE OF MICHIGAN OPEN GIS & CITY OF GRAND RAPIDS GIS.

PLOT INFO: Z:\2025\2501903\CAD\GIS\ProjFY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 4 Glacial Properties Date: 2/17/2026 11:26 AM User: ahavens

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City of Grand Rapids
Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
4

GODFREY AVENUE
SEWER SEPARATION

LEGEND

- Water Well
- Proposed Improvement
- Godfrey Sewer Shed

Oil and Gas Fields By Formation
- Traverse Limestone

Bedrock Geology
- Bayport Limestone
- Michigan Formation
- Water Urban Utility Boundary

Bradford St
Service Rd
Olson St
Division Ave
196
Michigan St
Lowell Ave
Mayfield Ave
Bayston Ave
Alten Ave
Wallinwood Ave
Holmdene Blvd
Madison Ave
Morris Ave
College Ave
Paris Ave
Charles Ave
Grand River
Wealthy St
Fisk Lake
Reeds Lake Blvd
Reeds Lake
Lakeside Dr
Plymouth Rd
Santa Barbara Dr
Pinecrest Ave
Benjamin Ave
Calvin Ave
Bridgewater St
Market Ave
Plaster Creek
Century Ave
Buchanan Ave
Delaware St
Alexander St
Umatilla St
Hall St
Beechwood Dr
Judd Ave
Stolpe St
Naylor St
High St
Cordelia St
131
Cottage Grove St
Corinne St
Brown St
Elm St
Rose St
Stewart St
Quigley Blvd
Evergreen St
Hogan St
Lynch St
London St
Griggs St
Lee St
Steele Ave
Jerome Ave
Stafford Ave
Horton Ave
Francis Ave
Jefferson Ave
Collins Ave
Cass Ave
Lafayette Ave
Prospect Ave
Cambridge Dr
Delwood Ave
Berkley Ave

NORTH

BEDROCK GEOLOGY

0 900 1,800 FEET

DATA SOURCES: STATE OF MICHIGAN OPEN GIS & CITY OF GRAND RAPIDS GIS.

PLOT INFO: Z:\2025\2501903\CAD\GIS\ProjFY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 5 Bedrock Geology Date: 2/17/2026 11:26 AM User: ahavens

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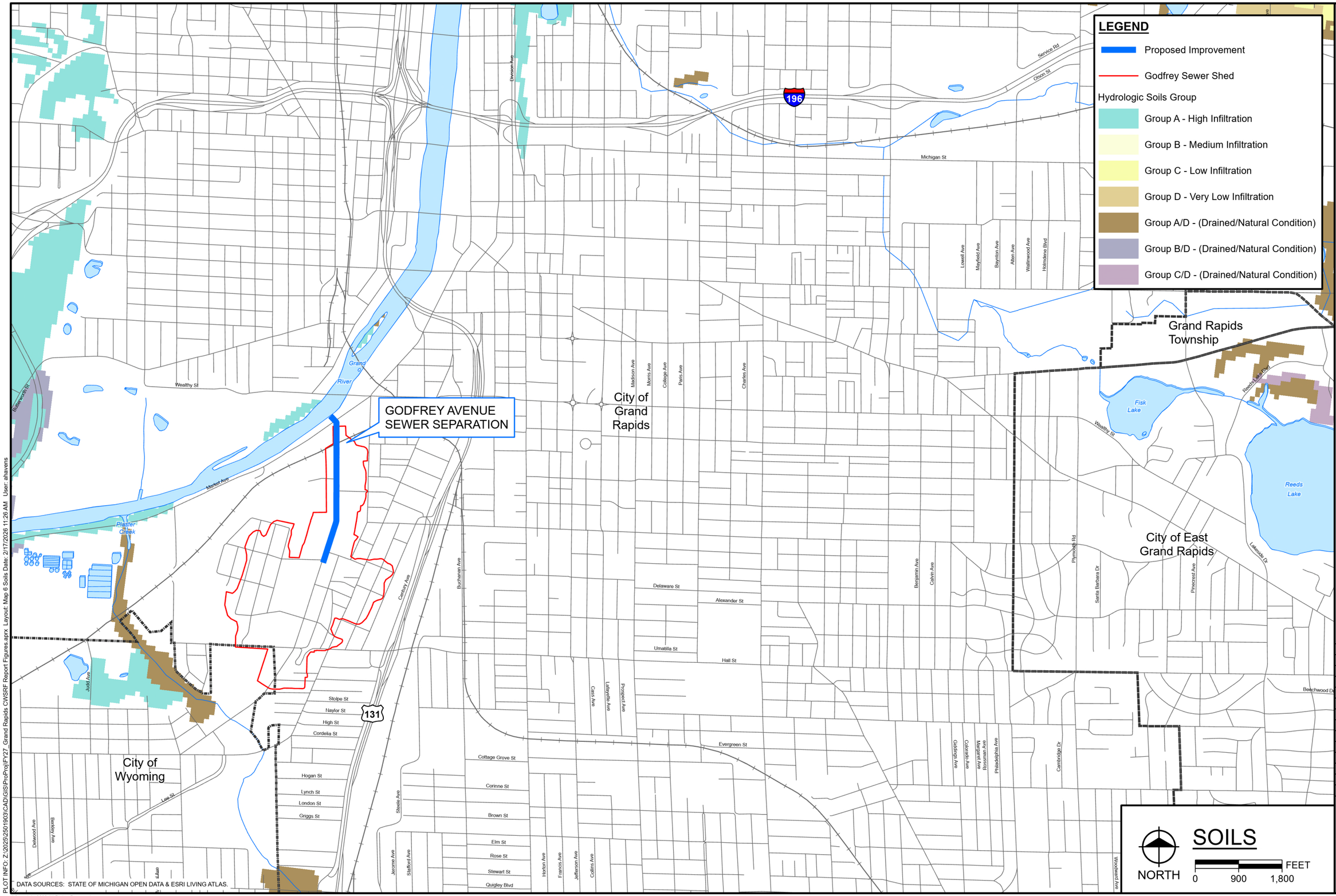
City of Grand Rapids
Kent County, Michigan
Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
5



PLOT INFO: Z:\2025\2501903\CAD\GIS\ProProj\FY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 6 Soils Date: 2/17/2026 11:26 AM User: ahavens

DATA SOURCES: STATE OF MICHIGAN OPEN DATA & ESRI LIVING ATLAS.

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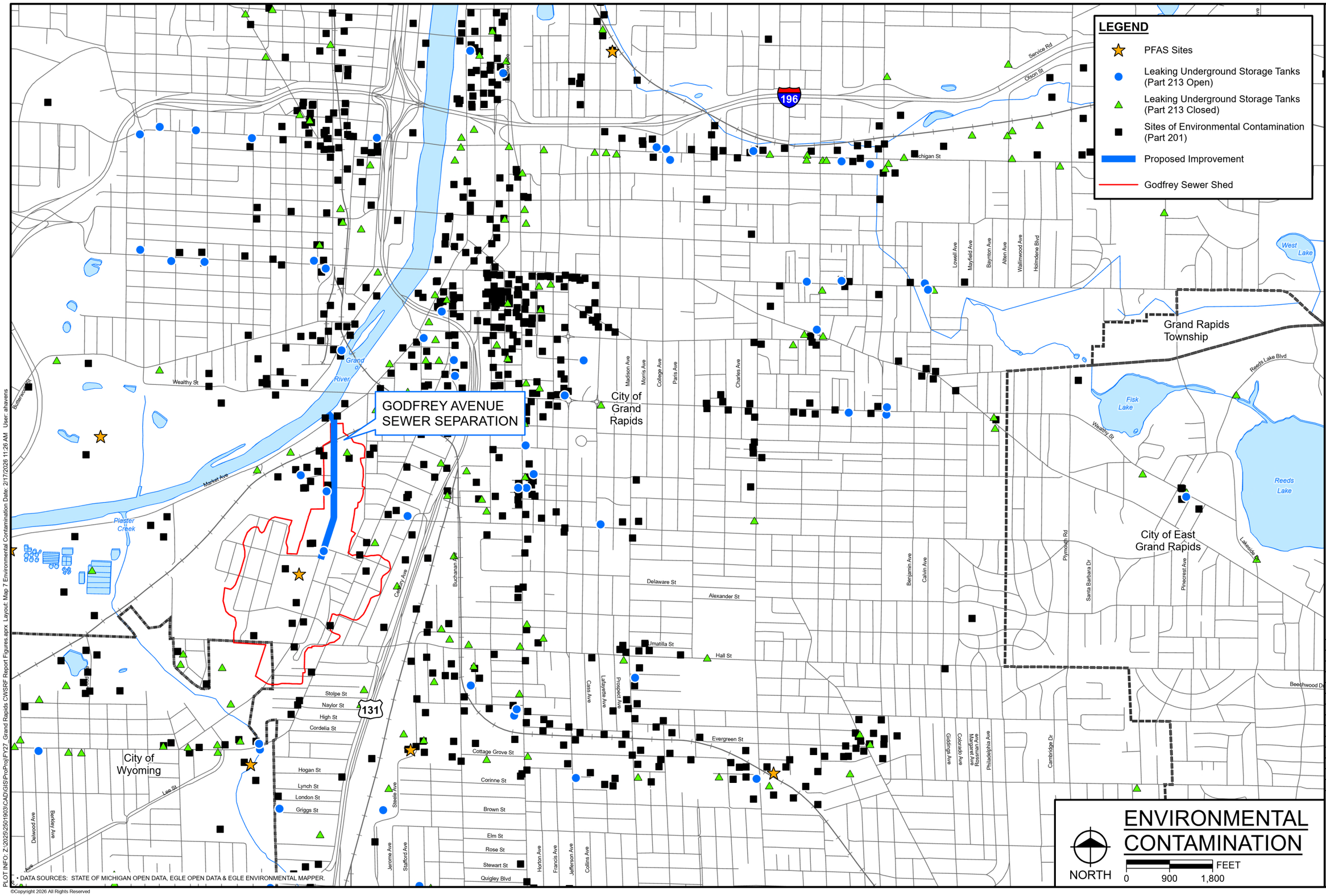
City of Grand Rapids
Kent County, Michigan
Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
6



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City of Grand Rapids
Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

ENVIRONMENTAL CONTAMINATION

NORTH

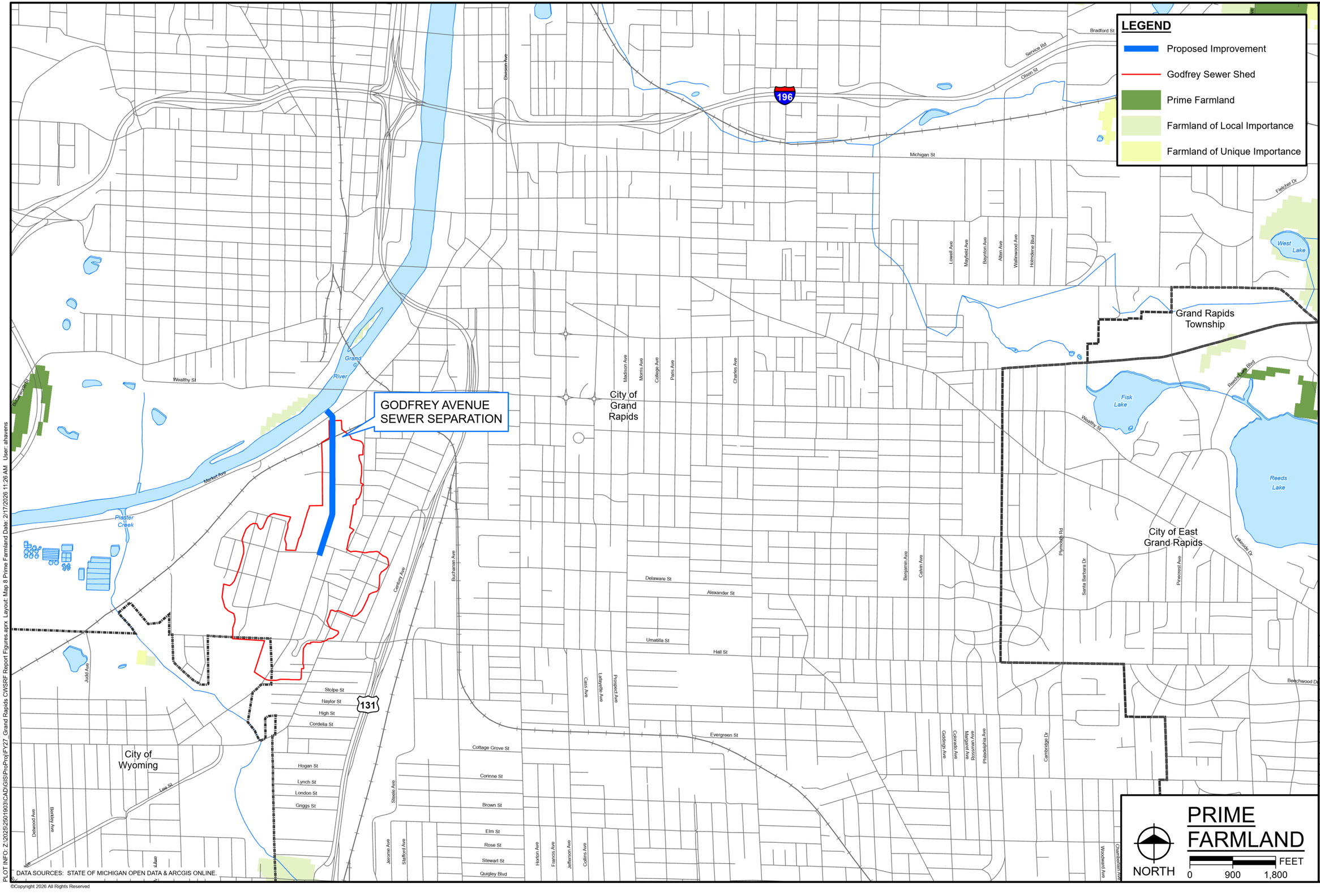
0 900 1,800 FEET

PROJECT NO.
2501903

MAP NO.
7

• DATA SOURCES: STATE OF MICHIGAN OPEN DATA, EGLE OPEN DATA & EGLE ENVIRONMENTAL MAPPER.

PLOT INFO: Z:\2025\2501903\CAD\GIS\Proj\FY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 7 Environmental Contamination Date: 2/17/2026 11:28 AM User: ahavens



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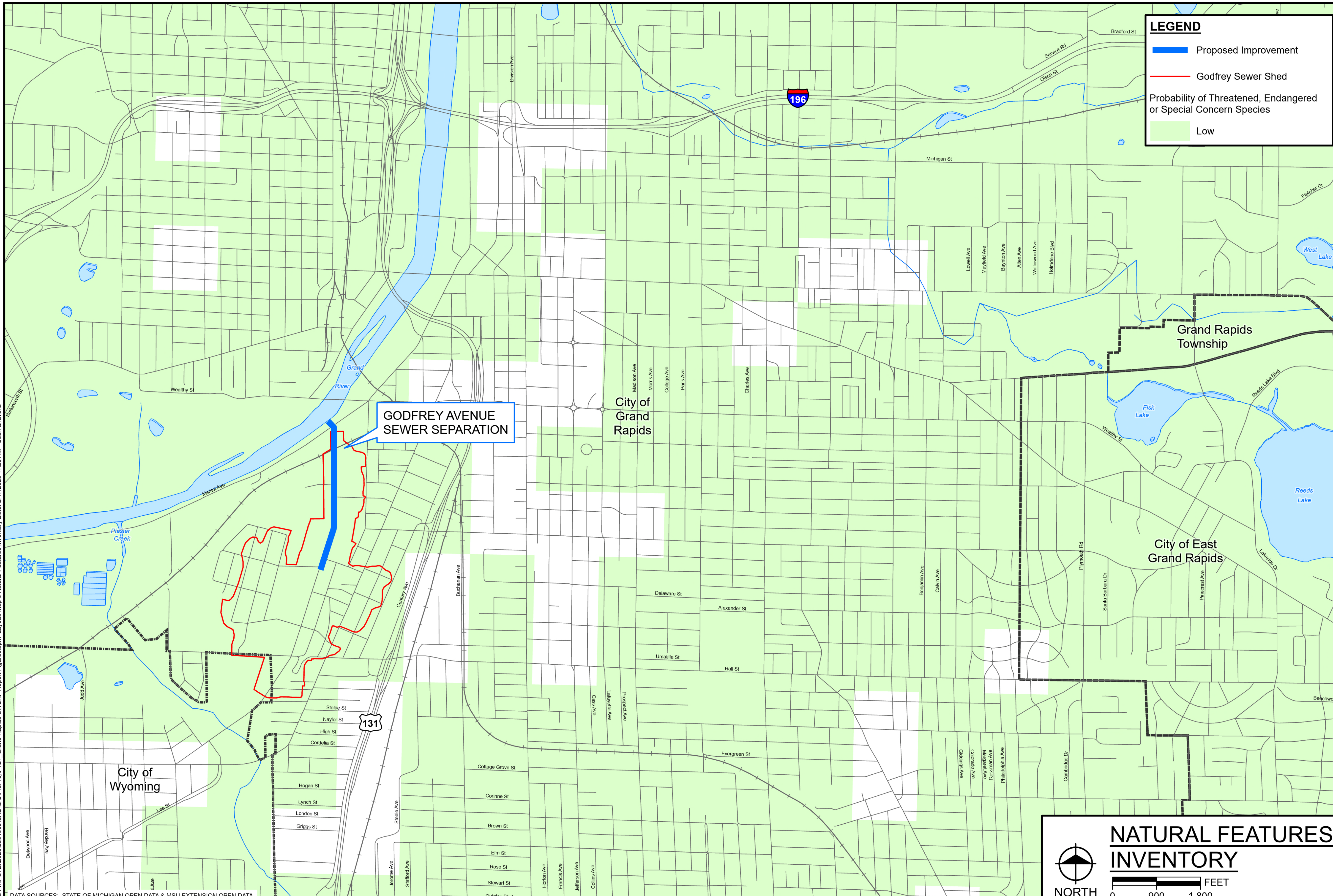
City of Grand Rapids
Kent County, Michigan
Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
8

DATA SOURCES: STATE OF MICHIGAN OPEN DATA & ARCGIS ONLINE.

PLOT INFO: Z:\2025\2501903\CAD\GIS\Proj\FY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 8 Prime Farmland Date: 2/17/2026 11:26 AM User: ahavens


LEGEND
Proposed Improvement
Godfrey Sewer Shed
Probability of Threatened, Endangered or Special Concern Species
Low
GODFREY AVENUE SEWER SEPARATION
City of Grand Rapids
Grand Rapids Township
City of East Grand Rapids
City of Wyoming
Grand River
Plaster Creek
Fisk Lake
Reeds Lake
West Lake
196
131
Michigan St
Wealthy St
Market Ave
Bradford St
Service Rd
Olson St
Fletcher Dr
Division Ave
Madison Ave
Morris Ave
College Ave
Paris Ave
Charles Ave
Lowell Ave
Mayfield Ave
Baynton Ave
Alten Ave
Wallinwood Ave
Holmdene Blvd
Reeds Lake Blvd
Lakeside Dr
Plymouth Rd
Santa Barbara Dr
Pinecrest Ave
Benjamin Ave
Calvin Ave
Delaware St
Alexander St
Umatilla St
Hall St
Beechwood Dr
Evergreen St
Cottage Grove St
Corinne St
Brown St
Elm St
Rose St
Stewart St
Quigley Blvd
Stolpe St
Naylor St
High St
Cordelia St
Hogan St
Lynch St
London St
Griggs St
Lee St
Judd Ave
Century Ave
Buchanan Ave
Steele Ave
Jerome Ave
Stafford Ave
Horton Ave
Francis Ave
Jefferson Ave
Collins Ave
Cass Ave
Lafayette Ave
Prospect Ave
Giddings Ave
Colorado Ave
Margaret Ave
Rossman Ave
Philadelphia Ave
Cambridge Dr
Delwood Ave
Buttonwood St
Butterworth St
NORTH
FEET
0
900
1,800
DATA SOURCES: STATE OF MICHIGAN OPEN DATA & MSU EXTENSION OPEN DATA.

PLOT INFO: Z:\2025\2501903\CAD\GIS\ProProj\FY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 9 Natural Features Inventory Date: 2/17/2026 11:26 AM User: ahavens

NATURAL FEATURES INVENTORY

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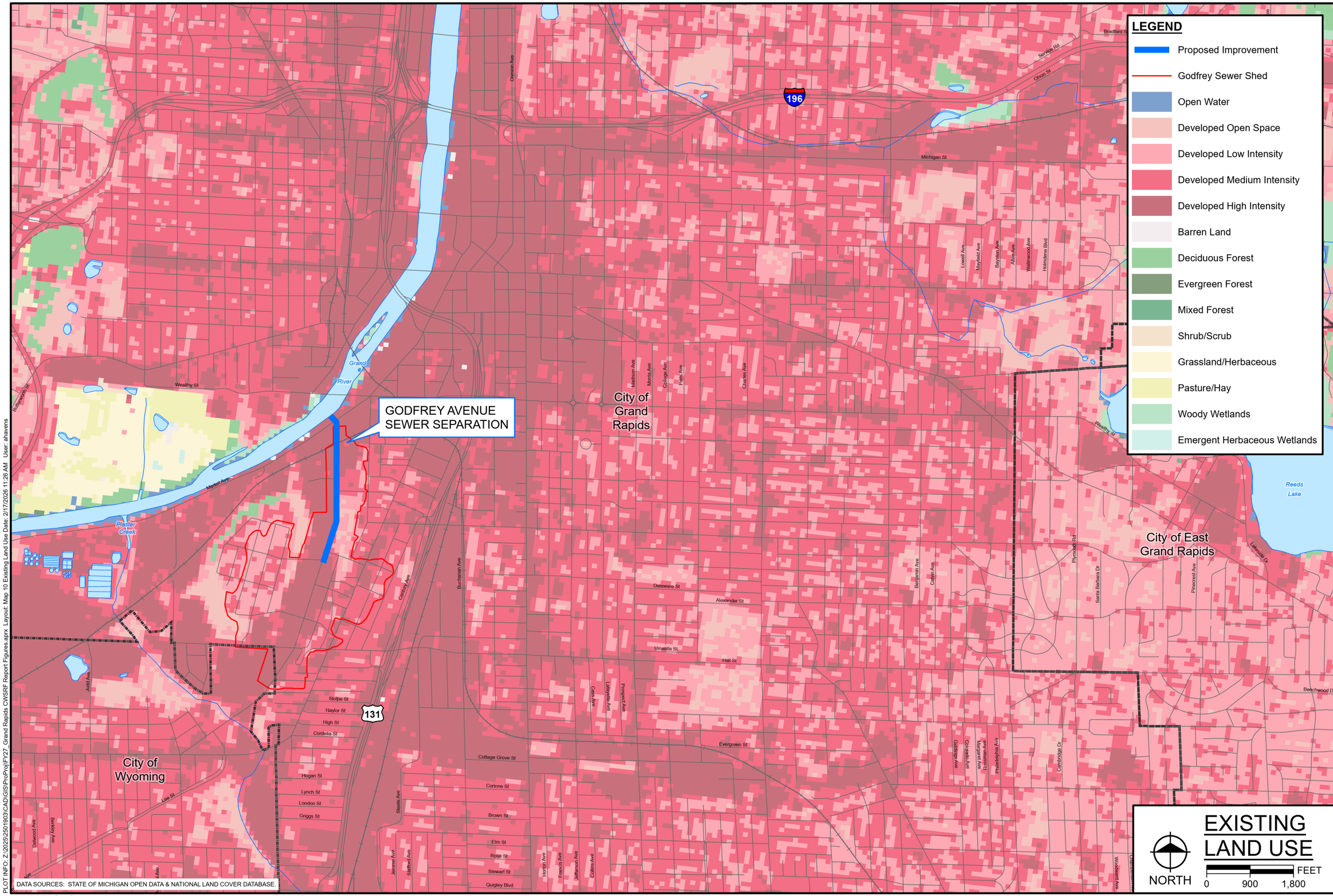
City of Grand Rapids
Kent County, Michigan

Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
9



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City of Grand Rapids
Kent County, Michigan

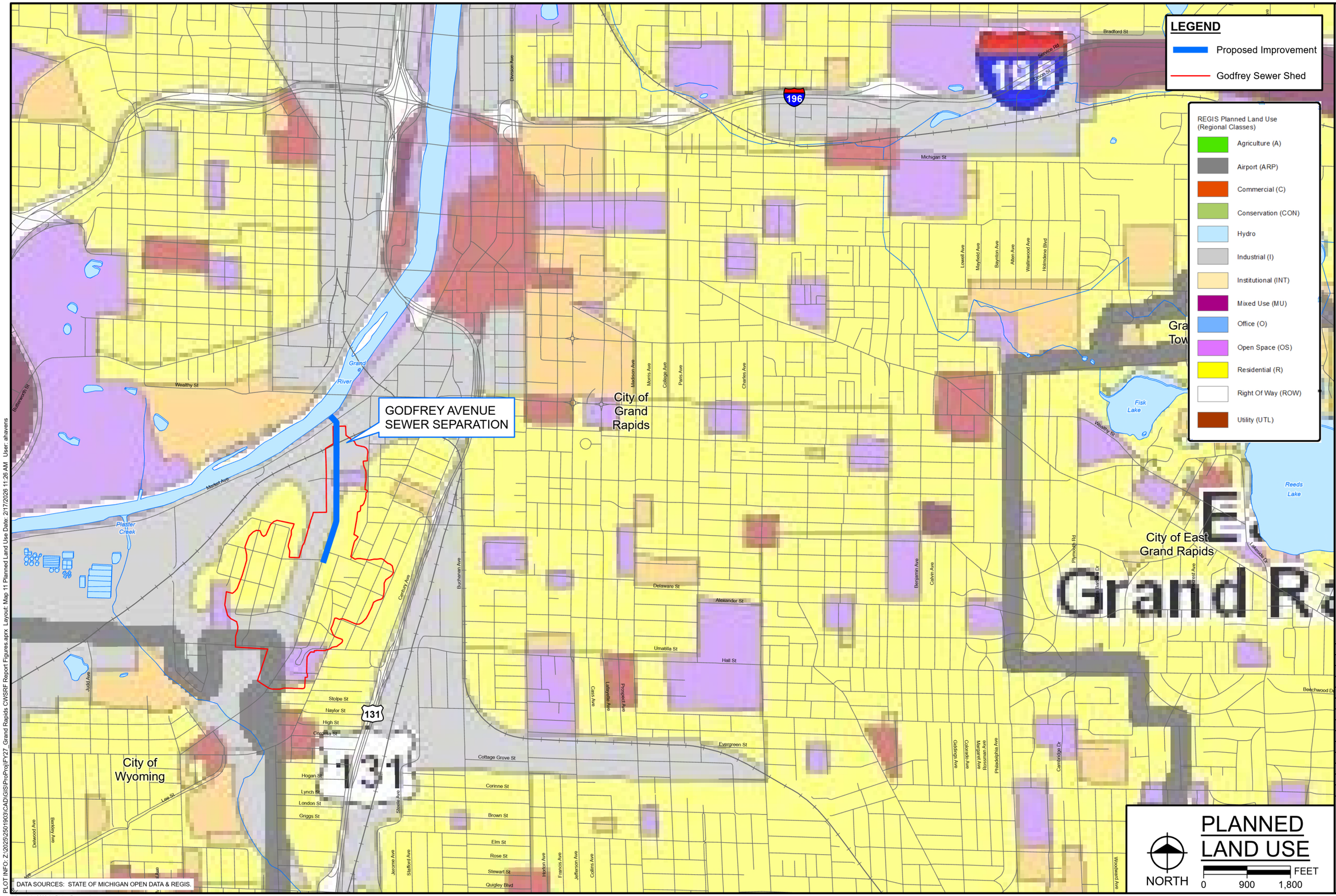
Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
10

DATA SOURCES: STATE OF MICHIGAN OPEN DATA & NATIONAL LAND COVER DATABASE.

PLOT INFO: Z:\2025\2501903\CAD\GIS\ProPro\FY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 10 Existing Land Use Date: 2/17/2026 11:26 AM User: ahavens



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City of Grand Rapids
Kent County, Michigan
Clean Water State Revolving Fund (CWSRF) FY27

PROJECT NO.
2501903

MAP NO.
11

PLOT INFO: Z:\2025\2501903\CAD\GIS\ProjFY27_Grand Rapids CWSRF Report Figures.aprx Layout: Map 11 Planned Land Use Date: 2/17/2026 11:26 AM User: ahavens

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Appendix

1

Appendix 1- National Register of Historical Places for Kent County
Source: https://www.nps.gov/subjects/nationalregister/database-research.htm#table

Reference number	Property Name	State	County	City	Street & Number	Level of Significance - International	Level of Significance - Local	Level of Significance - National	Level of Significance - Not Indicated	Level of Significance - State	Listed Date
_70000275	Ada Covered Bridge	MICHIGAN	Kent	Ada	Across the Thornapple River	False	False	False	False	True	2/16/1970
_01001018	Porter Hollow Embankment and Culvert	MICHIGAN	Kent	Algoma Township	White Pine Strail at Stegman Creek, W of Summit Ave.	False	True	False	False	False	9/24/2001
_90000570	Thornapple River Drive Bridge	MICHIGAN	Kent	Cascade Township	Thornapple River Dr. over Thornapple River	False	True	False	False	False	4/18/1990
_06001326	Whitney Tavern Stand	MICHIGAN	Kent	Cascade Township	5283 Whitneyville Ave.	False	True	False	False	False	2/1/2007
_83000877	Blodgett, John W., Estate	MICHIGAN	Kent	East Grand Rapids	250 Plymouth Rd., SE	False	True	False	False	False	7/28/1983
_82000536	Aldrich Building	MICHIGAN	Kent	Grand Rapids	98 Monroe Center, NW	False	True	False	False	False	11/12/1982
_99000052	Aldrich, Godfrey, and White Block	MICHIGAN	Kent	Grand Rapids	89-99 Monroe Center	False	True	False	False	False	1/27/1999
_08001102	Alten, Mathias., House and Studio	MICHIGAN	Kent	Grand Rapids	1593 E. Fulton St.	False	False	True	False	False	6/23/2009
_100005823	American Box Board Company Headquarters and Factory	MICHIGAN	Kent	Grand Rapids	470 Market Ave. SW	False	True	False	False	False	11/24/2020
_03000687	American Seating Company Factory Complex	MICHIGAN	Kent	Grand Rapids	801 Broadway Ave. NW	False	False	True	False	False	7/25/2003
_00001486	Berkey and Gay Furniture Company Factory	MICHIGAN	Kent	Grand Rapids	940 Monroe Ave., NW	False	False	False	False	True	12/20/2000
_13000969	Central Furniture Company-H.E. Shaw Furniture Company Factory	MICHIGAN	Kent	Grand Rapids	400 Ionia Ave., SW.	False	True	False	False	False	12/24/2013
_99001523	Division Avenue-Plaster Creek Bridge	MICHIGAN	Kent	Grand Rapids	Division Ave. over Plaster Creek	False	False	False	False	True	12/17/1999
_13000666	Eastern Avenue School	MICHIGAN	Kent	Grand Rapids	758 Eastern Ave., NE.	False	True	False	False	False	9/4/2013
_82000537	Fine Arts Building	MICHIGAN	Kent	Grand Rapids	220 Lyon St., NW	False	True	False	False	False	11/12/1982
_82000538	First (Park) Congregational Church	MICHIGAN	Kent	Grand Rapids	10 E. Park Pl., NE	False	True	False	False	False	11/12/1982
_95000073	Ford, President Gerald R., Jr., Boyhood Home	MICHIGAN	Kent	Grand Rapids	649 Union Ave., SE.	False	False	True	False	False	2/27/1995
_100007211	Fulton Manor	MICHIGAN	Kent	Grand Rapids	1450 Fulton St. East	False	True	False	False	False	12/2/2021
_80001877	Goodspeed Brothers Building	MICHIGAN	Kent	Grand Rapids	188 Monroe St., NW	False	True	False	False	False	4/17/1980
_100002712	Grand Rapids Christian High School	MICHIGAN	Kent	Grand Rapids	415 Franklin St., SE	False	True	False	False	False	7/25/2018
_90001956	Grand Rapids Savings Bank Building	MICHIGAN	Kent	Grand Rapids	60 Monroe Center, NW	False	True	False	False	False	12/28/1990
_12001032	Grand Rapids Storage and Van Company Building	MICHIGAN	Kent	Grand Rapids	1415 Lake Dr. SE.	False	True	False	False	False	12/12/2012
_82002844	Heartside Historic District	MICHIGAN	Kent	Grand Rapids	Division, Commerce, and Ionia Aves., Fulton, Weston, Oakes, and Cherry Sts.	False	True	False	False	False	3/2/1982
_100007933	Heartside Historic District (Boundary Increase)	MICHIGAN	Kent	Grand Rapids	Roughly Sheldon Blvd. SE, South Division Ave., Commerce Ave. SW, Ionia Ave. SW, Weston St. SE, Cherry St. SW, Williams St. SW, Bartlett St. SW, and Goodrich Street SW, all south of Fulton St. and north of Wealthy St.	False	True	False	False	False	7/11/2022
_71000399	Heritage Hill Historic District	MICHIGAN	Kent	Grand Rapids	Bounded by Michigan Ave. on the N, Pleasant St. on the S, Union Ave. on the E, and Clarendon Pl. and Jefferson Ave. W	False	True	False	False	False	3/11/1971
_80004806	Keeler Building	MICHIGAN	Kent	Grand Rapids	56 N Division Ave.	False	False	False	False	False	11/27/2017
_04000690	Kent County Civil War Monument	MICHIGAN	Kent	Grand Rapids	Division Ave. at Monroe Ave.	False	False	False	False	True	7/14/2004
_71000400	Ladies' Literary Club	MICHIGAN	Kent	Grand Rapids	61 Sheldon St., SE.	False	True	True	False	False	10/26/1971
_83000878	Ledyard Block Historic District	MICHIGAN	Kent	Grand Rapids	123-145 Ottawa Ave., and 104-124 Monroe Center, NW	False	True	False	False	False	9/8/1983
_13000667	Lexington School	MICHIGAN	Kent	Grand Rapids	45 Lexington, NW.	False	True	False	False	False	9/4/2013
_82000539	Loraine Building	MICHIGAN	Kent	Grand Rapids	124 E. Fulton St.	False	True	False	False	False	11/24/1982
_00000506	Medical Arts Building	MICHIGAN	Kent	Grand Rapids	26 Sheldon Blvd. SE	False	True	False	False	False	5/18/2000
_04000691	Metal Office Furniture Company (Steelcase) Plants No. 2 and 3	MICHIGAN	Kent	Grand Rapids	401 Hall St. SW	False	True	False	False	False	7/17/2004
_83000879	Michigan Trust Company Building	MICHIGAN	Kent	Grand Rapids	40 Pearl St., NW	False	False	False	False	True	2/24/1983
_02000815	Monroe Avenue Water Filtration Plant	MICHIGAN	Kent	Grand Rapids	1430 Monroe Ave. NW	False	False	True	False	False	7/31/2002
_93000769	Mt. Mercy Academy and Convent	MICHIGAN	Kent	Grand Rapids	1425 Bridge St., NW	False	True	False	False	False	8/5/1993
_66000396	Norton Mound Group	MICHIGAN	Kent	Grand Rapids	Address Restricted	False	False	True	False	False	10/15/1966
_85002154	Paddock, Augustus, House	MICHIGAN	Kent	Grand Rapids	1033 Lake Dr., SE	False	True	False	False	False	9/12/1985
_00001483	Peck Block	MICHIGAN	Kent	Grand Rapids	34-50 Monroe Center NW	False	True	False	False	False	12/7/2000
_70000276	Pike, Abram W., House	MICHIGAN	Kent	Grand Rapids	230 Fulton St., E.	False	False	False	False	True	7/8/1970
_88000142	Rood Building	MICHIGAN	Kent	Grand Rapids	Address Restricted	False	True	False	False	False	3/4/1988
_100004384	Saint Joseph Seminary	MICHIGAN	Kent	Grand Rapids	600 Burton St. SE	False	True	False	False	False	9/16/2019
_100007588	Sisters of the Order of Saint Dominic Motherhouse Complex	MICHIGAN	Kent	Grand Rapids	2025 Fulton St. East	False	True	False	False	False	4/7/2022
_76001030	Sixth Street Bridge	MICHIGAN	Kent	Grand Rapids	Spans Grand River between Newberry and 6th St.	False	False	False	False	True	8/13/1976
_71000401	St. Cecilia Society Building	MICHIGAN	Kent	Grand Rapids	24--30 Ransom Ave., NE	False	True	False	False	False	12/9/1971
_82002845	Third Reformed Church	MICHIGAN	Kent	Grand Rapids	1009 Hermitage St., SE	False	True	False	False	False	4/22/1982
_70000277	Turner House	MICHIGAN	Kent	Grand Rapids	731 Front St., NW	False	True	False	False	False	7/8/1970
_74000990	U.S. Post Office	MICHIGAN	Kent	Grand Rapids	Ionia and Pearl Sts.	False	True	False	False	False	7/10/1974
_86003373	Villa Maria	MICHIGAN	Kent	Grand Rapids	1315 Walker NW	False	True	False	False	False	3/27/1987
_12001172	Willard Building	MICHIGAN	Kent	Grand Rapids	150 E. Fulton St.	False	True	False	False	False	1/14/2013
_99001539	Downtown Lowell Historic District	MICHIGAN	Kent	Lowell	Roughly along Main St. bet. Hudson and Washington	False	True	False	False	False	12/9/1999
_72000627	Fallasburg Covered Bridge	MICHIGAN	Kent	Lowell	Covered Bridge Rd.	False	False	False	False	True	3/16/1972
_72000626	Graham House	MICHIGAN	Kent	Lowell	323--325 Main St.	False	True	False	False	False	1/13/1972
_98001217	Fallasburg Historic District	MICHIGAN	Kent	Vergennes Township	Covered Bridge Rd.	False	True	False	False	False	3/31/1999
_99001522	Business Route M-21-Plaster Creek Bridge	MICHIGAN	Kent	Wyoming	Bus. Rte. M-21 over Plaster Creek	False	True	False	False	False	12/17/1999

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Appendix

2

Data from U.S. Fish & Wildlife Service, Environmental Conservation Online System

Scientific Name	Common Name	Where Listed	Region	ESA Listing Status	Group
Myotis sodalis	Indiana bat	Wherever found	3	Endangered	Mammals
Canis lupus	Gray wolf	U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.	6	Endangered	Mammals
Lynx canadensis	Canada Lynx	Wherever Found in Contiguous U.S.	6	Threatened	Mammals
Charadrius melodus	Piping Plover	[Great Lakes watershed DPS] - Great Lakes, watershed in States of IL, IN, MI, MN, NY, OH, PA, and WI and Canada (Ont.)	3	Endangered	Birds
Nerodia erythrogaster neglecta	Copperbelly water snake	Indiana north of 40 degrees north latitude, Michigan, Ohio	3	Threatened	Reptiles
Pleurobema clava	Clubshell	Wherever found; Except where listed as Experimental Populations	5	Endangered	Clams
Epioblasma rangiana	Northern rifffleshell	Wherever found	5	Endangered	Clams
Lycaeides melissa samuelis	Karner blue butterfly	Wherever found	3	Endangered	Insects
Neonympha mitchellii mitchellii	Mitchell's satyr Butterfly	Wherever found	3	Endangered	Insects
Brychius hungerfordi	Hungerford's crawling water Beetle	Wherever found	3	Endangered	Insects
Somatochlora hineana	Hine's emerald dragonfly	Wherever found	3	Endangered	Insects
Cirsium pitcheri	Pitcher's thistle	Wherever found	3	Threatened	Flowering Plants
Iris lacustris	Dwarf lake iris	Wherever found	3	Threatened	Flowering Plants
Mimulus michiganensis	Michigan monkey-flower	Wherever found	3	Endangered	Flowering Plants
Platanthera leucophaea	Eastern prairie fringed orchid	Wherever found	3	Threatened	Flowering Plants
Solidago houghtonii	Houghton's goldenrod	Wherever found	3	Threatened	Flowering Plants
Hymenoxys herbacea	Lakeside daisy	Wherever found	3	Threatened	Flowering Plants
Asplenium scolopendrium var. americanum	American hart's-tongue fern	Wherever found	5	Threatened	Ferns and Allies
Epioblasma triquetra	Snuffbox mussel	Wherever found	3	Endangered	Clams
Villosa fabalis	Rayed Bean	Wherever found	3	Endangered	Clams
Grus americana	Whooping crane	U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY)	2	Experimental Population, Non-Essential	Birds
Sistrurus catenatus	Eastern Massasauga (=rattlesnake)	Wherever found	3	Threatened	Reptiles
Calidris canutus rufa	Red knot	Wherever found	5	Threatened	Birds
Myotis septentrionalis	Northern Long-Eared Bat	Wherever found	3	Endangered	Mammals
Oarisma poweshiek	Poweshiek skipperling	Wherever found	3	Endangered	Insects

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Appendix

3

Michigan Natural Features Inventory
MSU Extension

County Element Data

The lists include all elements (species and natural communities) for which locations have been recorded in MNFI's database for each county. Information from the database cannot provide a definitive statement on the presence, absence, or condition of the natural features in any given locality, since much of the state has not been specifically or thoroughly surveyed for their occurrence and the conditions at previously surveyed sites are constantly changing. The County Elements Lists should be used as a reference of which natural features currently or historically were recorded in the county and should be considered when developing land use plans.

Choose a county Kent

Kent County

Code Definitions

Species

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Acella haldemani	Spindle lymnaea		SC	G3	SH	1	Historical
Acipenser fulvescens	Lake sturgeon		T	G3G4	S2	1	1970
Acris blanchardi	Blanchard's cricket frog		T	G5	S2S3	8	2023
Adlumia fungosa	Climbing fumitory		T	G4	S3	1	1889
Alasmidonta marginata	Elktoe		SC	G4	S3?	16	2021
Alasmidonta viridis	Slippershell		T	G4G5	S2S3	17	2024
Ammodramus savannarum	Grasshopper sparrow		SC	G5	S4	2	2006
Amorpha canescens	Leadplant		SC	G5	S3	2	1984
Anaxyrus fowleri	Fowler's toad		SC	G5	S3S4	3	2017
Astragalus canadensis	Canadian milk vetch		SC	G5	S1S2	1	1901
Astragalus neglectus	Cooper's milk vetch		SC	G4	S3	2	1897
Baptisia lactea	White or prairie false indigo		T	G4Q	S3	2	1928
Berula erecta	Cut-leaved water parsnip		SC	G4G5	S2	1	2020
Boechera dentata	Rock cress		T	G5	S1	5	2016
Boechera missouriensis	Missouri rock-cress		T	G5	S2	2	1898
Bombus affinis	Rusty-patched bumble bee	LE	E	G2	SH	1	1937

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Bombus auricomus	Black and gold bumble bee		SC	G5	S2	4	2022
Bombus fervidus	Yellow bumble bee		SC	G3G4	S3	3	2024
Bombus pensylvanicus	American bumble bee		E	G3G4	S1	2	1946
Bombus sandersoni	Sanderson's bumble bee		SC	G5	S2S3	1	2021
Bouteloua curtipendula	Side-oats grama grass		E	G5	S1	3	1986
Brickellia eupatorioides	False boneset		SC	G5	S2	3	2011
Buteo lineatus	Red-shouldered hawk		SC	G5	S4	1	2016
Calephelis muticum	Swamp metalmark		E	G3	S1	3	1964
Callophrys irus	Frosted elfin		T	G3	S2S3	1	2003
Cambarunio iris	Rainbow		SC	G4G5	S3	10	2020
Cambarus robustus	Big water crayfish		SC	G5	S2?	1	2014
Carex amphibola	Narrow-leaved sedge		SC	G5	SNR	1	1939
Carex oligocarpa	Eastern few-fruited sedge		T	G5	S2	1	2016
Carex trichocarpa	Hairy-fruited sedge		SC	G5	S2	4	1939
Carex typhina	Cattail sedge		T	G5	S1	1	2014
Cincinnatia cincinnatiensis	Campeloma spire snail		SC	G5	S3	2	Historical
Cistothorus palustris	Marsh wren		SC	G5	S3	1	2003
Clemmys guttata	Spotted turtle		T	G5	S2	5	2023
Collinsia verna	Blue-eyed Mary		T	G5	SNR	2	1897
Conioselinum chinense	Hemlock-parsley		SC	G5	SNR	3	1899
Coregonus artedi	Lake herring or Cisco		T	GNR	S3	2	2013
Cyclonaias tuberculata	Purple wartyback		T	G5	S2	14	2019
Cypripedium candidum	White lady slipper		T	G3G4	S2	2	2004
Dorydiella kansana	Leafhopper		SC	GNR	S3	1	
Draba reptans	Creeping whitlow grass		T	G5	S1	3	1901
Echinacea purpurea	Purple coneflower		X	G5	SX	1	1891
Eleocharis compressa var. *compressa*	Flattened spike rush		T	G5T5	S2	1	1898
Eleocharis engelmannii	Engelmann's spike rush		SC	G5	S2S3	1	1901

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Eleocharis tricostata	Three-ribbed spike rush		T	G4	S2	1	2015
Emydoidea blandingii	Blanding's turtle		SC	G4	S2S3	27	2025
Endodeca serpentaria	Virginia snakeroot		T	G5	S2	2	1985
Epioblasma triquetra	Snuffbox	LE	E	G2G3	S1S2	7	2022
Ericymba dorsalis	Bigmouth shiner		T	G5	S2	5	1997
Erynnis martialis	Mottled duskywing		SC	G3	SU	1	1955
Erynnis persius persius	Persius dusky wing		T	G5T1T3	S3	1	1954
Euonymus atropurpureus	Wahoo		SC	G5	S3	3	2024
Euphorbia commutata	Tinted spurge		T	G5	S1	3	1901
Falco peregrinus	Peregrine falcon		T	G4	S3	1	2022
Faxonius immunis	Calico crayfish		SC	G5	S4	4	2014
Fontigens nickliniana	Watercress snail		SC	G5	S2S3	7	2023
Fuirena pumila	Umbrella-grass		T	G5	S2	1	1974
Galearis spectabilis	Showy orchis		T	G5	S2	2	1894
Gentiana flavida	White gentian		E	G4	S1	1	1901
Gentiana puberulenta	Downy gentian		E	G4G5	S1	1	1943
Gentianella quinquefolia	Stiff gentian		T	G5	S2	1	1901
Geum triflorum	Prairie smoke		T	G5	S2S3	2	1992
Glyceria acutiflora	Manna grass		E	G5	S1	1	2003
Glyptemys insculpta	Wood turtle		T	G2G3	S2	1	1996
Graphephorum melicoides	Purple false oats		SC	G4G5	SNR	1	1894
Haliaeetus leucocephalus	Bald eagle		SC	G5	S4	5	2024
Helianthus hirsutus	Whiskered sunflower		SC	G5	S3	1	1967
Hybanthus concolor	Green violet		SC	G5	S3	4	1999
Hydrastis canadensis	Goldenseal		T	G3G4	S2	2	1989
Hylocichla mustelina	Wood thrush		SC	G4	S4	1	2024
Isotria verticillata	Whorled pogonia		T	G5	S1	2	1979
Jeffersonia diphylla	Twinleaf		SC	G5	S3	2	1980
Lasmigona compressa	Creek heelsplitter		SC	G5	S3	12	2017

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Lasmigona costata	Flutedshell		SC	G5	SNR	15	2022
Lepisosteus oculatus	Spotted gar		SC	G5	S2S3	1	1988
Leptodea leptodon	Scaleshell	LE	X	G1G2	SX	1	1930
Ligumia recta	Black sandshell		T	G4G5	S1?	11	2020
Linum sulcatum	Furrowed flax		SC	G5	S2S3	1	1896
Linum virginianum	Virginia flax		T	G5?	S2	2	1899
Lipocarpha micrantha	Dwarf-bulrush		SC	G5	S3	4	1979
Lithobates palustris	Pickerel frog		SC	G5	S3S4	7	2023
Lithospermum latifolium	Broad-leaved puccoon		SC	G4	S2	6	2021
Lycopus virginicus	Virginia water-horehound		SC	G5	S2	1	2016
Mertensia virginica	Virginia bluebells		T	G5	S1S2	7	2025
Mesomphix cupreus	Copper button		SC	G5	S1	1	Historical
Miniellus anogenus	Pugnose shiner		E	G3	S1S2	2	1955
Morus rubra	Red mulberry		T	G5	S2	5	2002
Moxostoma carinatum	River redhorse		T	G4	S2	3	2018
Moxostoma duquesnei	Black redhorse		SC	G5	S2	3	2018
Myotis septentrionalis	Northern long-eared bat	LE	T	G2G3	S1	1	1975
Necturus maculosus	Mudpuppy		SC	G5	S3S4	2	1992
Oarisma poweshiek	Poweshiek skipperling	LE	E	G1	S1	2	1968
Oecanthus laricis	Tamarack tree cricket		SC	G3?	S3	1	
Oxyloma peoriense	Depressed ambersnail		SC	G4G5	SNR	1	1885
Panax quinquefolius	Ginseng		T	G3G4	S2S3	1	1896
Pandion haliaetus	Osprey		SC	G5	S4	3	2024
Parkesia motacilla	Louisiana waterthrush		T	G5	S2	2	2023
Penstemon calycosus	Beard tongue		T	G5	S2	1	1891
Persicaria careyi	Carey's smartweed		T	G4	S1S2	1	1938
Platanthera ciliaris	Orange- or yellow-fringed orchid		E	G5	S1S2	5	1942
Plebejus samuelis	Karner blue	LE	T	G1G2	S2	2	2021
Pleurobema sintoxia	Round pigtoe		SC	G4?	S3	15	2017

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Pomatiopsis cincinnatiensis	Brown walker		SC	G4	SH	2	Historical
Potamilus alatus	Pink heelsplitter		SC	G5	SNR	1	2018
Potamogeton vaseyi	Vasey's pondweed		T	G5	S1S2	2	2003
Protonotaria citrea	Prothonotary warbler		SC	G5	S3	1	2007
Rallus elegans	King rail		E	G4	S2	1	1986
Ranunculus rhomboideus	Prairie buttercup		T	G5	S2	6	2012
Regina septemvittata	Queen snake		SC	G5	S2S3	1	2017
Rhynchospora macrostachya	Tall beakrush		SC	G4	S3S4	2	1955
Rhynchospora scirpoides	Bald-rush		SC	G4	S2	1	1899
Schoenoplectus americanus	Three-square bulrush		E	G5	S1	1	1899
Schoenoplectus torreyi	Torrey's bulrush		SC	G4	S2S3	1	1900
Setophaga cerulea	Cerulean warbler		T	G4	S3	2	2005
Setophaga citrina	Hooded warbler		SC	G5	S3	2	2005
Sistrurus catenatus	Eastern massasauga	LT	T	G3	S3	2	2006
Sisyrinchium atlanticum	Atlantic blue-eyed-grass		T	G5	S2	1	2018
Sisyrinchium strictum	Blue-eyed-grass		T	G3	S2	2	1942
Smallanthus uvedalia	Yellow-flowered leafcup		T	G4G5	S1	1	1897
Solidago missouriensis	Missouri goldenrod		X	G5	SX	1	1938
Sphaerium fabale	River fingernail clam		SC	G5	SNR	1	Historical
Strophostyles helvula	Trailing wild bean		SC	G5	S3	1	1979
Stylurus amnicola	Riverine clubtail		SC	G4	S2S3	2	2025
Stylurus laurae	Laura's snaketail		SC	G4	S3	1	2023
Symphyotrichum drummondii	Drummond's aster		T	G5	S2	2	1941
Symphyotrichum sericeum	Western silvery aster		T	G5	S2	1	1896
Synthyris bullii	Kitten-tails		E	G3	S1	5	2008
Terrapene carolina carolina	Eastern box turtle		T	G5T5	S2S3	30	2025

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank	Occurrences in County	Last Observed in County
Toxolasma parvum	Lilliput		E	G5	S1	5	2020
Triphora trianthophora	Nodding pogonia or three birds orchid		T	G4?	S1	1	1901
Triplasis purpurea	Sand grass		SC	G5	S2	1	1999
Truncilla donaciformis	Fawnsfoot		E	G5	S1	1	2017
Truncilla truncata	Deertoe		SC	G5	S2S3	5	2018
Utterbackia imbecillis	Paper pondshell		SC	G5	S2S3	3	2016
Valerianella chenopodiifolia	Goosefoot corn salad		E	G4	S1	1	1897
Valvata perdepressa	Purplecap valvata		SC	G2G3	SNR	1	1914
Ventridens intertextus	Pyramid dome		SC	G5	SNR	1	1948
Venustaconcha ellipsiformis	Ellipse		SC	G4	S3	14	2022
Zizia aptera	Prairie golden alexanders		T	G5	S1S2	4	1985

Natural Communities

Community Name	Global Rank	State Rank	Occurrences in County	Last Observed in County
Bog	G3G5	S4	4	2015
Dry Southern Forest	G4	S3	1	2023
Dry-mesic Northern Forest	G4	S3	1	2015
Dry-mesic Southern Forest	G4	S3	7	2023
Emergent Marsh	GU	S4	2	1990
Floodplain Forest	G3?	S3	2	2015
Hardwood-Conifer Swamp	G4	S3	4	2015
Hillside Prairie	G3	S1	5	2002
Mesic Southern Forest	G2G3	S3	1	1990
Oak Barrens	G2?	S1	1	2014
Poor Conifer Swamp	G4	S4	1	1991
Prairie Fen	G3	S3	8	2010
Southern Hardwood Swamp	G3	S3	2	2023
Southern Shrub-carr	GU	S4	1	1990

Community Name	Global Rank	State Rank	Occurrences in County	Last Observed in County
Southern Wet Meadow	G4?	S3	2	2020

fishbeck

Appendix

4

PERMIT NO. MI0026069

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the federal Clean Water Act (federal Water Pollution Control Act, 33 U.S.C., Section 1251 *et seq*., as amended); Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Part 41, Sewerage Systems, of the NREPA; and Michigan Executive Order 2019-06,

City of Grand Rapids
300 Monroe Avenue NW
Grand Rapids, MI 49503

is authorized to discharge from the **Grand Rapids Water Resource Recovery Facility** located at

1300 Market Avenue SW
Grand Rapids, MI 49503

designated as **Grand Rapids WRRF**

to the receiving water named the Grand River in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

This permit is based on a complete application submitted on April 1, 2021, as amended through January 31, 2024.

This permit takes effect on October 1, 2025. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date, this permit shall supersede National Pollutant Discharge Elimination System (NPDES) Permit No. MI0026069 (expiring October 1, 2021).

This permit and the authorization to discharge shall expire at midnight on **October 1, 2029**. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application that contains such information, forms, and fees as are required by the Michigan Department of Environment, Great Lakes, and Energy (Department) by **April 4, 2029**.

Issued: September 29, 2025.

Original signed by Christine Alexander
Christine Alexander, Manager
Permits Section
Water Resources Division

PERMIT FEE REQUIREMENTS

In accordance with Section 324.3120 of the NREPA, the permittee shall make payment of an annual permit fee to the Department for each October 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. Payment may be made electronically via the Department's MiEnviro Portal system. The MiEnviro Portal website is located at https://mienviro.michigan.gov/ncore/. Payment shall be submitted or postmarked by January 15 for notices mailed by December 1. Payment shall be submitted or postmarked no later than 45 days after receiving the notice for notices mailed after December 1.

Annual Permit Fee Classification: Municipal Major, 50 MGD to less than 500 MGD (Individual Permit)

In accordance with Section 324.3118 of the NREPA, the permittee shall make payment of an annual stormwater fee to the Department for each January 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. Payment may be made electronically via the Department's MiEnviro Portal system. The MiEnviro Portal website is located at https://mienviro.michigan.gov/ncore/. Payment shall be submitted or postmarked by March 15 for notices mailed by February 1. Payment shall be submitted or postmarked no later than 45 days after receiving the notice for notices mailed after February 1.

In accordance with Section 324.3132 of the NREPA, the permittee shall make payment of an annual biosolids land application fee to the Department if the permittee land applies biosolids. The permittee shall submit the fee in response to the Department's annual notice. Payment may be made electronically via the Department's MiEnviro Portal system. The MiEnviro Portal website is located at https://mienviro.michigan.gov/ncore/. Payment shall be submitted or postmarked no later than January 31 of each year for notices mailed by December 15. Payment shall be submitted or postmarked no later than 45 days after receiving the notice for notices mailed after December 15.

CONTACT INFORMATION

Unless specified otherwise, all contact with the Department required by this permit shall be made to the Grand Rapids District Office of the Water Resources Division. The Grand Rapids District Office is located at State Office Building, Fifth Floor, 350 Ottawa Ave NW, Unit 10, Grand Rapids, MI 49503-2341, Telephone: 616-356-0500, Fax: 616-356-0202.

CONTESTED CASE INFORMATION

Any person who is aggrieved by this permit may file a sworn petition with the Michigan Administrative Hearing System within the Michigan Department of Licensing and Regulatory Affairs, c/o the Michigan Department of Environment, Great Lakes, and Energy, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Licensing and Regulatory Affairs may reject any petition filed more than 60 days after issuance as being untimely.

CYBERSECURITY INFORMATION

Cybersecurity is becoming increasingly important as cyberattacks present an imminent and substantial risk to wastewater systems. Many wastewater systems have gaps in their existing cybersecurity practices that leave them vulnerable to potentially disabling attacks. The Department encourages the permittee to identify cybersecurity gaps in their wastewater system (e.g., changing default passwords in operational technology) and eliminate those vulnerabilities. The United States Environmental Protection Agency, the Cybersecurity and Infrastructure Security Agency, and the state of Michigan offer guidance and technical assistance for conducting cybersecurity risk assessments, developing and implementing a risk mitigation plan, and implementing cybersecurity controls. Applicable resources can be located at https://www.epa.gov/waterresilience/epa-cybersecurity-water-sector, https://www.cisa.gov/resources-tools/resources/top-cyber-actions-securing-water-systems, and https://www.michigan.gov/dtmb/services/cybersecurity.

PART I

Section A. Limitations and Monitoring Requirements

1. Final Effluent Limitations, Monitoring Point 001A

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge treated municipal wastewater from Monitoring Point 001A through Outfall 001. Outfall 001 discharges to the Grand River at Latitude 42.9484, Longitude -85.7052. Such discharge shall be limited and monitored by the permittee as specified below.

	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration				Monitoring	Sample
Parameter	Monthly	7-Day	Daily	Units	Monthly	7-Day	Daily	Units	Frequency	Type
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Carbonaceous Biochemical Oxygen Demand (CBOD5)										
June – September	7,100	11,000	(report)	lbs/day	14	---	21	mg/l	5×Weekly	24-Hr Composite
October – May	12,000	19,000	(report)	lbs/day	23	38	(report)	mg/l	5×Weekly	
Total Suspended Solids (TSS)	15,000	22,000	(report)	lbs/day	29	44	(report)	mg/l	5×Weekly	24-Hr Composite
Ammonia Nitrogen (as N)										
June – September	---	4,300	(report)	lbs/day	---	---	8.5	mg/l	5×Weekly	24-Hr Composite
October – May	---	9,200	(report)	lbs/day	---	---	18	mg/l	5×Weekly	
Total Phosphorus (as P)	510	---	(report)	lbs/day	1.0	---	(report)	mg/l	3×Weekly	24-Hr Composite
Chloride	---	---	---	---	---	---	(report)	mg/l	Monthly	24-Hr Composite
Sulfate	---	---	---	---	---	---	(report)	mg/l	Monthly	24-Hr Composite
Perfluorooctanesulfonic Acid (PFOS)										
Through August 31, 2028	---	---	---	---	---	---	(report)	ng/l	Monthly	Grab
Beginning September 1, 2028	0.006	---	(report)	lbs/day	12	---	(report)	ng/l	Monthly	Grab
Fecal Coliform Bacteria	---	---	---	---	200	400	(report)	cts/ 100 ml	5×Weekly	Grab
Total Mercury										
Corrected	(report)	---	(report)	lbs/day	(report)	---	(report)	ng/l	Quarterly	Calculation
Uncorrected	---	---	---	---	---	---	(report)	ng/l	Quarterly	Grab
Field Duplicate	---	---	---	---	---	---	(report)	ng/l	Quarterly	Grab
Field Blank	---	---	---	---	---	---	(report)	ng/l	Quarterly	Preparation
Laboratory Method Blank	---	---	---	---	---	---	(report)	ng/l	Quarterly	Preparation
	12-Month Rolling Avg				12-Month Rolling Avg					
Total Mercury	0.001	---	---	lbs/day	2.0	---	---	ng/l	Quarterly	Calculation

PART I

Section A. Limitations and Monitoring Requirements

Parameter					Minimum Daily		Maximum Daily	Units	Monitoring Frequency	Sample Type
pH	---	---	---	---	6.5	---	9.0	S.U.	Daily	Grab
Dissolved Oxygen	---	---	---	---	5.0	---	---	mg/l	Daily	Grab

The following design flow was used in determining the above limitations, but is not to be considered a limitation or actual capacity: 61.1 MGD.

a. Narrative Standard
The receiving water shall contain no turbidity, color, oil films, floating solids, foams, settleable solids, or deposits as a result of this discharge in unnatural quantities which are or may become injurious to any designated use.

b. Sampling Locations
All samples shall be taken after disinfection. Samples for CBOD5 shall be properly seeded prior to analysis. The Department may approve alternate sampling locations that are demonstrated by the permittee to be representative of the effluent.

c. Quarterly Monitoring
Quarterly samples shall be taken during the months of January, April, July, and October. If the facility does not discharge during these months, the permittee shall sample the next discharge occurring during the period in question. If the facility does not discharge during the period in question, a sample is not required for that period. For any month in which a sample is not taken, the permittee shall enter "*G" on the Discharge Monitoring Report (DMR). (For purposes of reporting on the Daily tab of the DMR, the permittee shall enter “*G” on the first day of the month only).

d. Ultraviolet Disinfection
It is understood that ultraviolet light will be used to achieve compliance with the fecal coliform limitations. If disinfection other than ultraviolet light will be used, the permittee shall notify the Department in accordance with Part II.C.12. of this permit.

e. Monitoring Frequency Reduction for Perfluorooctanesulfonic Acid (PFOS)
After the submittal of at least 10 equally spaced sample results obtained over a minimum of three (3) months, the permittee may request, in writing, Department approval of a reduction in monitoring frequency for PFOS. This request shall contain an explanation as to why the reduced monitoring is appropriate. Upon receipt of written approval and consistent with such approval, the permittee may reduce the monitoring frequency indicated in Part I.A.1. of this permit. The monitoring frequency for PFOS shall not be reduced to less than annually. The Department may revoke the approval for reduced monitoring at any time upon notification to the permittee.

PART I

Section A. Limitations and Monitoring Requirements

f. Final Effluent Limitation for Total Mercury

The final limit for total mercury is the Discharge Specific Level Currently Achievable (LCA) based on a multiple discharger variance from the WQBEL of 1.3 ng/l, pursuant to Rule 1103(9) of the Water Quality Standards. Compliance with the LCA shall be determined as a 12-month rolling average, the calculation of which may be done using blank-corrected sample results. The 12-month rolling average shall be determined by adding the present monthly average result to the preceding 11 monthly average results then dividing the sum by 12. For facilities with quarterly monitoring requirements for total mercury, quarterly monitoring shall be equivalent to three (3) months of monitoring in calculating the 12-month rolling average. Facilities that monitor more frequently than monthly for total mercury must determine the monthly average result, which is the sum of the results of all data obtained in a given month divided by the total number of samples taken, in order to calculate the 12-month rolling average. If the 12-month rolling average for any quarter is less than or equal to the LCA, the permittee will be considered to be in compliance for total mercury for that quarter, provided the permittee is also in full compliance with the Pollutant Minimization Program for Total Mercury, set forth in Part I.A.7. of this permit.

g. Total Mercury Testing and Additional Reporting Requirements

The analytical protocol for total mercury shall be in accordance with EPA Method 1631, Revision E, "Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry," EPA-821-R-02-019, August 2002. The quantification level for total mercury shall be 0.5 ng/l, unless a higher level is appropriate because of sample matrix interference. Justification for higher quantification levels shall be submitted to the Department **within 30 days** of such determination.

The use of clean technique sampling procedures is required unless the permittee can demonstrate to the Department that an alternate sampling procedure is representative of the discharge. Guidance for clean technique sampling is contained in EPA Method 1669, “Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels (Sampling Guidance),” EPA-821-R96-001, July 1996. Information and data documenting the permittee's sampling and analytical protocols and data acceptability shall be submitted to the Department upon request.

In order to demonstrate compliance with EPA Method 1631E and EPA Method 1669, the permittee shall report, on the daily sheet, the analytical results of all field blanks and field duplicates collected in conjunction with each sampling event, as well as laboratory method blanks when used for blank correction. The permittee shall collect at least one (1) field blank and at least one (1) field duplicate per sampling event. If more than ten (10) samples are collected during a sampling event, the permittee shall collect at least one (1) additional field blank AND field duplicate for every ten (10) samples collected. Only field blanks or laboratory method blanks may be used to calculate a concentration lower than the actual sample analytical results (i.e., a blank correction). Only one (1) blank (field OR laboratory method) may be used for blank correction of a given sample result, and only if the blank meets the quality control acceptance criteria. If blank correction is not performed on a given sample analytical result, the permittee shall report under "Total Mercury – Corrected" the same value reported under "Total Mercury – Uncorrected." The field duplicate is for quality control purposes only; its analytical result shall not be averaged with the sample result.

PART I

Section A. Limitations and Monitoring Requirements

2. North Secondary Effluent Limitations, Monitoring Point 001B

During the period beginning one (1) year from the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge secondary treated municipal wastewater from Monitoring Point 001B through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to the Grand River at Latitude 42.9484, Longitude -85.7052. Such discharge shall be limited and monitored by the permittee as specified below.

	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration				Monitoring	Sample
Parameter	Monthly	7-Day	Daily	Units	Monthly	7-Day	Daily	Units	Frequency	Type
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Carbonaceous Biochemical Oxygen Demand (CBOD5)	13,000	20,000	(report)	lbs/day	25	40	(report)	mg/l	5×Weekly	24-Hr Composite
Total Suspended Solids (TSS)	15,000	23,000	(report)	lbs/day	30	45	(report)	mg/l	5×Weekly	24-Hr Composite
					Minimum Daily					
pH	---	---	---	---	6.0	---	9.0	S.U.	Daily	Grab
					Minimum % Monthly		**Minimum % Daily**			
CBOD5 Minimum % Removal	---	---	---	---	85	---	(report)	%	Monthly	Calculation
TSS Minimum % Removal	---	---	---	---	85	---	(report)	%	Monthly	Calculation

The following design flow was used in determining the above limitations, but is not to be considered a limitation or actual capacity: 61.1 MGD.

a. Sampling Locations
All samples shall be representative of the north secondary treatment effluent, taken prior to mixing with other waste streams, and consistent with the locations approved by the Department. If samples are taken after disinfection, samples for CBOD5 shall be properly seeded prior to analysis. The Department may approve alternate sampling locations that are demonstrated by the permittee to be representative of the effluent.

b. Percent Removal Requirements
Monthly percent removal shall be calculated based on the monthly average effluent CBOD5 and TSS concentrations and the monthly average influent concentrations for approximately the same period. Daily percent removal shall be calculated based on the daily effluent CBOD5 and TSS concentrations and the daily influent concentrations for the same day. Reporting of Daily percent removal is only required on days on which an influent sample is obtained. The calculation shall be made as follows for each parameter: Percent removal = (influent concentration - effluent concentration) / influent concentration x 100.

PART I

Section A. Limitations and Monitoring Requirements

3. South Secondary Effluent Limitations, Monitoring Point 001C

During the period beginning one (1) year from the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge secondary treated municipal wastewater from Monitoring Point 001C through Monitoring Point 001A and Outfall 001. Outfall 001 discharges to the Grand River at Latitude 42.9484, Longitude -85.7052. Such discharge shall be limited and monitored by the permittee as specified below.

	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration				Monitoring	Sample
Parameter	Monthly	7-Day	Daily	Units	Monthly	7-Day	Daily	Units	Frequency	Type
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Carbonaceous Biochemical Oxygen Demand (CBOD5)	13,000	20,000	(report)	lbs/day	25	40	(report)	mg/l	5×Weekly	24-Hr Composite
Total Suspended Solids (TSS)	15,000	23,000	(report)	lbs/day	30	45	(report)	mg/l	5×Weekly	24-Hr Composite
					Minimum Daily					
pH	---	---	---	---	6.0	---	9.0	S.U.	Daily	Grab
					Minimum % Monthly		**Minimum % Daily**			
CBOD5 Minimum % Removal	---	---	---	---	85	---	(report)	%	Monthly	Calculation
TSS Minimum % Removal	---	---	---	---	85	---	(report)	%	Monthly	Calculation

The following design flow was used in determining the above limitations, but is not to be considered a limitation or actual capacity: 61.1 MGD.

b. Sampling Locations
All samples shall be representative of the south secondary treatment effluent, taken prior to mixing with other waste streams, and consistent with the locations approved by the Department. If samples are taken after disinfection, samples for CBOD5 shall be properly seeded prior to analysis. The Department may approve alternate sampling locations that are demonstrated by the permittee to be representative of the effluent.

b. Percent Removal Requirements
Monthly percent removal shall be calculated based on the monthly average effluent CBOD5 and TSS concentrations and the monthly average influent concentrations for approximately the same period. Daily percent removal shall be calculated based on the daily effluent CBOD5 and TSS concentrations and the daily influent concentrations for the same day. Reporting of Daily percent removal is only required on days on which an influent sample is obtained. The calculation shall be made as follows for each parameter: Percent removal = (influent concentration - effluent concentration) / influent concentration x 100.

PART I

Section A. Limitations and Monitoring Requirements

4. Retention Treatment Basin (RTB) Discharge Authorization, Monitoring Point 003A

During the period beginning on the effective date of this permit and lasting until the wet weather correction program (Part I.A.10.) is positively certified, the permittee is authorized to discharge treated effluent from the RTB from Monitoring Point 003A through Outfall 003 when the basin is full and flows exceed the maximum wastewater treatment plant capacity of 78 MGD. Outfall 003 discharges to the Grand River at Latitude 42.95111, Longitude -85.6919. Such discharge shall be limited and monitored by the permittee as specified below.

Parameter	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration				Monitoring Frequency	Sample Type
	Monthly	7-Day	Daily	Units	Monthly	7-Day	Event	Units		
Influent Characteristics										
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Effluent Characteristics										
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Biochemical Oxygen Demand (BOD5)	---	---	---	---	---	---	(report)	mg/l	Event	See a. below
Total Suspended Solids (TSS)	---	---	---	---	---	---	(report)	mg/l	Event	See a. below
Ammonia Nitrogen (as N)	---	---	---	---	---	---	(report)	mg/l	Event	See a. below
Total Phosphorus (as P)	---	---	---	---	---	---	(report)	mg/l	Event	See a. below
Fecal Coliform Bacteria										
May – October	---	---	---	---	---	---	400	cts/ 100 ml	See a. below	Grab
November – April	---	---	---	---	---	---	1,000		See a. below	Grab
					Event Average					
Total Residual Chlorine (TRC)	---	---	---	---	(report)	---	(report)	ug/l	See a. below	Grab
					Event Minimum					
pH	---	---	---	---	(report)	---	(report)	S.U.	Daily	Grab
Dissolved Oxygen	---	---	---	---	(report)	---	---	mg/l	Daily	Grab

a. RTB Monitoring and Reporting
The permittee shall conduct RTB monitoring and reporting consistent with the requirements of Part II.C.2. of this permit. The permittee shall supply the results of each sample taken during each discharge period.

An **Event** is defined as commencing when RTB influent is discharged into the facility and ending when effluent flow (if any) ceases and does not resume within 24 hours.

PART I

Section A. Limitations and Monitoring Requirements

Influent flow shall be reported for all wet-weather events where RTB influent is discharged to the facility. Influent flow reporting shall also indicate the component of the total influent flow that is dewatered to the interceptor from the facility during an event and shall be reported in the comment section on the Summary tab of the Discharge Monitoring Reports (DMR). Alternate procedures may be approved by the Department.

Effluent flow shall be reported for all events that cause discharge from the facility to the receiving waters.

Effluent sampling for BOD5, TSS, ammonia nitrogen (as N), and total phosphorus (as P) shall be by flow-proportioned composite sampling over the entire event. Alternate procedures for determining an event composite may be approved by the Department if existing equipment cannot reliably obtain a flow-proportioned composite sample. For purposes of reporting for a discharge event that occurs on multiple calendar days, the composite sample concentrations for the event shall be reported on the day the discharge event ended. The analytical results of each event composite sample obtained during a reporting month shall be reported on the Daily tab of the DMRs. The highest event composite sample concentrations observed during a reporting period shall be reported on the Summary tab of the DMRs.

For **effluent pH,** report the maximum value of any individual sample taken during the month in the "Maximum" column under "Quality or Concentration" on the Summary tab of the DMRs and the minimum value of any individual sample taken during the month in the "Minimum" column under "Quality or Concentration" on the Summary tab of the DMRs. The individual values taken during the month shall be reported on the Daily tab of the DMRs.

For **effluent dissolved oxygen**, report the minimum concentration of any individual sample taken during the month in the "Minimum" column under the "Quality or Concentration" on the Summary tab of the DMRs. The individual values taken during the month shall be reported on the Daily tab of the DMRs.

For **effluent fecal coliform bacteria and TRC,** grab samples shall be collected every two (2) hours for the first six (6) hours of the discharge and every four (4) hours thereafter for the duration of the discharge. The first sample shall be collected as soon as practical after the discharge begins. The goal of the effluent sampling program is to collect at least three (3) samples during each discharge event, and samples shall be collected at shorter intervals at the onset of the event if the permittee estimates that the event duration may be less than six (6) hours. For purposes of reporting for a discharge event that occurs on multiple calendar days, the pollutant concentrations for the event shall be reported on the day the discharge event ended.

For **fecal coliform bacteria**, the geometric mean of all samples taken during an event shall be reported as the “Event Maximum” on the Daily tab of the DMRs, provided that three (3) or more samples were collected. The highest event geometric mean reported during the month shall be reported in the "Maximum" column under "Quality or Concentration" on the Summary tab of the DMRs.

For **TRC**, the highest value of all samples taken during an event shall be reported as the “Event Maximum” on the Daily tab of the DMRs. The average of all samples in an event shall be reported as the "Event Average" on the Daily tab of the DMRs. The highest Event Maximum reported during the month shall be reported in the "Maximum" column under "Quality or Concentration" on the Summary tab of the DMRs. The highest Event Average reported during the month shall be reported in the "Average" column under "Quality or Concentration" on the Summary tab of the DMRs.

b. RTB Dewatering

The RTB shall be promptly dewatered as soon as possible following the need to divert flow to the basin, or in accordance with an approved regional operational plan, and shall be maintained in readiness for use. The discharge of sludge or residual accumulations from the basin to the surface waters of the state is prohibited. These sludges shall be promptly removed and disposed of in accordance with procedures approved by the Department.

PART I

Section A. Limitations and Monitoring Requirements

c. Narrative Standard
The receiving water shall contain no turbidity, color, oil films, floating solids, foams, settleable solids, or deposits as a result of this discharge in unnatural quantities which are or may become injurious to any designated use.

d. Operation and Maintenance Plan
The permittee shall ensure that discharges only occur in response to rainfall or snowmelt events and cease soon thereafter. Any rehabilitation and maintenance needs shall be addressed to ensure adequate sewer capacity and functionality. This may be accomplished through continued implementation of the approved Operation and Maintenance Plan.

e. Disconnection of Eaves Troughs and Roof Downspouts
Direct connections of eaves troughs and roof downspouts to the sewer system are prohibited throughout the service area tributary to the combined sewer overflow outfalls. This requirement does not apply if the permittee has demonstrated that the disconnection of eaves troughs and roof downspouts is not a cost-effective means of reducing the frequency or duration of overflows or of maintaining compliance with this permit. Such a demonstration and supporting documentation shall be submitted to the Department for approval.

f. New Wastewater Flows
Increased levels of discharge of sanitary sewage from the RTB are prohibited unless:

1) The increased discharge is the result of new sanitary wastewater flows that, on the basis of sound professional judgment, are determined to be within design peak dry weather transportation capacity; or

2) The permittee has officially adopted and is timely implementing a program, satisfactory to the Department, leading to the construction and operation of necessary collection, transportation, or treatment devices.

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5. Quantification Levels and Analytical Methods for Selected Parameters

Maximum acceptable quantification levels (QLs) are specified for selected parameters in the table below. These QLs apply to all monitoring conducted in compliance with this permit if and when the parameters specified herein are monitored. This includes monitoring conducted to meet the requirements of the application for permit reissuance. These QLs shall be considered the maximum acceptable unless a higher QL is appropriate because of sample matrix interference. Justification for higher QLs shall be submitted to the Department **within 30 days** of such determination.

Where necessary to help ensure that the QLs specified herein can be achieved, analytical methods may also be specified in the table below. The sampling procedures, preservation and handling, and analytical protocol for all monitoring conducted in compliance with this permit, including monitoring conducted to meet the requirements of the application for permit reissuance, shall be in accordance with the methods specified herein, or in accordance with Part II.B.2. of this permit if no method is specified herein, unless an alternate method is approved by the Department. The Department will consider only alternate methods that meet the requirements of Part II.B.2. and whose QLs are at least as sensitive (i.e., low) as those specified herein. **Not all QLs are expressed in the same units in the table below**. The table is continued on the following page:

Parameter	QL	Units	Analytical Method
1,2-Diphenylhydrazine (as Azobenzene)	3.0	ug/l	
2,4,6-Trichlorophenol	5.0	ug/l	
2,4-Dinitrophenol	19	ug/l	
3,3'-Dichlorobenzidine	1.5	ug/l	
4-Chloro-3-Methylphenol	7.0	ug/l	
4,4'-DDD	0.01	ug/l	
4,4'-DDE	0.01	ug/l	
4,4'-DDT	0.01	ug/l	
Acrylonitrile	1.0	ug/l	
Aldrin	0.01	ug/l	
Alpha-Endosulfan	0.01	ug/l	
Alpha-Hexachlorocyclohexane	0.01	ug/l	
Antimony, Total	1	ug/l	
Arsenic, Total	1	ug/l	
Barium, Total	5	ug/l	
Benzidine	0.1	ug/l	
Beryllium, Total	1	ug/l	
Beta-Endosulfan	0.01	ug/l	
Beta-Hexachlorocyclohexane	0.01	ug/l	
Bis (2-Chloroethyl) Ether	1.0	ug/l	
Bis (2-Ethylhexyl) Phthalate	5.0	ug/l	
Boron, Total	20	ug/l	
Cadmium, Total	0.2	ug/l	
Chlordane	0.01	ug/l	
Chloride	1.0	mg/l	
Chromium, Hexavalent	5	ug/l	
Chromium, Total	10	ug/l	
Copper, Total	1	ug/l	
Cyanide, Available	2	ug/l	EPA Method OIA 1677
Cyanide, Total	5	ug/l	
Delta-Hexachlorocyclohexane	0.01	ug/l	
Dieldrin	0.01	ug/l	

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Parameter	QL	Units	Analytical Method
Di-N-Butyl Phthalate	9.0	ug/l	
Endosulfan Sulfate	0.01	ug/l	
Endrin	0.01	ug/l	
Endrin Aldehyde	0.01	ug/l	
Fluoranthene	1.0	ug/l	
Heptachlor	0.01	ug/l	
Heptachlor Epoxide	0.01	ug/l	
Hexachlorobenzene	0.01	ug/l	
Hexachlorobutadiene	0.01	ug/l	
Hexachlorocyclopentadiene	0.01	ug/l	
Hexachloroethane	5.0	ug/l	
Lead, Total	1	ug/l	
Lindane	0.01	ug/l	
Lithium, Total	10	ug/l	
Mercury, Total	0.5	ng/l	EPA Method 1631E
Nickel, Total	5	ug/l	
PCB-1016	0.1	ug/l	
PCB-1221	0.1	ug/l	
PCB-1232	0.1	ug/l	
PCB-1242	0.1	ug/l	
PCB-1248	0.1	ug/l	
PCB-1254	0.1	ug/l	
PCB-1260	0.1	ug/l	
Pentachlorophenol	1.8	ug/l	
Perfluorooctanesulfonic acid (PFOS)	2.0	ng/l	Analyses may be performed using EPA Method 1633A, ASTM D7979, ASTM D8421-24, or another isotope dilution method (sometimes referred to as Method 537 modified) until one or more analytical methods are promulgated at which time only promulgated methods may be used.
Perfluorooctanoic acid (PFOA)			
Perfluorobutanesulfonic acid (PFBS)			
Perfluorononanoic acid (PFNA)			
Perfluorohexanesulfonic acid (PFHxS)			
Phenanthrene	1.0	ug/l	
Selenium, Total	1.0	ug/l	
Silver, Total	0.5	ug/l	
Strontium, Total	1000	ug/l	
Sulfate	2.0	mg/l	
Sulfides, Dissolved	20	ug/l	
Thallium, Total	1	ug/l	
Toxaphene	0.1	ug/l	
Vinyl Chloride	1.0	ug/l	
Zinc, Total	10	ug/l	

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6. Additional Monitoring Requirements

As a condition of this permit, the permittee shall monitor the discharge from monitoring point 001A for the constituents identified below. This monitoring is an application requirement of 40 CFR 122.21(j), effective December 2, 1999. Testing shall be conducted in **August 2026**, **May 2027**, **March 2028**, and **October 2028**. Grab samples shall be collected for available cyanide, total phenols, and the Volatile Organic Compounds identified below. For all other parameters, 24-hour composite samples shall be collected.

Test species for whole effluent toxicity monitoring shall include fathead minnow **and** *Ceriodaphnia dubia,* for a total of four (4) tests on each species. Testing and reporting procedures shall follow procedures contained in EPA-821-R-02-013, "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" (Fourth Edition). When the effluent ammonia nitrogen (as N) concentration is greater than 3 mg/l, the pH of the toxicity test shall be maintained at a pH of 8 Standard Units. Acute and chronic toxicity data shall be included in the reporting for the toxicity test results. Toxicity test data acceptability is contingent upon the validation of the test method by the testing laboratory. Such validation shall be submitted to the Department upon request. The permittee shall report to the Department any whole effluent toxicity test results greater than 1.0 TU_A or 3.27 TU_C **within five (5) days** of becoming aware of the result.

The results of such additional monitoring shall be submitted with the application for reissuance (see the cover page of this permit for the application due date). The permittee shall notify the Department **within 14 days** of completing the monitoring for each month specified above in accordance with Part II.C.5. Additional reporting requirements are specified in Part II.C.11. If, upon review of the analysis, it is determined that additional requirements are needed to protect the receiving waters in accordance with applicable water quality standards, the permit may then be modified by the Department in accordance with applicable laws and rules.

Whole Effluent Toxicity

acute toxicity	chronic toxicity

Hardness

calcium carbonate

Metals (Total Recoverable), Cyanide and Total Phenols

antimony	arsenic	available cyanide	nickel
beryllium	cadmium	chromium	zinc
copper	lead	thallium	
selenium	silver	total phenols	

Volatile Organic Compounds

acrolein	acrylonitrile	benzene	bromoform
carbon tetrachloride	chlorobenzene	chlorodibromomethane (Dibromochloromethane)	
chloroethane	2-chloroethylvinyl ether	chloroform	
dichlorobromomethane (Bromodichloromethane)		1,1-dichloroethane	1,2-dichloroethane
trans-1,2-dichloroethylene (trans-1,2-Dichloroethene)		1,1-dichloroethylene (1,1-Dichloroethene)	
1,2-dichloropropane	1,3-dichloropropylene (cis-1,3-Dichloropropene)		ethylbenzene
methyl bromide (Bromomethane)		methyl chloride (Chloromethane)	
methylene chloride	1,1,2,2-tetrachloroethane	tetrachloroethylene (Tetrachloroethene)	
toluene	1,1,1-trichloroethane	1,1,2-trichloroethane	
trichloroethylene (Trichloroethene)		vinyl chloride	

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Acid-Extractable Compounds

4-chloro-3-methylphenol	2-chlorophenol	2,4-dichlorophenol	2,4-dimethylphenol
4,6-dinitro-o-cresol (4,6-Dinitro-2-methylphenol)		2,4-dinitrophenol	2-nitrophenol
4-nitrophenol	pentachlorophenol	phenol	2,4,6-trichlorophenol

Base/Neutral Compounds

acenaphthene	acenaphthylene	anthracene	benzidine
benzo(a)anthracene	benzo(a)pyrene	3,4-benzofluoranthene (Benzo (b) fluoranthene)	
benzo(ghi)perylene			
benzo(k)fluoranthene	bis(2-chloroethoxy)methane	bis(2-chloroethyl)ether	bis(2-chloroisopropyl)ether
bis(2-ethylhexyl)phthalate	4-bromophenyl phenyl ether	butylbenzyl phthalate	2-chloronaphthalene
4-chlorophenyl phenyl ether	chrysene	di-n-butyl phthalate	di-n-octyl phthalate
dibenzo(a,h)anthracene	1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene
3,3'-dichlorobenzidine	diethyl phthalate	dimethyl phthalate	2,4-dinitrotoluene
2,6-dinitrotoluene	1,2-diphenylhydrazine	fluoranthene	fluorene
hexachlorobenzene	hexachlorobutadiene	hexachlorocyclopentadiene	hexachloroethane
indeno(1,2,3-cd)pyrene	isophorone	naphthalene	nitrobenzene
n-nitrosodi-n-propylamine	n-nitrosodimethylamine	n-nitrosodiphenylamine	phenanthrene
pyrene	1,2,4-trichlorobenzene		

7. Pollutant Minimization Program for Total Mercury

The goal of the Pollutant Minimization Program is to maintain the effluent concentration of total mercury at or below 1.3 ng/l. The permittee shall continue to implement the Pollutant Minimization Program approved on February 1, 1998, and modifications thereto, to proceed toward the goal. The Pollutant Minimization Program includes the following:

a. an annual review and semi-annual monitoring of potential sources of mercury entering the wastewater collection system;

b. a program for quarterly monitoring of influent and periodic monitoring of sludge for mercury; and

c. implementation of reasonable cost-effective control measures when sources of mercury are discovered. Factors to be considered include significance of sources, economic considerations, and technical and treatability considerations.

On or before **March 31 of each year**, the permittee shall submit a status report to the Department for the previous calendar year that includes 1) the monitoring results for the previous year, 2) an updated list of potential mercury sources, and 3) a summary of all actions taken to reduce or eliminate identified sources of mercury.

Any information generated as a result of the Pollutant Minimization Program set forth in this permit may be used to support a request to modify the approved program or to demonstrate that the Pollutant Minimization Program requirement has been completed satisfactorily.

A request for modification of the approved program and supporting documentation shall be submitted in writing to the Department for review and approval. The Department may approve modifications to the approved program (approval of a program modification does not require a permit modification), including a reduction in the frequency of the requirements under items a. and b. above.

This permit may be modified in accordance with applicable laws and rules to include additional mercury conditions and/or limitations as necessary.

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8. Compliance Schedule for Final Effluent Limits for Perfluorooctanesulfonic Acid (PFOS)

The permittee shall complete the following schedule of compliance to achieve the effluent limits for PFOS specified in Part I.A.1. of this permit. The schedule requires continued work to reduce or eliminate PFOS from indirect discharges to the facility that cause interference or pass through by developing and implementing a local limit for PFOS. If unable to comply with final effluent limits for PFOS effective September 1, 2028, as set forth in Part I.A.1, then a corrective action plan (CAP) shall be submitted as specified herein.

a. On or before **July 1, 2026**, the permittee shall submit an approvable proposed local limit for PFOS, and at a minimum a local limit evaluation for PFOA, PFBS, PFNA, and PFHxS. Local limits shall be based on protection of facility operations, eliminating pass-through, achieving the final effluent limitations, and preventing restrictions of the permittee's management of biosolids, as currently defined in the Department's "Interim Strategy – Land Application of Biosolids Containing PFAS." Proposed local limits and local limit evaluations shall be submitted in MiEnviro Portal via the "Local Limit Submission for PFAS" schedule. The permittee shall implement local limits upon approval by the Department.

b. On or before **January 1, 2026**, the permittee shall submit the first semi-annual status report that documents progress made in control of PFOS source discharges. The status report shall include all industrial and collection system monitoring from the past six (6) months. This status report shall include additional source reduction, pretreatment, and/or prevention of PFOS from entering the collection system and the facility. Monitoring of sources shall occur quarterly at a minimum or more frequently if required by the permittee. Semi-annual status reports are due by **January 1 and July 1 of each year**. Status reports shall be submitted in MiEnviro Portal via the "Ongoing IPP PFAS Status Report."

c. On or before **February 1, 2028**, the permittee shall submit to the Department for review and approval written certification that the facility will be able to meet the final effluent limits for PFOS effective September 1, 2028, as set forth in Part I.A.1. The submittal shall include all effluent data and describe all efforts taken to date to reduce sources of PFOS from entering the collection system and facility. If the permittee is unable to certify that it will be able to meet the PFOS limits effective September 1, 2028, then by the date specified herein, the permittee shall submit a negative certification including a supporting evaluation. Following Department review of that evaluation, this permit may be modified by the Department in accordance with applicable laws and rules. Certification shall be submitted in MiEnviro Portal via the "PFAS Effluent Limit Certification" schedule.

d. If the permittee is unable to consistently comply with those limits, then by **December 1, 2028**, the permittee shall submit a CAP to the Department for review and approval. The CAP shall become an enforceable part of this permit immediately upon its approval by the Department.

   The CAP shall have the following constraints in addition to Industrial Pretreatment Program (IPP) implementation. If effluent concentrations of PFOS are consistently less than 30 ng/l, then continued implementation of the local limit and other source reduction efforts through the IPP may constitute an approvable CAP and the schedule for such CAP shall not exceed two (2) years from September 1, 2028. If effluent concentrations of PFOS are consistently greater than 30 ng/l, then an approvable CAP shall include a) facility and/or collection system cleaning, as appropriate, and/or b) a construction schedule for corrections at the facility, and the schedule for such CAP shall not exceed three (3) years from September 1, 2028. Corrections can include treatment of dewatering water from biosolids storage back to the head of the facility, or treatment (e.g., Powdered Activated Carbon, Granular Activated Carbon, etc.) for PFOS of the entire flow at the facility.

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9. PFAS Data Reporting Requirements

On or before **the 20th day of the month** following each month in which PFAS sampling is required, the permittee shall submit the complete laboratory analysis of each PFAS sample. This may be in addition to required DMR reporting. Submittals shall be made via MiEnviro Portal using the PFAS POTW Effluent Monitoring Report form. Until one or more analytical methods for PFAS are promulgated by EPA, the complete laboratory analysis of each PFAS sample shall constitute the first 28 analytes identified on the PFAS POTW Effluent Monitoring Report form. Following promulgation of one or more analytical methods for PFAS, the complete laboratory analysis of each PFAS sample shall constitute all analytes targeted by the method.

10. Wet Weather Correction Program – Project Performance Certification

The permittee has completed all combined sewer separation projects in conjunction with its Long-term CSO Control Program. However, the permittee was unable to certify that the system can transport, store, and treat wet weather flows in accordance with the Department's Sanitary Sewer Overflow (SSO) Policy & Clarification Statement, and other applicable State and Federal requirements (collectively termed SSO requirements). The SSO Policy & Clarification Statement is available on the Department's website at https://www.michigan.gov/egle/about/Organization/Water-Resources/sso-cso-rtb.

The permittee shall perform additional corrective actions and complete a Final Wet Weather Correction Program Project Performance Certification (PPC) in accordance with the requirements and schedules below to confirm that the entire system meets the applicable SSO requirements. This includes demonstrating that the transport, total system storage, and secondary treatment capacity of the Grand Rapids collection system and Wastewater Resource Recovery Facility (WRRF) can adequately handle wet weather flows generated as a result of the Department defined remedial design standard (RDS), equivalent to a 25-year, 24-hour storm (3.9" in 24 hours) event using growth conditions (April 1 – November 1), normal soil moisture, and an acceptable rainfall distribution (SCS Type II, Bratter-Sherrill, or equivalent). Among the requirements, there shall also be no discharge from Outfall 003 (Market Avenue Retention Basin (MARB)) resulting from an RDS storm event.

a. On or before **October 1, 2026**, the permittee shall submit to the Department for review and approval a Corrective Action Plan (CAP) for the actions required to be completed for the system to transport, store, and treat the wet weather flows generated as a result of an RDS storm event. The CAP shall contain the following information:

   1) An analysis of the cause of the project's inability to meet the performance standards and estimates of the nature, scope, and cost of the corrective action necessary to bring the project into compliance (this report shall be consistent with the Final PPC Evaluation Report (submitted June 30, 2022), and the proposed corrective actions must be appropriate for the design life of the project); and

   2) a schedule for undertaking in a timely manner the corrective action necessary to bring the project into compliance, including proposed dates for submission of the Final Wet Weather Correction Program PPC Work Plan and Final Wet Weather Correction Program PPC Evaluation Report.

b. On or before the due date included in the approved CAP, the permittee shall submit to the Department for review and approval, a Final Wet Weather Correction Program PPC Work Plan, which details the activities (including but not limited to flow monitoring, modeling, and evaluation of WRRF compliance) and implementation schedule for conducting an assessment aimed at confirming that the collection, storage, and treatment systems meet applicable SSO requirements using an acceptable rainfall distribution.

c. On or before the due date included in the approved CAP, the permittee shall submit to the Department for review and approval, a Final Wet Weather Correction Program PPC Evaluation Report, which presents the findings of the assessment of the entire system conducted according to the approved Final Wet Weather Correction Program PPC Work Plan, and a determination if the applicable SSO requirements have been met and certification has been achieved.

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d. If the permittee is unable to certify in the Final PPC Evaluation Report that the system can transport, store, and treat wet weather flows generated as a result of an RDS storm event, then the permittee shall submit a revised CAP to the Department for review and approval **within six (6) months** of written notification by the Department. The revised CAP shall include an implementation schedule for additional corrective action necessary for the system to transport, store, and treat wet weather flows generated as a result of an RDS storm event. The CAP and schedule shall become an enforceable part of this permit immediately upon its approval by the Department.

11. Untreated or Partially Treated Sewage Discharge Reporting and Testing Requirements

In accordance with Section 324.3112a of the NREPA, if untreated or partially treated sewage is directly or indirectly discharged from a sewer system onto land or into the waters of the state, the permittee shall immediately, but not more than 24 hours after the discharge begins, notify local health departments, a daily newspaper of general circulation in the county in which the permittee is located, and a daily newspaper of general circulation in the county or counties in which the municipalities whose waters may be affected by the discharge are located, that the discharge is occurring. The permittee shall also notify the Department via its MiEnviro Portal system on the form entitled “Report of Discharge (CSO/SSO/RTB).” The MiEnviro Portal website is located at https://mienviro.michigan.gov/ncore/. At the conclusion of the discharge, the permittee shall make all such notifications specified in, and in accordance with, Section 324.3112a of the NREPA, and shall notify the Department via its MiEnviro Portal system on the form entitled “Report of Discharge (CSO/SSO/RTB).”

In the event of a combined sewer overflow (CSO) and/or retention treatment basin (RTB) discharge, the permittee shall, in accordance with the public notification plan approved by the Department, notify the Department, the local health departments, a daily newspaper of general circulation in the county in which the permittee is located, and a daily newspaper of general circulation in the county or counties in which the municipalities whose waters may be affected by the discharge are located. Notification that the discharge is occurring shall be made within four (4) hours of becoming aware of the discharge. Within seven (7) days of becoming aware of the conclusion of the discharge, the permittee shall, in accordance with the public notification plan approved by the Department, provide written notification to the above parties of the following:

1) the amount of discharge as measured in accordance with the procedures approved by the Department,

2) the reason for the discharge,

3) the time the discharge began and ended as measured in accordance with the procedures approved by the Department, and

4) verification that the permittee is in compliance with the requirements of this permit. If such verification cannot be made, an explanation shall be provided detailing the reasons why the permittee is not in compliance with the requirements of this permit.

On or before **April 4, 2029**, with the application for reissuance, the permittee shall submit to the Department for approval an updated public notification plan.

Permittees authorized to discharge CSOs and/or RTB discharges to the Great Lakes Basin shall provide public notification of these discharges in accordance with 40 CFR 122.38 and the approved public notification plan. Such permittees shall, in accordance with Section 324.3112a of the NREPA, also provide notification to a newspaper of general circulation in the county in which the discharge occurred or is occurring.

The permittee shall also annually contact municipalities, including the superintendent of a public drinking water supply with potentially affected intakes, whose waters may be affected by the permittee's discharge of untreated or partially treated sewage, and if those municipalities wish to be notified in the same manner as specified above, the permittee shall provide such notification.

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Additionally, in accordance with Section 324.3112a of the NREPA, each time a discharge of untreated or partially treated sewage occurs, the permittee shall test the affected waters for *Escherichia coli* to assess the risk to the public health as a result of the discharge and shall provide the test results to the affected local county health departments and to the Department. The results of this testing shall be submitted to the Department via MiEnviro Portal as part of the notification specified above, or, if the results are not yet available, submitted as soon as they become available. This testing is not required if it has been waived by the local health department, or if the discharge(s) did not affect surface waters. The testing shall be done at locations specified by each affected local county health department but shall not exceed 10 tests for each separate discharge event. The affected local county health department may waive this testing requirement if it determines that such testing is not needed to assess the risk to the public health as a result of the discharge event.

Permittees accepting sanitary or municipal sewage from other sewage collection systems are encouraged to notify the owners of those systems of the above reporting and testing requirements.

12. Facility Contact

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing **within 10 days** after replacement (including the name, address and telephone number of the new facility contact).

a. The facility contact shall be (or a duly authorized representative of this person):
- for a corporation, a principal executive officer of at least the level of vice president; or a designated representative if the representative is responsible for the overall operation of the facility from which the discharge originates, as described in the permit application or other NPDES form,
- for a partnership, a general partner,
- for a sole proprietorship, the proprietor, or
- for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.

b. A person is a duly authorized representative only if:
- the authorization is made in writing to the Department by a person described in paragraph a. of this section; and
- the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section releases the permittee from properly submitting reports and forms as required by law.

13. Monthly Operating Reports

Part 41 of Act 451 of 1994 as amended, specifically Section 324.4106 and associated R 299.2953, requires that the permittee file with the Department, on forms prescribed by the Department, operating reports showing the effectiveness of the treatment facility operation and the quantity and quality of liquid wastes discharged into waters of the state. Applicable forms and guidance are available on the Department's web site at https://www.michigan.gov/egle/about/Organization/Water-Resources/wastewater-construction. The permittee may use alternate forms if they are consistent with the approved treatment facility monitoring program. Unless the Department provides written notification to the permittee that monthly submittal of operating reports is required, operating reports that result from implementation of the approved treatment facility monitoring program shall be maintained on site for a minimum of three (3) years and shall be made available to the Department for review upon request.

Within 30 days of the effective date of this permit, the permittee shall submit to the Department either a revised treatment facility monitoring program to address monitoring requirement changes reflected in this permit, or justification explaining why monitoring requirement changes reflected in this permit do not necessitate revisions to the treatment facility monitoring program. Upon receipt of approval from the Department and consistent with such approval, the permittee shall implement the approved revised treatment facility monitoring program.

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14. Asset Management

The permittee shall at all times properly operate and maintain all facilities (i.e., the sewer system and treatment works as defined in Part 41 of the NREPA), and control systems installed or used by the permittee to operate the sewer system and treatment works and achieve and maintain compliance with the conditions of this permit (also see Part II.D.3 of this permit). The requirements of an Asset Management Program function to achieve the goals of effective performance, adequate funding, and adequate operator staffing and training. Asset management is a planning process for ensuring that optimum value is gained for each asset and that financial resources are available to rehabilitate and replace those assets when necessary. Asset management is centered on a framework of five (5) core elements: the current state of the assets; the required sustainable level of service; the assets critical to sustained performance; the minimum life-cycle costs; and the best long-term funding strategy.

a. Asset Management Program Requirements

On or before **April 1, 2018** (submitted March 30, 2018), the permittee shall submit to the Department an Asset Management Plan for review and approval. An approvable Asset Management Plan shall contain a schedule for the development and implementation of an Asset Management Program that meets the requirements outlined below in 1) – 4). A copy of any Asset Management Program requirements already completed by the permittee should be submitted as part of the Asset Management Plan. Upon approval by the Department the permittee shall implement the Asset Management Plan. (The permittee may choose to include the Operation and Maintenance Manual required under Part II.C.14. of this permit as part of their Asset Management Program).

1) *Maintenance Staff.* The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. The level of staffing needed shall be determined by taking into account the work involved in operating the sewer system and treatment works, planning for and conducting maintenance, and complying with this permit.

2) *Collection System Map.* The permittee shall complete a map of the sewer collection system it owns and operates. The map shall be of sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current conditions and shall be kept up-to-date and available for review by the Department. **Note: Items below referencing combined sewer systems are not applicable to separate sewer systems.** Such map(s) shall include but not be limited to the following:

a) all sanitary sewer lines and related manholes;

b) all combined sewer lines, related manholes, catch basins and CSO regulators;

c) all known or suspected connections between the sanitary sewer or combined sewer and storm drain systems;

d) all outfalls, including the treatment plant outfall(s), combined sewer treatment facility outfalls, untreated CSOs, and any known SSOs;

e) all pump stations and force mains;

f) the wastewater treatment facility(ies), including all treatment processes;

g) all surface waters (labeled);

h) other major appurtenances such as inverted siphons and air release valves;

i) a numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;

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j) the scale and a north arrow;

k) the pipe diameter, date of installation, type of material, distance between manholes, and the direction of flow; and

l) the manhole interior material, rim elevation (optional), and invert elevations.

3) *Inventory and assessment of fixed assets.* The permittee shall complete an inventory and assessment of operations-related fixed assets including portions of the collection system owned and operated by the permittee. Fixed assets are assets that are normally stationary (e.g., pumps, blowers, buildings, manholes, and sewer lines). The inventory and assessment shall be based on current conditions and shall be kept up-to-date and available for review by the Department.

a) The fixed asset inventory shall include the following:

(1) a brief description of the fixed asset, its design capacity (e.g., pump: 120 gallons per minute), its level of redundancy, and its tag number if applicable;

(2) the location of the fixed asset;

(3) the year the fixed asset was installed;

(4) the present condition of the fixed asset (e.g., excellent, good, fair, poor); and

(5) the current fixed asset (replacement) cost in dollars for year specified in accordance with approved schedules;

b) The fixed asset assessment shall include a "Business Risk Evaluation" that combines the probability of failure of the fixed asset and the criticality of the fixed asset, as follows:

(1) Rate the probability of failure of the fixed asset on a scale of 1-5 (low to high) using criteria such as maintenance history, failure history, and remaining percentage of useful life (or years remaining);

(2) Rate the criticality of the fixed asset on a scale of 1-5 (low to high) based on the consequence of failure versus the desired level of service for the facility; and

(3) Compute the Business Risk Factor of the fixed asset by multiplying the failure rating from (1) by the criticality rating from (2).

4) *Operation, Maintenance & Replacement (OM&R) Budget and Rate Sufficiency for the Sewer System and Treatment Works.* The permittee shall complete an assessment of its user rates and replacement fund, including the following:

a) beginning and end dates of fiscal year;

b) name of the department, committee, board, or other organization that sets rates for the operation of the sewer system and treatment works;

c) amount in the permittee's replacement fund in dollars for year specified in accordance with approved schedules;

d) replacement fund strategy of all assets with a useful life of 20 years or less;

e) expenditures for maintenance, corrective action and capital improvement taken during the fiscal year;

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Section A. Limitations and Monitoring Requirements

f) OM&R budget for the fiscal year; and

g) rate calculation demonstrating sufficient revenues to cover OM&R expenses. If the rate calculation shows there are insufficient revenues to cover OM&R expenses, the permittee shall document, within three (3) fiscal years after submittal of the Asset Management Plan, that there is at least one rate adjustment that reduces the revenue gap by at least 10 percent. The permittee may prepare and submit an alternate plan, subject to Department approval, for addressing the revenue gap. The ultimate goal of the Asset Management Program is to ensure sufficient revenues to cover OM&R expenses.

b. Annual Reporting

The permittee shall develop a written report that summarizes asset management activities completed during the previous year and planned for the upcoming year. The written report shall be submitted to the Department on or before **October 1 of each year**. The written report shall include:

1) a description of the staffing levels maintained during the year;

2) a description of inspections and maintenance activities conducted and corrective actions taken during the previous year;

3) expenditures for collection system maintenance activities, treatment works maintenance activities, corrective actions, and capital improvement during the previous year;

4) a summary of assets/areas identified for inspection/action (including capital improvement) in the upcoming year based on the five (5) core elements and the Business Risk Factors computed in accordance with condition a.3)b)(3) above;

5) a maintenance budget and capital improvement budget for the upcoming year that take into account implementation of an effective Asset Management Program that meets the five (5) core elements;

6) an updated asset inventory based on the original submission; and

7) an updated OM&R budget with an updated rate schedule that includes the amount of insufficient revenues, if any.

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Section A. Limitations and Monitoring Requirements

15. Discharge Monitoring Report – Quality Assurance Study Program

The permittee shall participate in the Discharge Monitoring Report – Quality Assurance (DMR-QA) Study Program. The purpose of the DMR-QA Study Program is to annually evaluate the proficiency of all in-house and/or contract laboratory(ies) that perform, on behalf of the facility authorized to discharge under this permit, the analytical testing required under this permit. In accordance with Section 308 of the Clean Water Act (33 U.S.C. § 1318); and R 323.2138 and R 323.2154 of Part 21, Wastewater Discharge Permits, promulgated under Part 31 of the NREPA, participation in the DMR-QA Study Program is required for all major facilities, and for minor facilities selected for participation by the Department.

Annually and in accordance with DMR-QA Study Program requirements and submittal due dates, the permittee shall submit to the Michigan DMR-QA Study Program state coordinator all documentation required by the DMR-QA Study. DMR-QA Study Program participation is required only for the analytes required under this permit and only when those analytes are also identified in the DMR-QA Study.

If the permitted facility's status as a major facility should change, participation in the DMR-QA Study Program may be reevaluated. Questions concerning participation in the DMR-QA Study Program should be directed to the Michigan DMR-QA Study Program state coordinator.

All forms and instructions required for participation in the DMR-QA Study Program, including submittal due dates and state coordinator contact information, can be found at http://www.epa.gov/compliance/discharge-monitoring-report-quality-assurance-study-program.

16. Continuous Monitoring

If continuous monitoring equipment is used and becomes temporarily inoperable, the permittee shall manually obtain a minimum of three (3) equally spaced grab samples/readings within each 24-hour period for the affected parameter(s). On such days, in the comment field on the Daily tab of the DMR, the permittee shall indicate "continuous monitoring system inoperable," the date on which the system is expected to become operable again, and the number of samples/readings obtained during each 24-hour period.

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Section B. Stormwater Pollution Prevention

1. Final Effluent Limitations and Monitoring Requirements

The permittee is authorized to discharge an unspecified amount of stormwater associated with industrial activity as defined under 40 CFR 122.26(b)(14)(i-ix) to the Grand River, for which the Department has determined additional monitoring is needed from special-use areas including secondary containment structures required by state or federal law; from lands on Michigan's List of Sites of Environmental Contamination, pursuant to Part 201, Environmental Remediation, of the NREPA; or from areas with other activities that may contribute pollutants to the stormwater. Such discharge shall be limited and monitored by the permittee as specified below.

a. Narrative Standard
In accordance with R 323.1050 of the Part 4 Rules promulgated pursuant to Part 31 of the NREPA, the surface waters of the state shall not, as a result of this discharge, have any of the following physical properties in unnatural quantities which are or may become injurious to any designated use: turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits.

b. Unusual Discharge Characteristics
Stormwater discharges shall be monitored as required by this permit to ensure there are no unusual characteristics (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, suspended solids, or deposits) that would cause a violation of the narrative standard or other water quality standards.

c. Industrial Stormwater Certified Operator
Stormwater treatment and/or control measures associated with this discharge shall be under direct supervision of an industrial stormwater operator certified by the Department, as required by Section 3110 of the NREPA.

d. Implementation of Stormwater Pollution Prevention Plan
The permittee shall implement an acceptable Stormwater Pollution Prevention Plan (SWPPP) that meets the requirements of this permit.

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Section B. Stormwater Pollution Prevention

2. Stormwater Pollution Prevention Plan (SWPPP)

The SWPPP is a written plan that identifies sources of significant materials associated with industrial activity and includes procedures intended to reduce the exposure of significant materials to stormwater. The SWPPP template and other guidance materials are available on the Industrial Stormwater Program webpage at www.michigan.gov/industrialstormwater.

An acceptable SWPPP shall identify the facility name, address, and permit number, and meet the requirements specified in Part I.B.3. through Part I.B.9. below:

3. Source Identification

To identify potential sources of significant materials that have reasonable potential to pollute stormwater and subsequently be discharged to surface waters of the state, the SWPPP shall, at a minimum, include the following:

a. Site Map

The site map shall identify and label the following:

1) buildings and other permanent structures;

2) all areas of industrial activity, industrial equipment, and/or industrial material storage;

3) storage, disposal, and/or recycling areas for significant materials;

4) the location of all stormwater discharge points and monitoring points (numbered or otherwise uniquely labeled for reference);

5) the location of all stormwater inlets (e.g., catch basins, roof drains, etc.) contributing to each stormwater discharge point (numbered or otherwise labeled for reference);

6) the location of non-stormwater NPDES-permitted discharges;

7) the location of all stormwater conveyances (e.g., pipe, ditch, channel, etc.) and outlines of the drainage areas contributing to each stormwater discharge point;

8) all structural controls (e.g., secondary containment, inlet filters, etc.) and/or or stormwater treatment equipment/devices;

9) area(s) of vegetation (with appropriate labelling such as lawn, old field, marsh, wooded, etc.);

10) area(s) that have the potential for soil erosion and sediment discharges (e.g., gravel lots, access roads, material stockpiles, outfalls, etc.);

11) impervious surfaces (e.g., roofs, asphalt, concrete, etc.);

12) name and location of receiving water(s); and

13) contaminated areas of the site regulated under Part 201 (Environmental Remediation) of the NREPA.

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Section B. Stormwater Pollution Prevention

b. List of Significant Materials Associated with Industrial Activity
This list shall identify all significant materials that have a reasonable potential to pollute stormwater, and identify the activity or area in which the significant materials are handled or stored. For each activity or area identified, the inlet(s) and discharge point(s) impacted in the event of a spill or leak shall be included on the list. The following industrial activities and/or areas shall be evaluated for the potential to expose significant materials to stormwater, as applicable:

1) loading, unloading, and other industrial material handling activities;

2) outdoor industrial material storage areas, including secondary containment structures;

3) outdoor manufacturing or processing activities;

4) dust or particulate generating processes/activities;

5) discharges associated with vents, stacks, and air emission controls;

6) industrial waste or recyclable material storage or disposal areas;

7) activities associated with the maintenance and cleaning of vehicles, machines, and equipment;

8) area(s) that have the potential for soil erosion and sediment discharges (e.g., gravel lots, access roads, material stockpiles, outfalls, etc.);

9) areas of contamination regulated under Part 201 (Environmental Remediation) of the NREPA;

10) areas of significant material residues;

11) areas where animals (wild or domestic) congregate and deposit wastes; and

12) other areas where stormwater may come into contact with significant materials.

c. List of Significant Spills and Leaks
This list shall identify the date, volume, and location of each significant spill/leak as defined under Part II.A. of this permit, and the cleanup actions undertaken. Significant spills/leaks shall be controlled in accordance with the SWPPP and are cause for the SWPPP to be updated as specified in Part I.B.7. of this permit. The permittee shall notify the Department of significant spills/leaks as specified in Part II.C.6. and/or Part II.C.7. of this permit. Written reports regarding significant spills/leaks shall be retained with the SWPPP records in accordance with Part I.B.10. of this permit.

d. Summary of Stormwater Discharge Sampling Data
If data have been collected, the SWPPP shall include a list of the pollutants detected, sources identified, and the control measures implemented to reduce the discharge of the detected pollutants. Stormwater discharge sampling data shall be retained in accordance with Part I.B.10. of this permit.

e. Illicit Connection Investigation and Elimination
The permittee shall implement an illicit connection investigation and elimination program. The SWPPP shall include a written description of the actions taken to identify, investigate, and eliminate illicit connections to Municipal Separate Storm Sewer System (MS4) or surface waters of the state. Any discharge from an illicit connection to an MS4 or surface water of the state is a violation of this permit.

Section B. Stormwater Pollution Prevention

f. Description of Dust Suppression Material Used Onsite
The SWPPP shall include a description of the dust suppression material used onsite, the areas where the material is used, and the actions implemented to prevent an unauthorized discharge of the material. If the permittee does not use dust suppression material onsite, the SWPPP shall indicate this.

4. Total Maximum Daily Loads (TMDLs)

The permittee shall implement nonstructural and/or structural controls to reduce the discharge of the pollutant(s) associated with any TMDL(s) identified below. The SWPPP shall include a list of all TMDL(s) identified below, as well as references to control measures already listed in the SWPPP intended to reduce the discharge of the TMDL pollutant(s). The implementation of an acceptable SWPPP shall meet the control measure expectations of all TMDL(s) identified below; however, the Department may require additional control measures if it is determined that the stormwater discharge is negatively impacting the applicable TMDL(s). If no TMDLs are identified below, this condition does not apply.

Name of TMDL	Pollutant of Concern
Statewide *E. coli* (The Grand River)	*E. coli*

5. Nonstructural Controls

To manage and address sources of significant materials that have reasonable potential to pollute stormwater and subsequently be discharged to surface waters of the state, the SWPPP shall, at a minimum, include the following nonstructural controls:

a. Preventative Maintenance
Preventive maintenance procedures shall list the stormwater management and control devices, treatment systems, industrial equipment, etc. that will be routinely serviced and maintained to prevent significant material exposure to stormwater. The written procedures shall include a maintenance schedule for each item listed.

b. Good Housekeeping Inspections
Good housekeeping procedures shall list the areas that will be routinely inspected and cleaned to prevent significant material exposure to stormwater. The areas associated with the items listed in the preventative maintenance procedures shall also be included. The written procedures shall include an inspection and cleaning schedule for each area listed. A written report documenting the implementation of the inspection and cleaning schedule shall be retained in accordance with Part I.B.10. of this permit.

c. Comprehensive Site Inspections
Comprehensive site inspection procedures shall include all items identified in.3) below that will be inspected by an Industrial Stormwater Certified Operator to ensure compliance with this permit. At a minimum, one inspection shall be performed during normal facility operating hours within each of the following quarters unless the Department has approved an alternate schedule in accordance with Part I.B.12. of this permit: January – March, April – June, July – September, and October – December. A written report documenting the comprehensive site inspection shall be retained in accordance with Part I.B.10. of this permit, and shall include the following information:

1) the date of the inspection;

2) the Industrial Stormwater Certified Operator's name(s) and certification number(s);

3) all observations regarding significant material exposure and any necessary corrective actions related to the inspection of the following:

a) areas identified in Part I.B.3.a. and Part I.B.3.b. of this permit,

b) areas identified in Part I.B.3.c. of this permit where significant spills or leaks have occurred in the past three years,

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Section B. Stormwater Pollution Prevention

c) all stormwater inlets, conveyances (not including subsurface piping), and discharge points, and

d) all structural controls and/or stormwater treatment equipment/devices;

4) a review of the good housekeeping reports, and any other paperwork associated with the SWPPP; and

5) a written statement, based on the results of the comprehensive site inspection, certifying compliance with the terms of this permit and with the permittee's SWPPP.

d. Visual Assessments

At a minimum, one (1) stormwater sample shall be collected for visual assessment during normal facility operating hours at each discharge point within each of the following quarters unless the Department has approved an alternate schedule in accordance with Part I.B.12. of this permit:
January – March, April – June, July – September, and October – December. Visual assessment guidance is available on the Industrial Stormwater Program webpage at www.michigan.gov/industrialstormwater.

The following are the requirements of the visual assessments and shall be included in the written procedures:

1) The stormwater sample(s) shall be collected during normal hours of operation by an Industrial Stormwater Certified Operator, Qualified Personnel as defined in Part II.A. of this permit, or automatic sampling device.

2) The stormwater sample(s) shall be collected:

a) with clean equipment and containers, and

b) within the first 30 minutes of the start of a discharge resulting from a qualifying storm event as defined in Part II.A. of this permit. If it is not possible to collect the sample within the first 30 minutes of discharge, the sample shall be collected as soon thereafter as practicable. In the case of snowmelt, samples shall be collected during a period with measurable discharge from the site.

3) The visual assessment of the stormwater sample(s) shall be performed and documented by an Industrial Stormwater Certified Operator. Documentation shall be retained in accordance with Part I.B.10. of this permit, and shall include the following information:

a) Sample location(s).

b) Stormwater sample collection date(s), time(s), and if applicable, an explanation as to why sample(s) were not collected within the first 30 minutes of discharge.

c) Visual assessment date and time.

d) Name and certification number of the Industrial Stormwater Certified Operator.

e) Storm event information, including the length of event expressed in hours, approximate size of event expressed in inches of precipitation, duration of time since previous event that caused a discharge, date and time the discharge began, and nature of event (i.e., rainfall or snowmelt).

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f) Name(s) of personnel who obtained the stormwater sample(s) or document that an automatic sampling device was used.

g) Any notable observations of the discharge while the stormwater samples were collected. This requirement is waived if an automatic sampling device was used to collect the stormwater samples.

h) Sample(s) shall be observed in a colorless glass or plastic container for the following characteristics: color, oil sheen, turbidity, floating solids, suspended solids, settleable solids, foam, and any other unusual characteristics.

i) Unaltered, full-color photograph of the stormwater sample(s) against a white background.

j) A description of corrective actions taken if any unusual characteristics are identified during the visual assessment.

4) When a visual assessment cannot be completed for any reason (e.g., adverse weather conditions, no discharge, qualifying event occurred outside the normal facility operating hours, etc.) during any quarter, written documentation explaining the reason for not completing the visual assessment shall be included with the SWPPP records. Adverse weather conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, electrical storms, or situations that otherwise make sampling impractical such as drought or extended frozen conditions.

5) If the facility has two (2) or more stormwater discharge points that are believed to discharge substantially identical stormwater effluents, the facility may conduct visual assessments of the discharge at one (1) of the stormwater discharge points and report that the results also apply to the other substantially identical stormwater discharge point(s). The determination of substantially identical stormwater discharge points is to be based on the significant material evaluation conducted as set forth under Part I.B.3.b. of this permit and shall be clearly documented in the SWPPP. Visual assessments shall be conducted on a rotating basis of each substantially identical stormwater discharge point throughout the period of coverage under this permit.

e. Material Handling and Spill Prevention / Response Procedures

Significant material handling and storage procedures shall be developed to minimize the potential for leaks and spills that may be exposed to stormwater. For each potential spill or leak area, the procedures shall identify the significant material handling and storage requirements, spill/leak response actions, and locations of spill/leak kits. The SWPPP shall include language describing what a reportable spill or leak is, and the appropriate reporting requirements in accordance with Part II.C.6. and Part II.C.7. of this permit.

For Polluting Materials as defined under Part II.A. of this permit, the SWPPP may reference any of the following plans:

- Pollution Incident Prevention Plan (PIPP) prepared in accordance with the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code)
- Hazardous Waste Contingency Plan prepared in accordance with 40 CFR 264 and 265 Subpart D, as required by Part 111 of the NREPA
- Spill Prevention Control and Countermeasure (SPCC) plan prepared in accordance with 40 CFR 112

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Section B. Stormwater Pollution Prevention

f. Annual Employee Training Program
The SWPPP shall include a written description of the employee training program that will be implemented on an annual basis to inform appropriate personnel of the components of the SWPPP and requirements of this permit. Records of the annual employee training program shall be retained in accordance with Part I.B.10. of this permit.

6. Structural Controls

Structural controls shall be used to reduce significant material exposure and/or the concentration of significant materials in the discharge to ensure compliance with Part I.B.1.a. and Part I.B.1.b. of this permit. The SWPPP shall provide a list of all structural controls utilized onsite and the significant material(s) intended to be managed by the structural controls. The location of the structural controls shall be identified on the site map. Where applicable, structural controls shall, at a minimum, be utilized to achieve the following:

a. prevent unauthorized discharges from industrial waste and recyclable material containers,

b. prevent the discharge of sediment and other particulates that can be mobilized by stormwater, and

c. minimize channel/streambank erosion and scour in the immediate vicinity of outfalls.

7. Keeping SWPPPs Current

a. The permittee and/or an Industrial Stormwater Certified Operator shall review the SWPPP annually after it is developed and maintain a written report of the review. Based on the review, the permittee or an Industrial Stormwater Certified Operator shall amend the SWPPP as needed to ensure continued compliance with the terms and conditions of this permit. A SWPPP Annual Review Report form is available on the Industrial Stormwater Program webpage at www.michigan.gov/industrialstormwater. The written report of the SWPPP Annual Review shall be retained in accordance with Part I.B.10. of this permit.

b. The SWPPP developed under the conditions of a previous permit shall be amended as necessary to ensure compliance with this permit.

c. The SWPPP shall be updated or amended whenever changes at the facility have the potential to increase the exposure of significant materials to stormwater, significant spills/leaks occur at the facility, or when the SWPPP is determined by the permittee or the Department to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with industrial activity. SWPPP updates necessitated by increased activity or significant spills at the facility shall include a description of how the permittee intends to control any new sources of significant materials or respond to and prevent spills in accordance with the requirements of this permit.

d. The Department may notify the permittee at any time that the SWPPP does not meet minimum requirements of this permit. Such notification shall identify why the SWPPP does not meet minimum requirements of this permit. The permittee shall make the required changes to the SWPPP **within 30 days** after such notification from the Department and shall submit to the Department a written certification that the requested changes have been made.

e. Amendments to the SWPPP shall be signed and retained on-site with the SWPPP pursuant to Part I.B.9. of this permit.

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Section B. Stormwater Pollution Prevention

8. Contact Information and Industrial Stormwater Certified Operator Update

a. The SWPPP shall include contact information (i.e., name, mailing address, phone number, and email address) for the Facility Contact, Industrial Stormwater Certified Operator(s), environmental consultant, and/or any other appropriate individuals who manage the stormwater program at the facility. The SWPPP shall be updated, as necessary, to ensure the contact information is current.

b. If the primary Industrial Stormwater Certified Operator is replaced, the permittee shall provide the name and certification number of the new Industrial Stormwater Certified Operator to the Department by updating the facility's MiEnviro Portal site. If a facility has multiple Industrial Stormwater Certified Operators, the names and certification numbers of all shall be included in the SWPPP.

9. Signature and SWPPP Certification

a. The SWPPP shall be reviewed and signed by an Industrial Stormwater Certified Operator and by either the permittee or an authorized representative in accordance with 40 CFR 122.22. The SWPPP and associated records shall be retained on-site at the facility that generates the stormwater discharge.

b. The permittee shall make the SWPPP and items required by Part I.B.10. of this permit available upon request to the Department. The Department makes the non-confidential business portions of the SWPPP available to the public.

10. Record Keeping

The permittee shall maintain records of all SWPPP-related activities. All such records shall be retained for three (3) years. The following records are required by this permit:

a. good housekeeping inspection reports

b. comprehensive site inspection reports

c. visual assessment reports

d. employee training records

e. SWPPP annual review reports

f. significant spill/leak reports, and

g. stormwater discharge sampling data.

11. Non-Stormwater Discharges

Stormwater is defined in Part II.A. of this permit to encompass non-stormwater discharges included under the conditions of this permit. Any discharge of wastewater other than stormwater as defined under the conditions of this permit shall be in compliance with an NPDES permit issued for the discharge. The non-stormwater discharges included under the conditions of this permit are authorized under this permit, provided pollution

prevention controls for the non-stormwater component are identified in the permittee's SWPPP. The non-stormwater discharges included under the conditions of this permit are as follows:

a. discharges from fire hydrant flushing

b. potable water sources, including water line flushing

c. water from fire system testing and fire-fighting training without burned materials or chemical fire suppressants

d. irrigation drainage

e. lawn watering

f. routine building wash-down that does not use detergents or other compounds

g. pavement wash waters where contamination by toxic or hazardous materials has not occurred (unless all contamination by toxic or hazardous materials has been removed) and where detergents are not used

h. uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids

i. springs

j. uncontaminated groundwater

k. foundation or footing drains where flows are not contaminated with process materials such as solvents, and

l. discharges from fire-fighting activities. Discharges from fire-fighting activities are exempted from the requirement to be identified in the SWPPP.

12. Alternate Schedule Request for Comprehensive Site Inspections and/or Visual Assessment

The permittee may request Department approval of an alternate schedule for comprehensive site inspections and/or visual assessments. Such a request may be made if the permittee meets the following criteria: the permittee is in full compliance with this permit, the permittee has an acceptable SWPPP, the permittee has installed and/or implemented adequate structural controls at the facility, the permittee has all required inspection reports available at the facility, and the permittee has an Industrial Stormwater Certified Operator at the facility. The Department may revoke the approval of an alternate schedule at any time upon notification to the permittee if these criteria are not being met.

13. Tracer Dye Discharges

This permit does not authorize the discharge of tracer dyes without approval from the Department. Requests to discharge tracer dyes shall be submitted to the Department in accordance with Rule 1097 (R 323.1097 of the Michigan Administrative Code).

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Section C. Industrial Waste Pretreatment Program

1. Federal Industrial Pretreatment Program

a. The permittee shall continue to implement the Federal Industrial Pretreatment Program (FIPP) approved on April 10, 1986, and any subsequent modifications approved up to the issuance of this permit. Approval of substantial program modifications after the issuance of this permit shall be incorporated into this permit by minor modification in accordance with 40 CFR 122.63.

b. The permittee shall comply with R 323.2301 through R 323.2317 of the Michigan Administrative Code (Part 23 Rules), the General Pretreatment Regulations for Existing and New Sources of Pollution (40 CFR Part 403), and the approved FIPP.

c. The permittee shall have the legal authority and necessary interjurisdictional agreements that provide the basis for the implementation and enforcement of the approved FIPP throughout the service area. The legal authority and necessary interjurisdictional agreements shall include, at a minimum, the authority to carry out the activities specified in R 323.2306(a).

d. The permittee shall develop procedures which describe, in sufficient detail, program commitments which enable implementation of the approved FIPP, 40 CFR Part 403, and the Part 23 Rules in accordance with R 323.2306(c).

e. The permittee shall establish an interjurisdictional agreement (or comparable document) with all tributary governmental jurisdictions. Each interjurisdictional agreement shall contain, at a minimum, the following:

1) identification of the agency responsible for the implementation and enforcement of the approved FIPP within the tributary governmental jurisdiction's boundaries; and

2) the provision of the legal authority which provides the basis for the implementation and enforcement of the approved FIPP within the tributary governmental jurisdiction's boundaries.

f. The permittee shall prohibit discharges that:

1) cause, in whole or in part, the permittee's failure to comply with any condition of this permit or the NREPA;

2) restrict, in whole or in part, the permittee's management of biosolids;

3) cause, in whole or in part, operational problems at the treatment facility or in its collection system;

4) violate any of the general or specific prohibitions identified in R 323.2303(1) and (2);

5) violate categorical standards identified in R 323.2311; and

6) violate local limits established in accordance with R 323.2303(4).

g. The permittee shall maintain a list of its nondomestic users that meet the criteria of a significant industrial user as identified in R 323.2302(cc).

h. The permittee shall develop an enforcement response plan which describes, in sufficient detail, program commitments which will enable the enforcement of the approved FIPP, 40 CFR Part 403, and the Part 23 Rules in accordance with R 323.2306(g).

i. The Department may require modifications to the approved FIPP which are necessary to ensure compliance with 40 CFR Part 403 and the Part 23 Rules in accordance with R 323.2309.

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Section C. Industrial Waste Pretreatment Program

j. The permittee shall not implement changes or modifications to the approved FIPP without notification to the Department. Any substantial modification shall be subject to Department public noticing and approval in accordance with R 323.2309.

k. The permittee shall maintain an adequate revenue structure and staffing level for effective implementation of the approved FIPP.

l. The permittee shall develop and maintain, for a minimum of three (3) years, all records and information necessary to determine nondomestic user compliance with 40 CFR Part 403, Part 23 Rules and the approved FIPP. This period of retention shall be extended during the course of any unresolved enforcement action or litigation regarding a nondomestic user or when requested by the Department or the United States Environmental Protection Agency. All of the aforementioned records and information shall be made available upon request for inspection and copying by the Department and the United States Environmental Protection Agency.

m. The permittee shall evaluate the approved FIPP for compliance with the 40 CFR Part 403, Part 23 Rules and the prohibitions stated in item f. above. Based upon this evaluation, the permittee shall propose to the Department all necessary changes or modifications to the approved FIPP no later than the next Industrial Pretreatment Program Annual Report due date (see item p. below).

n. The permittee shall develop and enforce local limits to implement the prohibitions listed in item f above. Local limits shall be based upon data representative of actual conditions demonstrated in a maximum allowable headworks loading analysis. An evaluation of whether the existing local limits need to be revised shall be submitted to the Department by **October 1, 2026**. The submittal shall provide a technical evaluation of the basis upon which this determination was made which includes information regarding the maximum allowable headworks loading, collection system protection criteria, and worker health and safety, based upon data collected since the last local limits review.

The following pollutants shall be evaluated:

1) Arsenic, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Silver, and Zinc;

2) Pollutants that are subject to limits or monitoring in this permit;

3) Pollutants that have an existing local limit; and,

4) Other pollutants of concern which would reasonably be expected to be discharged or transported by truck or rail or otherwise introduced into the POTW.

o. The permittee is required under this permit and R 323.2303(4) of the Michigan Administrative Code to review and update their local limits when:

1) new pollutants are introduced;

2) new pollutants that were previously unevaluated are identified;

3) new water quality or biosolids standards are established or additional information becomes available about the nature of pollutants, such as removal rates and accumulation in biosolids; or
4) substantial increases of pollutants are proposed as required in the notification of new or increased uses in accordance with the provisions of 40 CFR 122.42.

p. On or before **April 1 of each year**, the permittee shall submit to the Department, as required by R 323.2310(8), an Industrial Pretreatment Program Annual Report on the status of program

Section C. Industrial Waste Pretreatment Program

implementation and enforcement activities. The reporting period shall begin on January 1 and end on December 31. At a minimum, the Industrial Pretreatment Program Annual Report shall include:

1) the Pretreatment Program Reports data identified in Appendix A to 40 CFR Part 127 – NPDES Electronic Reporting;

2) a summary of changes to the approved FIPP that have not been previously reported to the Department;

3) a summary of results of all the sampling and analyses performed of the wastewater treatment plant's influent, effluent, and biosolids conducted in accordance with approved methods during the reporting period. The summary shall include the monthly average, daily maximum, quantification level, and number of samples analyzed for each pollutant. At a minimum, the results of analyses for all locally limited parameters for at least one monitoring event that tests influent, effluent and biosolids during the reporting period shall be submitted with each report, unless otherwise required by the Department. Sample collection shall be at intervals sufficient to provide pollutant removal rates, unless the pollutant is not measurable; and

4) any other relevant information requested by the Department.

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Section D. Residuals Management Program

1. Residuals Management Program for Land Application of Biosolids

The permittee is authorized to land-apply bulk biosolids or prepare bulk biosolids for land application in accordance with the permittee's approved Residuals Management Program (RMP) approved on October 9, 2000, and approved modifications thereto, and the requirements established in R 323.2401 through R 323.2418 of the Michigan Administrative Code (Part 24 Rules). The approved RMP, and any approved modifications thereto, are enforceable requirements of this permit. Incineration, landfilling and other residual disposal activities shall be conducted in accordance with Part II.D.7. of this permit. The Part 24 Rules can be obtained via the internet (http://www.michigan.gov/egle/ and near the top of the screen click on Water, then towards the bottom right of the screen click on Permits, Wastewater, Biosolids, then click on Biosolids Laws and Rules Information which is under the Laws & Rules banner in the center of the screen).

a. Annual Report
On or before **October 30 of each year**, the permittee shall submit an annual report to the Department for the previous fiscal year of October 1 through September 30. The report shall be submitted electronically via the Department's MiEnviro Portal system at https://mienviro.michigan.gov/ncore/. At a minimum, the report shall contain:

1) a certification that current residuals management practices are in accordance with the approved RMP, or a proposal for modification to the approved RMP; and

2) a completed Annual Report Form for Reporting Biosolids, available at https://mienviro.michigan.gov/ncore/.

b. Modifications to the Approved RMP
Prior to implementation of modifications to the RMP, the permittee shall submit proposed modifications to the Department for approval. The approved modification shall become effective upon the date of approval. Upon written notification, the Department may impose additional requirements and/or limitations to the approved RMP as necessary to protect public health and the environment from any adverse effect of a pollutant in the biosolids.

c. Record Keeping
Records required by the Part 24 Rules shall be kept for a minimum of five (5) years. However, the records documenting cumulative loading for sites subject to cumulative pollutant loading rates shall be kept as long as the site receives biosolids.

d. Contact Information
RMP-related submittals shall be made to the Department.

PART II

Part II may include terms and /or conditions not applicable to discharges covered under this permit.

Section A. Definitions

Acute toxic unit (TUA) means 100/LC50 where the LC50 is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

Annual monitoring frequency refers to a calendar year beginning on January 1 and ending on December 31. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Authorized public agency means a state, local, or county agency that is designated pursuant to the provisions of Section 9110 of Part 91, Soil and Sedimentation Control, of the NREPA, to implement soil erosion and sedimentation control requirements with regard to construction activities undertaken by that agency.

Best management practices (BMPs) means structural devices or nonstructural practices that are designed to prevent pollutants from entering into stormwater, to direct the flow of stormwater, or to treat polluted stormwater.

Bioaccumulative chemical of concern (BCC) means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

Biosolids are the solid, semisolid, or liquid residues generated during the treatment of sanitary sewage or domestic sewage in a treatment works. This includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes and a derivative of the removed scum or solids.

Bulk biosolids means biosolids that are not sold or given away in a bag or other container for application to a lawn or home garden.

CAFO means concentrated animal feeding operation.

Certificate of Coverage (COC) is a document, issued by the Department, which authorizes a discharge under a general permit.

Chronic toxic unit (TUC) means 100/MATC or 100/IC25, where the maximum acceptable toxicant concentration (MATC) and IC25 are expressed as a percent effluent in the test medium.

Class B biosolids refers to material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with the Part 24 Rules, Land Application of Biosolids, promulgated under Part 31 of the NREPA. Processes include aerobic digestion, composting, anaerobic digestion, lime stabilization and air drying.

Combined sewer system is a sewer system in which stormwater runoff is combined with sanitary wastes.

Composite sample is a sample collected over time, either by continuous sampling or by mixing discrete samples. A composite sample represents the average wastewater characteristics present during the compositing period. Various methods for compositing are available and are based on either time or flow-proportioning, the choice of which will depend on the permit requirements.

PART II

Section A. Definitions

Continuous monitoring refers to sampling/readings that occur at regular and consistent intervals throughout a 24-hour period and at a frequency sufficient to capture data that are representative of the discharge. The maximum acceptable interval between samples/readings shall be one (1) hour.

Daily concentration
FOR PARAMETERS OTHER THAN pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – Daily concentration is the sum of the concentrations of the individual samples of a parameter taken within a calendar day divided by the number of samples taken within that calendar day. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations. For guidance and examples showing how to report and perform calculations using results below quantification levels, see the document entitled "Reporting Results Below Quantification," available at https://www.michigan.gov/documents/deq/wrd-npdes-results-quantification_620791_7.pdf.

FOR pH, DISSOLVED OXYGEN, TEMPERATURE, AND CONDUCTIVITY – The daily concentration used to determine compliance with maximum daily pH, temperature, and conductivity limitations is the highest pH, temperature, and conductivity readings obtained within a calendar day. The daily concentration used to determine compliance with minimum daily pH and dissolved oxygen limitations is the lowest pH and dissolved oxygen readings obtained within a calendar day.

Daily loading is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

Daily monitoring frequency refers to a 24-hour day. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Department means the Michigan Department of Environment, Great Lakes, and Energy.

Detection level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

Discharge means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

EC_{50} means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

Fecal coliform bacteria monthly
FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a discharge event. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR. If the period in which the discharge event occurred was partially in each of two months, the calculated monthly value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria monthly is the geometric mean of all daily concentrations determined during a reporting month. Days on which no daily concentration is determined shall not be used to determine the calculated monthly value. The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

PART II

Section A. Definitions

Fecal coliform bacteria 7-day
FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days of discharge during a discharge event. If the number of daily concentrations determined during the discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean value for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. If the 7-day period was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – Fecal coliform bacteria 7-day is the geometric mean of the daily concentrations determined during any 7 consecutive days in a reporting month. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. Days on which no daily concentration is determined shall not be used to determine the value. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day geometric mean for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. The first calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

Flow-proportioned composite sample is a composite sample in which either a) the volume of each portion of the composite is proportional to the effluent flow rate at the time that portion is obtained; or b) a constant sample volume is obtained at varying time intervals proportional to the effluent flow rate.

General permit means an NPDES permit authorizing a category of similar discharges.

Geometric mean is the average of the logarithmic values of a base 10 data set, converted back to a base 10 number.

Grab sample is a single sample taken at neither a set time nor flow.

IC_{25} means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

Illicit connection means a physical connection to a municipal separate storm sewer system that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the storm sewer; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

Illicit discharge means any discharge to, or seepage into, a municipal separate storm sewer system that is not composed entirely of stormwater or uncontaminated groundwater. Illicit discharges include non-stormwater discharges through pipes or other physical connections; dumping of motor vehicle fluids, household hazardous wastes, domestic animal wastes, or litter; collection and intentional dumping of grass clippings or leaf litter; or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-stormwater waste directly into a separate storm sewer.

Individual permit means a site-specific NPDES permit.

Inlet means a catch basin, roof drain, conduit, drain tile, retention pond riser pipe, sump pump, or other point where stormwater or wastewater enters into a closed conveyance system prior to discharge off site or into waters of the state.

PART II

Section A. Definitions

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both: 1) inhibits or disrupts a POTW, its treatment processes or operations, or its sludge processes, use or disposal; and 2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference].

Land application means spraying or spreading biosolids or a biosolids derivative onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids or biosolids derivative can either condition the soil or fertilize crops or vegetation grown in the soil.

LC_{50} means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Maximum acceptable toxicant concentration (MATC) means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

Maximum extent practicable means implementation of best management practices by a public body to comply with an approved stormwater management program as required by a national permit for a municipal separate storm sewer system, in a manner that is environmentally beneficial, technically feasible, and within the public body's legal authority.

MBTU/hr means million British Thermal Units per hour.

MGD means million gallons per day.

Monthly concentration is the sum of the daily concentrations determined during a reporting period divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMR.

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Monthly loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during a reporting period. The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. Days with no discharge shall not be used to determine the value. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMR.

Monthly monitoring frequency refers to a calendar month. When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Municipal separate storm sewer means a conveyance or system of conveyances designed or used for collecting or conveying stormwater which is not a combined sewer and which is not part of a POTW as defined in the Code of Federal Regulations at 40 CFR 122.2.

PART II

Section A. Definitions

Municipal separate storm sewer system (MS4) means all separate storm sewers that are owned or operated by the United States, a state, city, village, township, county, district, association, or other public body created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law, such as a sewer district, flood control district, or drainage district, or similar entity, or a designated or approved management agency under Section 208 of the Clean Water Act that discharges to the waters of the state. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Clean Water Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

No observed adverse effect level (NOAEL) means the highest tested dose or concentration of a substance which results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

Noncontact cooling water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Nonstructural controls are practices or procedures implemented by employees at a facility to manage stormwater or to prevent contamination of stormwater.

NPDES means National Pollutant Discharge Elimination System.

Outfall is the location at which a point source discharge first enters a surface water of the state.

Part 91 agency means an agency that is designated by a county board of commissioners pursuant to the provisions of Section 9105 of Part 91 of the NREPA; an agency that is designated by a city, village, or township in accordance with the provisions of Section 9106 of Part 91 of the NREPA; or the Department for soil erosion and sedimentation control activities under Part 615, Supervisor of Wells; Part 631, Reclamation of Mining Lands; or Part 632, Nonferrous Metallic Mineral Mining, of the NREPA, pursuant to the provisions of Section 9115 of Part 91 of the NREPA.

Part 91 permit means a soil erosion and sedimentation control permit issued by a Part 91 agency pursuant to the provisions of Part 91 of the NREPA.

Partially treated sewage is any sewage, sewage and stormwater, or sewage and wastewater, from domestic or industrial sources that is treated to a level less than that required by the permittee's NPDES permit, or that is not treated to national secondary treatment standards for wastewater, including discharges to surface waters from retention treatment facilities.

Point of discharge is the location of a point source discharge where stormwater is discharged directly into a separate storm sewer system.

Point source discharge means a discharge from any discernible, confined, discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, or rolling stock. Changing the surface of land or establishing grading patterns on land will result in a point source discharge where the runoff from the site is ultimately discharged to waters of the state.

Polluting material means any material, in solid or liquid form, identified as a polluting material under the Part 5 Rules, Spillage of Oil and Polluting Materials, promulgated under Part 31 of the NREPA (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

PART II

Section A. Definitions

POTW is a publicly owned treatment work.

Predevelopment is the last land use prior to the planned new development or redevelopment.

Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

Public (as used in the MS4 individual permit) means all persons who potentially could affect the authorized stormwater discharges, including, but not limited to, residents, visitors to the area, public employees, businesses, industries, and construction contractors and developers.

Public body means the United States; the state of Michigan; a city, village, township, county, school district, public college or university, or single-purpose governmental agency; or any other body which is created by federal or state statute or law.

Qualified Personnel means an individual who meets qualifications acceptable to the Department and who is authorized by an Industrial Stormwater Certified Operator to collect the stormwater sample.

Qualifying storm event means a storm event causing greater than 0.1 inch of rainfall and occurring at least 72 hours after the previous measurable storm event that also caused greater than 0.1 inch of rainfall. Upon request, the Department may approve an alternate definition meeting the condition of a qualifying storm event.

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Quarterly monitoring frequency refers to a three-month period, defined as January through March, April through June, July through September, and October through December (or otherwise defined in the permit). When required by this permit, an analytical result, reading, value or observation shall be reported for that period if a discharge occurs during that period.

Regional Administrator is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

Regulated area means the permittee's urbanized area, where urbanized area is defined as a place and its adjacent densely-populated territory that together have a minimum population of 50,000 people as defined by the United States Bureau of the Census and as determined by the latest available decennial census.

Secondary containment structure means a unit, other than the primary container, in which significant materials are packaged or held, which is required by state or federal law to prevent the escape of significant materials by gravity into sewers, drains, or otherwise directly or indirectly into any sewer system or to the surface waters or groundwaters of the state.

Separate storm sewer system means a system of drainage, including, but not limited to, roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels, which is not a combined sewer where stormwater mixes with sanitary wastes, and is not part of a POTW.

PART II

Section A. Definitions

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Significant materials means any material which could degrade or impair water quality, including but not limited to: raw materials; fuels; solvents, detergents, and plastic pellets; finished materials such as metallic products; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see 40 CFR 372.65); any chemical the facility is required to report pursuant to Section 313 of Emergency Planning and Community Right-to-Know Act (EPCRA); polluting materials as identified under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code); Hazardous Wastes as defined in Part 111, Hazardous Waste Management, of the NREPA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.

Significant spills and significant leaks means any release of a polluting material reportable under the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code).

Special-use area means stormwater discharges for which the Department has determined that additional monitoring is needed from: secondary containment structures required by state or federal law; lands on Michigan's List of Sites of Environmental Contamination pursuant to Part 201, Environmental Remediation, of the NREPA; and/or areas with other activities that may contribute pollutants to the stormwater.

Stoichiometric means the quantity of a reagent calculated to be necessary and sufficient for a given chemical reaction.

Stormwater means stormwater runoff, snow melt runoff, surface runoff and drainage, and non-stormwater included under the conditions of this permit.

Stormwater discharge point is the location where the point source discharge of stormwater is directed to surface waters of the state or to a separate storm sewer. It includes the location of all point source discharges where stormwater exits the facility, including outfalls which discharge directly to surface waters of the state, and points of discharge which discharge directly into separate storm sewer systems.

Structural controls are physical features or structures used at a facility to manage or treat stormwater.

SWPPP means the Stormwater Pollution Prevention Plan prepared in accordance with this permit.

Tier I value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

Tier II value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

Total maximum daily loads (TMDLs) are required by the Clean Water Act for waterbodies that do not meet water quality standards. TMDLs represent the maximum daily load of a pollutant that a waterbody can assimilate and meet water quality standards, and an allocation of that load among point sources, nonpoint sources, and a margin of safety.

Toxicity reduction evaluation (TRE) means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

PART II

Section A. Definitions

Water Quality Standards means the Part 4 Water Quality Standards promulgated pursuant to Part 31 of the NREPA, being R 323.1041 through R 323.1117 of the Michigan Administrative Code.

Weekly monitoring frequency refers to a calendar week which begins on Sunday and ends on Saturday. When required by this permit, an analytical result, reading, value, or observation shall be reported for that period if a discharge occurs during that period. If the calendar week begins in one month and ends in the following month, the analytical result, reading, value, or observation shall be reported in the month in which monitoring was conducted.

WWSL is a wastewater stabilization lagoon.

WWSL discharge event is a discrete occurrence during which effluent is discharged to the surface water up to 10 days of a consecutive 14-day period.

3-portion composite sample is a sample consisting of three equal-volume grab samples collected at equal intervals over an 8-hour period.

7-day concentration
FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily concentrations determined. If the number of daily concentrations determined during the WWSL discharge event is less than 7 days, the number of actual daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the WWSL discharge event in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – The 7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. If the number of daily concentrations determined is less than 7, the actual number of daily concentrations determined shall be used for the calculation. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations in the reporting month. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMR. The first 7-day calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

7-day loading
FOR WWSLs THAT COLLECT AND STORE WASTEWATER AND ARE AUTHORIZED TO DISCHARGE ONLY IN THE SPRING AND/OR FALL ON AN INTERMITTENT BASIS – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days of discharge during a WWSL discharge event divided by the number of daily loadings determined. If the number of daily loadings determined during the WWSL discharge event is less than 7 days, the number of actual daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the WWSL discharge event in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMR. If the WWSL discharge event was partially in each of two months, the value shall be reported on the DMR of the month in which the last day of discharge occurred.

FOR ALL OTHER DISCHARGES – The 7-day loading is the sum of the daily loadings determined during any 7 consecutive days in a reporting month divided by the number of daily loadings determined. If the number of daily loadings determined is less than 7, the actual number of daily loadings determined shall be used for the calculation. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations in the reporting month. When required by the permit, report the maximum calculated 7-day loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMR. The first 7-day

PART II

Section A. Definitions

calculation shall be made on day 7 of the reporting month, and the last calculation shall be made on the last day of the reporting month.

24-hour composite sample is a flow-proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period and in which the volume of each portion is proportional to the discharge flow rate at the time that portion is taken. A time-proportioned composite sample may be used upon approval from the Department if the permittee demonstrates it is representative of the discharge.

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Clean Water Act (40 CFR Part 136 – Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. **Test procedures used shall be sufficiently sensitive to determine compliance with applicable effluent limitations**. For lists of approved test methods, go to https://www.epa.gov/cwa-methods. Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Manager of the Permits Section, Water Resources Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30458, Lansing, Michigan, 48909-7958. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Assurance/Quality Control program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Department.

PART II

Section C. Reporting Requirements

1. Start-Up Notification

The permittee shall notify the Department of start-up if one of the following conditions applies and in accordance with the applicable condition:

a. Non-CAFOs

1) **If this is an individual permit** and the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Department via MiEnviro Portal **within 14 days** following the effective date of this permit, and then again **60 days prior** to commencement of the discharge.

2) **If this is a general permit** and the permittee will not discharge during the first 60 days following the effective date of the Certificate of Coverage (COC) issued under this general permit, the permittee shall notify the Department via MiEnviro Portal **within 14 days** following the effective date of the COC, and then again **60 days prior** to commencement of the discharge.

b. CAFOs

1) **If this is an individual permit** and the permittee will not populate with animals during the first 60 days following the effective date of this permit, the permittee shall notify the Department via MiEnviro Portal **within 14 days** following the effective date of this permit, and then again **60 days prior** to populating with animals.

2) **If this is a general permit** and the permittee will not populate with animals during 60 days following the effective date of the Certificate of Coverage (COC) issued under this general permit, the permittee shall notify the Department via MiEnviro Portal **within 14 days** following the effective date of the COC, and then again **60 days prior** to populating with animals.

2. Submittal Requirements for Self-Monitoring Data

Part 31 of the NREPA (specifically Section 324.3110(7)); and R 323.2155(2) of Part 21, Wastewater Discharge Permits, promulgated under Part 31 of the NREPA, allow the Department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self-Monitoring," the permittee shall submit self-monitoring data via the Department's MiEnviro Portal system.

The permittee shall utilize the information provided on the MiEnviro Portal website, located at https://mienviro.michigan.gov/ncore/, to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the Department no later than the **20th day of the month** following each month of the authorized discharge period(s). The permittee may be allowed to submit the electronic forms after this date if the Department has granted an extension to the submittal date.

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page (or otherwise authorized by the Department in accordance with the provisions of this permit) to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Department. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before **January 10 (April 1 for animal feeding operation facilities) of each year**, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous year's monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and/or monthly maximums and minimum values for any daily minimum samples.

Section C. Reporting Requirements

Retained self-monitoring may be denied to a permittee by notification in writing from the Department. In such cases, the permittee shall submit self-monitoring data in accordance with Part II.C.2., above. Such a denial may be rescinded by the Department upon written notification to the permittee. Reissuance or modification of this permit or reissuance or modification of an individual permittee's authorization to discharge shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the NREPA or Rule 35 of the Mobile Home Park Commission Act, 1987 PA 96, as amended, for assurance of proper facility operation, shall be submitted as required by the Department.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a written notification to the Department via MiEnviro Portal (https://mienviro.michigan.gov/ncore/) indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Clean Water Act, Parts 31 and 41 of the NREPA, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

a. 24-Hour Reporting
Any noncompliance which may endanger health or the environment (including maximum and/or minimum daily concentration discharge limitation exceedances) shall be reported, verbally, **within 24 hours** from the time the permittee becomes aware of the noncompliance by calling the Department at the number indicated on the second page of this permit (or, if this is a general permit, on the COC). A written submission shall also be provided via MiEnviro Portal (https://mienviro.michigan.gov/ncore/) **within five (5) days**.

b. Other Reporting
The permittee shall report, in writing via MiEnviro Portal (https://mienviro.michigan.gov/ncore/), all other instances of noncompliance not described in a. above **at the time monitoring reports are submitted**; or, in the case of retained self-monitoring, **within five (5) days** from the time the permittee becomes aware of the noncompliance.

Reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times, or, if not yet corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated on the second page of this permit (or, if

Section C. Reporting Requirements

this is a general permit, on the COC); or, if the notice is provided after regular working hours, by calling the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706.

Within 10 days of the release, the permittee shall submit to the Department via MiEnviro Portal (https://mienviro.michigan.gov/ncore/) a full written explanation as to the cause of the release, the discovery of the release, response measures (clean-up and/or recovery) taken, and preventive measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Department by telephone **within 24 hours** of becoming aware of such conditions; and **within five (5) days**, provide in writing, the following information:

a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. that the permitted wastewater treatment facility was, at the time, being properly operated and maintained (note that an upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation); and

c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

9. Bypass Prohibition and Notification

a. Bypass Prohibition

Bypass is prohibited, and the Department may take an enforcement action, unless:

1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and

3) the permittee submitted notices as required under 9.b. or 9.c. below.

b. Notice of Anticipated Bypass

If the permittee knows in advance of the need for a bypass, the permittee shall submit written notification to the Department before the anticipated date of the bypass. This notification shall be submitted **at least 10 days before** the date of the bypass; however, the Department will accept fewer than 10 days advance notice if adequate explanation for this is provided. The notification shall provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions specified in a. above.

PART II

Section C. Reporting Requirements

c. Notice of Unanticipated Bypass
As soon as possible but no later than 24 hours from the time the permittee becomes aware of the unanticipated bypass, the permittee shall notify the Department by calling the number indicated on the second page of this permit (or, if this is a general permit, on the COC); or, if notification is provided after regular working hours, call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706.

d. Written Report of Bypass
A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.

e. Bypass Not Exceeding Limitations
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.11. of this permit.

f. Definitions

1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

10. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of R 323.1098 and R 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

11. Notification of Changes in Discharge

The permittee shall notify the Department via MiEnviro Portal (https://mienviro.michigan.gov/ncore/), as soon as possible but **within no more than 10 days** of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit, for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

PART II

Section C. Reporting Requirements

12. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under R 323.1098 (Antidegradation) of the Water Quality Standards or b) by written notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.10.; and 4) the action or activity will not require notification pursuant to Part II.C.11. Following such written notice, the permit or, if applicable, the facility's COC, may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

13. Transfer of Ownership or Control

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the following requirements apply: Not less than **30 days prior** to the actual transfer of ownership or control – for non-CAFOs, or **within 30 days** of the actual transfer of ownership or control – for CAFOs, the permittee shall submit to the Department via MiEnviro Portal (https://mienviro.michigan.gov/ncore/) a written agreement between the current permittee and the new permittee containing: 1) the legal name and address of the new owner; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; and 3) a certification of the continuity of or any changes in operations, wastewater discharge, or wastewater treatment.

If the new permittee is proposing changes in operations, wastewater discharge, or wastewater treatment, the Department may propose modification of this permit in accordance with applicable laws and rules.

14. Operations and Maintenance Manual

For wastewater treatment facilities that serve the public (and are thus subject to Part 41 of the NREPA), Section 4104 of Part 41 and associated Rule 2957 of the Michigan Administrative Code allow the Department to require an Operations and Maintenance (O&M) Manual from the facility. An up-to-date copy of the O&M Manual shall be kept at the facility and shall be provided to the Department upon request. The Department may review the O&M Manual in whole or in part at its discretion and require modifications to it if portions are determined to be inadequate.

At a minimum, the O&M Manual shall include the following information: permit standards; descriptions and operation information for all equipment; staffing information; laboratory requirements; record keeping requirements; a maintenance plan for equipment; an emergency operating plan; safety program information; and copies of all pertinent forms, as-built plans, and manufacturer's manuals.

Certification of the existence and accuracy of the O&M Manual shall be submitted to the Department at least sixty days prior to start-up of a new wastewater treatment facility. Recertification shall be submitted **sixty days prior to start-up** of any substantial improvements or modifications made to an existing wastewater treatment facility.

PART II

Section C. Reporting Requirements

15. Signatory Requirements

All applications, reports, or information submitted to the Department in accordance with the conditions of this permit and that require a signature shall be signed and certified as described in the Clean Water Act and the NREPA.

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

The NREPA (Section 3115(2)) provides that a person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit, COC, or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application for or form pertaining to a permit or COC or in a notice or report required by the terms and conditions of an issued permit or COC, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the Department, is guilty of a felony and shall be fined not less than $2,500.00 or more than $25,000.00 for each violation. The court may impose an additional fine of not more than $25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than $25,000.00 per day and not more than $50,000.00 per day of violation. Upon conviction, in addition to a fine, the court in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, permit, or COC of the Department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.

16. Electronic Reporting

Upon notice by the Department that electronic reporting tools are available for specific reports or notifications, the permittee shall submit electronically via MiEnviro Portal (https://mienviro.michigan.gov/ncore/) all such reports or notifications as required by this permit, on forms provided by the Department.

PART II

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit, more frequently than, or at a level in excess of, that authorized, shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the NREPA and/or the Clean Water Act and constitutes grounds for enforcement action; for permit or COC termination, revocation and reissuance, or modification; or denial of an application for permit or COC renewal.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the NREPA. Permittees authorized to discharge stormwater shall have the stormwater treatment and/or control measures under direct supervision of a stormwater operator certified by the Department, as required by Section 3110 of the NREPA.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or

b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code). For a POTW, these facilities shall be approved under Part 41 of the NREPA.

PART II

Section D. Management Responsibilities

7. Waste Treatment Residues

Residuals (i.e., solids, sludges, biosolids, filter backwash, scrubber water, ash, grit, or other pollutants or wastes) removed from or resulting from treatment or control of wastewaters, including those that are generated during treatment or left over after treatment or control has ceased, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the NREPA, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department, or the Regional Administrator, upon the presentation of credentials and, for animal feeding operation facilities, following appropriate biosecurity protocols:

a. to enter upon the permittee's premises where an effluent source is located or any place in which records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Clean Water Act and Rule 2128 (R 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit and required to be submitted to the Department shall be available for public inspection via MiEnviro Portal (https://mienviro.michigan.gov/ncore/). As required by the Clean Water Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Clean Water Act and Sections 3112, 3115, 4106 and 4110 of the NREPA.

10. Duty to Provide Information

The permittee shall furnish to the Department via MiEnviro Portal (https://mienviro.michigan.gov/ncore/), **within a reasonable time**, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or the facility's COC, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the NREPA.

2. POTW Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities at a POTW. Approval for the construction or modification of any physical structures or facilities at a POTW shall be by permit issued under Part 41 of the NREPA.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Clean Water Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environment, Great Lakes, and Energy permits, or approvals from other units of government as may be required by law.

fishbeck

Appendix

5

Godfrey Avenue Reconstruction (Grand River to Oxford Street)
Construction Alternative - Sewer Separation
Project No. 2501943

Cost Item	Units	Qty	Cost	Initial Estimated Capital Cost
Sewer (Sanitary Sewer)	LS	1	$9,366,800	$9,400,000
Sewer (Storm Sewer)	LS	1	$9,278,450	$9,300,000
Contaminated Groundwater Handings and Treatment	LS	1	$2,000,000	$2,000,000
Total Estimated Cost *				**$20,700,000**

**Contingency 12% included in the above cost*

	Estimated Capital Cost	Design Life (yrs)	Replace. Cost	Salvage Value
Sewer (Sanitary Sewer)	$9,400,000	50	$0	$5,640,000
Sewer (Storm Sewer)	$9,300,000	50	$0	$5,580,000
Total Estimated Cost	**$20,700,000**			$11,220,000

Godfrey Avenue Reconstruction (Grand River to Oxford Street)		
20 Year Present Worth	Actual Cost	20 yr Present Worth
Initial Capital Cost	$20,700,000	$20,700,000
Annual O & M Cost	$83,000	$1,331,300
Salvage Value	$11,220,000	($7,261,000)
Total Estimate of Present Worth		**$ 14,770,300**

Notes:
Present Worth estimated using discount rate of 2.2% *from EGLE*