

# **CITY OF DETROIT**

## **Water and Sewerage Department**



## **Sewer Rehabilitation Project Planning Document**

**February 2025**

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## ***Project Definition and Overview***

The Detroit Water and Sewerage Department (DWSD) is assessing and evaluating the condition of its collection system throughout the City of Detroit. Collection system assets scheduled for assessment include pipes, manholes, and catch basins. This effort is neighborhood-based, in accordance with DWSD's neighborhood-based strategy driven by DWSD's risk analysis process.

The primary criteria utilized to determine the rehabilitation or replacement of sewer assets is the structural integrity of the assets based upon the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP) and Manhole Assessment Certification Program (MACP) ratings. The sewer interventions mentioned in this project planning document are on combined sewers and these sewers will remain combined sewers at the conclusion of these project.

Work planned for Fiscal Year 2026 through Fiscal Year 2029 capital expenditure is derived from the assessments/evaluations performed in several City of Detroit neighborhoods. The two neighborhoods selected for rehabilitation are Hubbard Farms and North Corktown. It is anticipated that construction will commence in July 2026 and be completed by July 2028.

### **Project Status**

The total length of sewer in the project area is 113,834 feet, with sewers ranging in size from 4-inch through 114-inch. Closed-Circuit Television (CCTV) and manhole inspections have been performed by an inspection company through existing DWSD contract DWS-964. Approximately 25% of CCTV inspections have been completed in the project area. As condition assessment continues, completion percentage will increase. The final Project Planning Document will include the most recent information and as such, is subject to change.

### **Loan-Eligible Repairs**

Rehabilitation strategies to address defects that had a NASSCO structural rating of either Significant (Grade 4) or Most Significant (Grade 5) are typically eligible for funding using a loan from Michigan's Department of Environment, Great Lakes, and Energy (EGLE) State Revolving Fund (SRF). DWSD has identified the length of pipes with the aforesaid ratings eligible for loan funding and are included in this project proposal.

The available CCTV data collected to date for the project area indicates that some CCTV captured contains defects eligible for funding, about 39%. Based on this information, DWSD anticipates an extrapolated total of 44,839 feet of sewer eligible for funding. Rehabilitation strategies derived from this information include interventions such as cured-in-place (CIPP) lining, external point repairs, and full section replacements. Therefore, DWSD anticipates the loan eligible cost for these sewers to be approximately \$22,939,000.

## ***Study Area and Project Zone***

The locations of the proposed project are provided in the map below (Figure 1). This project zone is based on assets that have been selected to be assessed through DWSD's Risk Analysis process. The risk model leverages existing data with level of service objectives to assign a risk value to each sewer segment. The risk associated with each segment is then used to guide condition assessment. Risk value is a product of the Likelihood of Failure (LOF) and Consequence of Failure (COF). LOF is a product of several different factors, including modeled NASSCO PACP scores, nearby demolitions, and nearby cave-ins. The weighted average of risk scores in a neighborhood determines a neighborhood's risk ranking. Several neighborhoods with the highest risk scores are scheduled for condition assessment. The two proposed neighborhoods are the first neighborhoods with substantial condition assessment work completed.

### **Location**

This project area includes assets in the following neighborhoods:

- North Corktown
- Hubbard Farms

### **Population**

The population projections presented in the 2015 Water Master Plan Update report prepared by CDM/Smith for DWSD indicate a forecasted decline in population for the City of Detroit. The City of Detroit population is expected to decrease from 713,777 (2010 Census) to 613,709 by the year 2035. The population of Detroit, Michigan in 2023 was 633,218, according to the U.S. Census Bureau. This was an increase of 1,852 people from the previous year, marking the first time in 66 years that Detroit's population grew. This appears to negate the trend of declining population as forecasted by the U.S. census website. If this trend continues, it is more important now than ever that the much-needed sewer rehabilitation be undertaken without delay.

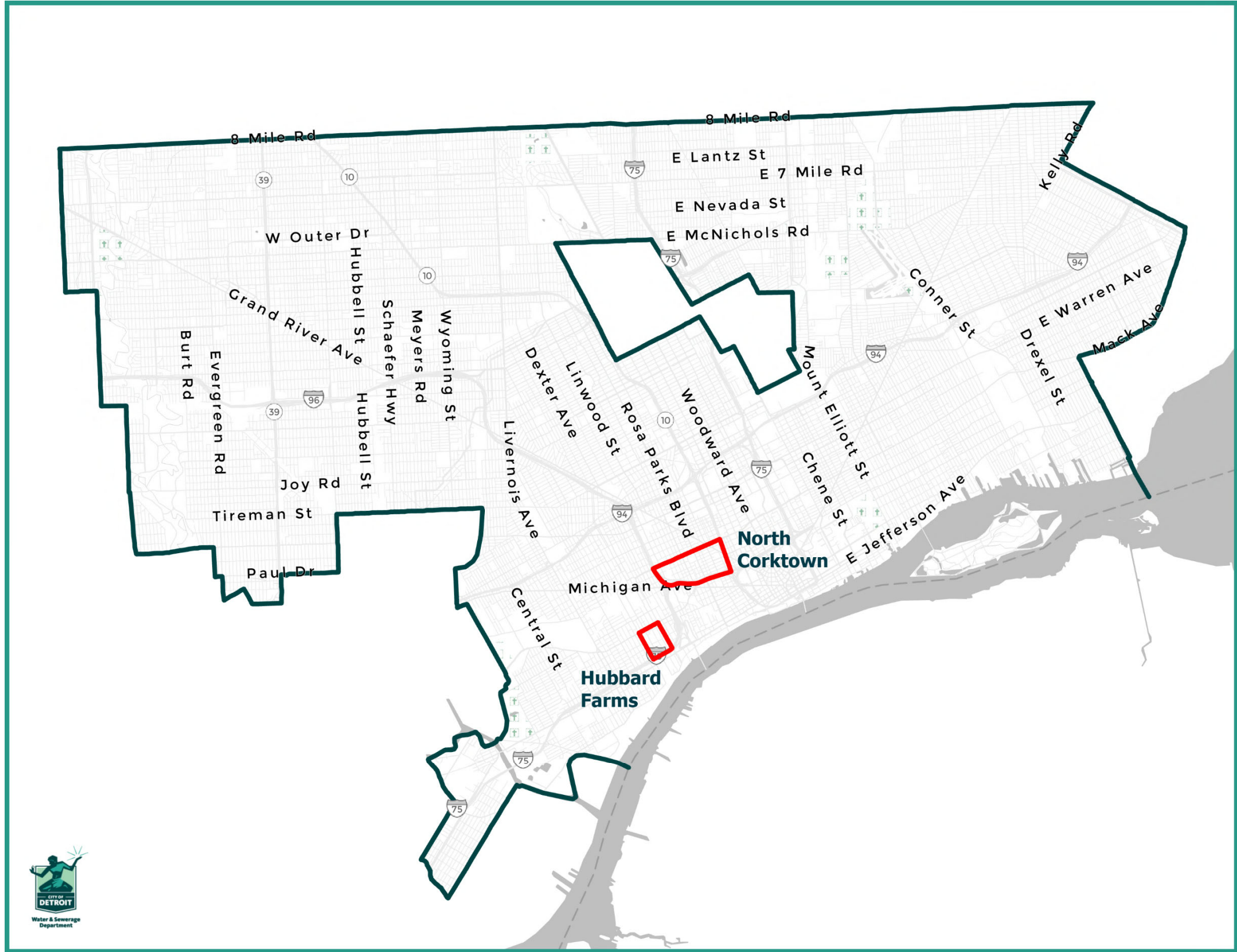


Figure 1 – Project Area

## Existing Facilities

The collection system managed by DWSD consists of approximately 2,819 miles of pipe, of which approximately 15 percent have been rehabilitated or reconstructed by lining. About 2,424 miles of Detroit’s sewers were constructed prior to the 1940s. This infrastructure has an average age of 95 years. Cementitious material represents the largest portion of the inventory. The number of reports for sinkholes and cave-ins associated with defects in the sewer infrastructure has averaged about 200 per year over the last 5 years. The structural condition of this infrastructure requires significant rehabilitation to prevent even more costly repairs and claims due to possible pipe collapses resulting in cave-ins, sinkholes, and Water-in-Basement events.

There are approximately 113,834 feet of pipe in the Project neighborhoods in total ranging in size from 4-inch to 114-inch. Of these 113,834 feet, pipe material can include brick, crock, reinforced concrete, and vitrified clay. Figure 2 identifies assumed pipe footage by material type in the project. Project pipe material footage was derived using information available from inspections and as-built information. This information has varying levels of confidence based on the source of the information. Once condition assessment is complete, the pipe material footage may be adjusted.

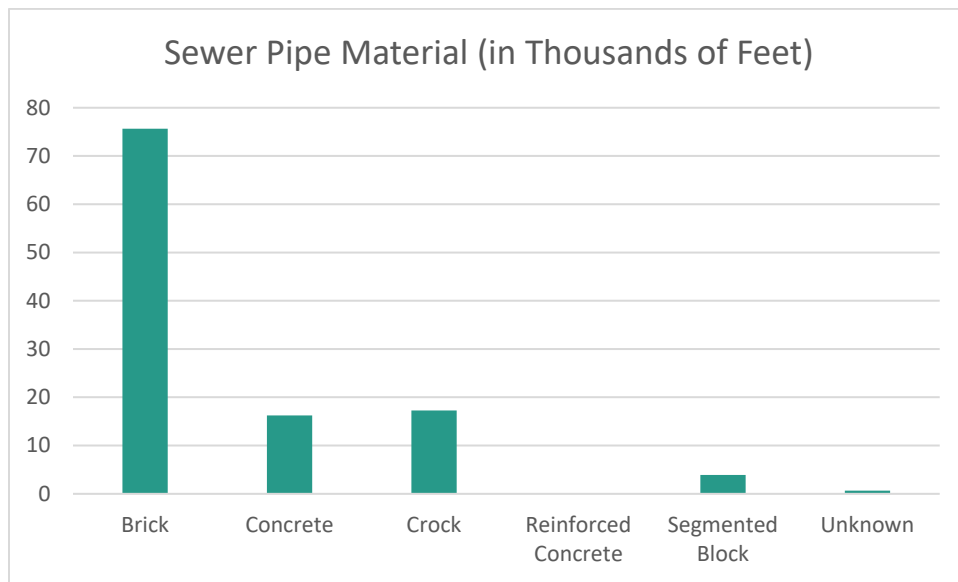


Figure 2 – Pipe Length by Material



## Project Need

As a result of the CCTV and manhole inspection performed to date, multiple defects requiring intervention have been identified. The primary structural defects encountered are fractures (spiral, hinge, longitudinal and circumferential), holes, continuous cracks, voids, and deformation. The defects have a NASSCO structural rating of either Significant (Grade 4) or Most Significant (Grade 5). Furthermore, based on the average age of the infrastructure at 95 years, the observed condition, and the risk to public health, it is felt that the selected pipes are defensible candidates for intervention.

### Inspected DWSD Assets with NASSCO Structural Defects

The pipes televised to date have associated surveys that are adequate to assess the condition of the pipe and guide the development of rehabilitation strategies. The defects are categorized as NASSCO structural rating of Grade 4 or Grade 5. An example of both Grade 4 and Grade 5 defects can be found below.

Distance (ft)	PACP Code	Continuous	Value %	Value 1st dim	Value 2nd dim	Clock At/From	Clock to	Band	Material	Joint	Remarks	O and M Grade	Structural grade	Video file	Counter
126.90	DB	S06				5	7			<input type="checkbox"/>		0.00	3.00		874.1
151.60	DB					2				<input type="checkbox"/>		0.00	3.00		1005.1
151.60	MB	S07				10	2			<input type="checkbox"/>		0.00	4.00		1010.1
152.80	HSV					10	2			<input type="checkbox"/>		0.00	5.00		1024.1
155.20	MB	F07				10	2			<input type="checkbox"/>		0.00	0.00		1064.1
155.80	RML		10			1				<input type="checkbox"/>		3.00	0.00		1080.1
155.80	TBD			6		1				<input type="checkbox"/>	OBZ,100%,12,12, 3371 17TH ST,	3.00	0.00		1086.1
159.80	TBD			6		10				<input type="checkbox"/>	OBZ,100%,12,12, 3372 18TH ST,	3.00	0.00		1130.1
159.80	RML		10			10				<input type="checkbox"/>		3.00	0.00		1135.1
162.30	TBI			8	2.00	1				<input type="checkbox"/>	OBZ,50%,02,10, 3377 17TH ST, I	2.00	0.00		1163.1

Figure 3 – Example of NASSCO Grade 4 and Grade 5 Defect

### Extrapolated Eligible Structural Defects Using Project-Specific Inspection Trends

DWSD is continuing to perform condition assessment work in these neighborhoods.

The inspection of pipes in these neighborhoods is 25% complete. The currently available PACP data indicates an average percentage of CCTV with repairs eligible for funding is 39%. Based on this information, the total amount of pipe eligible for rehabilitation is 44,395 feet.

The inspection of manholes in these neighborhoods is 13% complete. The currently available MACP data indicates an average percentage of manholes with repairs eligible for funding is 40%. Based on this information, the total count of manholes eligible for rehabilitation is 192. See below Table 1 for more information on both pipe and manhole information.

Table 1 – Extrapolation of Eligible Defects

<b>Description</b>	<b>Number of Assets</b>	<b>Total Footage (LF)</b>	<b>Notes</b>
Total Feet of Pipe Scheduled to be Inspected	631	113,834	Hubbard Farms and North Corktown
Pipes Inspected	157	28,595	As of January 2025
Pipes Inspected with Grade 4 and 5 Defects	53	11,270	As of January 2025. "Hit Rate" of 39%, based on 11,270 / 28,595
Extrapolated Pipes with Grade 4 and 5 Defects	249	44,395	Total Footage, based on 39% x 113,834
Total Manholes Scheduled to be Inspected	436	N/A	Hubbard Farms and North Corktown
Manholes Inspected	55	N/A	As of January 2025
Manholes Inspected with Grade 4 and 5 Defects	22	N/A	As of January 2025. "Hit Rate" of 40%, based on 22 / 55
Extrapolated Manholes with Grade 4 and 5 Defects	192	N/A	Total Count, based on 40% x 436

## ***Alternatives Analysis***

There are three options for addressing the problems associated with aged sewer mains. DWSD has the following three options to address old, damaged, and underperforming assets: continue to conduct repairs on an ad-hoc and as-needed basis, target a plan of replacement and/or rehabilitation, or replace using industry standard open-cut replacement. As a part of targeted rehabilitation, cured-in-place pipe (CIPP) lining of the majority of sewer main will be incorporated.

### **Alternative 1 – Repair of Existing Sewer Mains**

Sewer main repair is conducted throughout the system, particularly in those areas where problems have not escalated to the point which would warrant replacement. Nevertheless, sewer main repairs are time consuming, costly, constitute a drain on DWSD resources needed to carry out the repairs, and pose a potential increase in public health risk. Sewer main repairs can require shutting off sewer service to multiple customers while the defect is repaired and returned to service. Repair activities cannot be pre-scheduled, and field crews must respond on an “as needed” basis at any time of year. As typically only point repairs are performed during emergency repairs, other locations along the same pipe may also be at risk of failure but are not repaired. Hence this alternative should not be considered as a viable alternative.

### **Alternative 2 – Sewer Main Selected Replacement and/or Rehabilitation**

Sewer main replacement/rehabilitation of aged sewer main pipes is based on the criteria described under **Project Need**. The replacement pipe will be in the same footprint, with the same size, elevation, and slope. Rehabilitation of aged sewer mains also provides for the use of CIPP lining, which is considered superior because it has an expected useful life greater than that of damaged vitrified clay pipe and deteriorated concrete pipe and can be installed by trenchless means.

In addition to full replacement and full rehabilitation through CIPP lining, external point repairs of short portions of pipe are recommended as appropriate if the defects are localized and the rest of the pipe is in good condition. External point repairs are also utilized when combined with CIPP lining, to facilitate the lining work.

### **Alternative 3 – Sewer Main Replacement Only**

Full sewer main replacement of aged sewer main pipes is based on the criteria described under Project Need. This methodology suggests standard open-cut replacement of mains and not rehabilitation of the mains using trenchless methodologies such as CIPP lining. Alternative 3 may be considered extreme but represents a viable alternative.

### **Selected Alternative**

Based upon the alternative that can be most easily implemented with the least disruption to the utility and the rate payers, and the cost analysis that will be discussed below, **Alternative 2 – Sewer Main Selected Replacement and/or Rehabilitation** is the recommended alternative.

## ***Proposed Project***

### **Cost Summary – Alternative 2 – Sewer Main Selected Replacement and/or Rehabilitation**

#### **DWSD Assets with NASSCO Structural Defects Grade 4 and Grade 5**

From the assessments/evaluations on these selected assets, DWSD plans to rehabilitate or replace approximately 44,839 feet of sewer collection mains ranging in size from 4-inch through 114-inch in diameter. Additionally, DWSD plans to rehabilitate or replace 192 manholes. This work includes interventions such as external point repairs, CIPP lining, full segment replacements, manhole lining, and manhole replacements.

The total estimated cost of these repairs is approximately \$17,380,000. Rehabilitation and replacement cost estimates have been developed, based on previous work completed to date. The pre-design total capital cost estimates and costs with contingencies for pipes and manholes as shown in Table 2.

*Table 2 – Cost Summary – Alternative 2 – Total Loan Eligible Project Interventions*

<b>Intervention</b>	<b>Type</b>	<b>Asset</b>	<b>Quantity</b>	<b>Estimated Cost</b>	<b>Notes</b>
External Point Repair	Structural	Pipe	444	\$457,457	1% of Eligible Footage
CIPP Lining	Structural	Pipe	37,736	\$10,058,389	85% of Eligible Footage
Full Segment Replacement	Structural	Pipe	6,659	\$4,652,660	15% of Eligible Footage
Manhole Lining	Structural	Manhole	84	\$529,200	50% of Eligible Manholes
Manhole Replacement	Structural	Manhole	84	\$1,680,000	50% of Eligible Manholes
Total Intervention Cost				\$17,377,706	
10% Contingency				\$1,737,771	
Sub-total				\$19,115,476	
20% Design Contingency				\$3,823,095	
Total			44,839	\$22,938,572	
Rounded To				<b>\$22,939,000</b>	

### Cost Summary – Alternative 3 – Full Replacement

#### DWSD Assets with NASSCO Structural Defects Grade 4 and Grade 5

To illustrate the expected increase in cost if full replacement (Alternative 3) is assumed instead of rehabilitation (Alternative 2) of pipes using trenchless methodologies, Table 3 was developed. The CIPP items have been removed and full replacement and EPR quantities have been increased accordingly. As shown, the costs for Alternative 3 are significantly higher than those for Alternative 2.

*Table 3 – Cost Summary – Alternative 3 – Total Loan Eligible Project Interventions*

<b>Intervention</b>	<b>Type</b>	<b>Asset</b>	<b>Quantity</b>	<b>Estimated Cost</b>	<b>Notes</b>
Full Segment Replacement	Structural	Pipe	44,395	\$45,745,739	100% of Eligible Footage
Manhole Replacement	Structural	Manhole	168	\$3,360,000	100% of Eligible Manholes
Total Intervention Cost				\$45,745,739	
10% Contingency				\$4,574,574	
Sub-total				\$50,320,313	
20% Design Contingency				\$10,064,063	
Total			44,395	\$60,384,376	

### Monetary Evaluation of Alternative 2 and 3

A monetary evaluation of the feasible alternatives, Alternatives 2 and 3 was prepared using EGLE guidelines for SRF project planning, including the present worth formulas and discount interest rate of 1.0%. Under this analysis, the useful life is assumed to be 50 years for pipelines. The salvage value of pipes at the end of the 30-year planning period was computed based on straight-line depreciation over the useful life of the item. Therefore, the salvage value of the pipes at the end of the 30-year planning period is estimated to be 40% of the initial cost.

The present worth of salvage value was then computed by multiplying the salvage at the end of 30 years by the conversion factor 0.7419, respectively, based on the following formula:

$$PW = F \times 1/(1 + i)^n,$$

Where:

PW = Present Worth (Salvage)

F = Future Value (Salvage)

i = Discount Interest Rate (1.0%)

n = Number of Years (30)

$1/(1 + i)^n$  = Conversion Factor

Interest during the construction period was computed using the formula:

$$I = i \times 0.5 \times P \times C$$

Where:

I = Interest Value

i = Discount Interest Rate (1.0%)

P = Period of Construction in Years (assumed to be two years)

C = Capital Cost of the Project

For each of Alternatives 2 and 3, the total Present Worth was computed from the estimated cost (including construction, engineering, and administrative costs), salvage value, and interest during construction. This equates to the amount which would be needed at the start of the project to cover design and construction costs over the 30-year planning period if interest were to accrue at the discount rate of 1.0% annually.

The Present Worth of each alternative was then converted to an Equivalent Annual Cost, which is the amount which would be paid uniformly over a 30-year period based on the Present Worth value. This amount was obtained by the using the following formula:

$$A = PW \times [(i(1 + i)^n)/((1 + i)^n - 1)]$$

Where:

A = Equivalent Annual Cost

PW = Present Worth

i = Discount Interest Rate (1.0%)

n = Number of Years (30)

$[(i(1 + i)^n)/((1 + i)^n - 1)]$  = Capital Recovery Factor of 0.0387 (30-year)

The cost-effective analysis and present worth determination for Alternatives 2 and 3 for the project is presented in Table 4. From the equivalent annual cost below, Alternative 2 minimizes the impact to the users more than does Alternative 3.

Table 4 – Cost Effective Analysis/Present Worth Determination – Project Loan Eligible

Item	Project Alternative 2 Rehabilitation/Limited Section Replacement for Loan Eligible Repairs	Project Alternative 3 Full Replacement for Loan Eligible Repairs	Comments
Initial Cost	\$22,938,572	\$60,384,375	
O&M Costs	\$0	\$0	
Replacement Costs	\$0	\$0	
Salvage Value for 50-Year Life	\$5,157,167	\$13,575,925	30-Year Analysis
Interest During Construction	\$229,386	\$603,844	2-Year Construction Period
Total Present Worth	\$18,010,791	\$47,412,294	30-Year Analysis
<b>Equivalent Annual Cost</b>	<b>\$697,884</b>	<b>\$1,837,137</b>	30-Year Analysis

**Total Cost and Loan-Eligible Cost for Project, Alternative 2**

From Table 4 above, the combined total loan eligible cost for Alternative 2 for the project is \$22,939,000, rounded to the nearest thousand dollars.

Alternative 2 is recommended and DWSD anticipates paying for the entire project Alternative 2 with SRF loan for the loan eligible portion.

**User Cost**

Repayment of the SRF loan through annual debt retirement payments may impact the residential customer rates resulting in increased user costs. The annualized equivalent costs for the loan eligible portions of the project come to \$697,884 under a 30-year analysis.

This impact to customer rates is generally determined by dividing the additional expenses among the users in the service area as summarized in Table 5. The annualized cost of the loan eligible portion of the project was calculated using the capital recovery factor 0.0387 (30-year) following formula:

$$A = PW \times [(i(1 + i)^n)/((1 + i)^n - 1)]$$

Where:

A = Equivalent Annual Cost

PW = Present Worth

i = Interest Rate through SRF Loan (1.0%)

n = Number of Years (30)

$[(i(1 + i)^n)/((1 + i)^n - 1)]$  = Capital Recovery Factor

*Table 5 – Loan Eligible User Cost Impact for Alternative 2 (Sewer Rehabilitation/Limited Replacement)*

Item	<b>Sewer Rehabilitation/Limited Replacement 30-Year Analysis</b>
Total Cost of Project	\$22,939,000
Annualized Cost of Project (Assuming SRF interest rate 1.0%)	\$697,884
Number of User Accounts (households) in City of Detroit	178,791
Average Sewage Disposal Based upon Water Consumption per Household (industry average)	7,333 gallons/month (approx. 980 ft <sup>3</sup> /month)
Current DWSD Sewage Disposal Rate	\$5.896 per 1000 ft <sup>3</sup>
Current Estimated Monthly DWSD Sewage Disposal Rate per Household	\$57.78
Current Estimated Annual DWSD Sewage Disposal Rate per Household	\$693.37
Estimated Annual Increase in Cost per Household (Year 1)	\$3.90
Proposed Estimated Annual DWSD Sewage Disposal Rate per Household (Year 1)	\$697.27
Proposed Potential Percent Increase in Cost per Household per Year	0.56%



### **Non-Monetary Evaluation of Alternative 2 and 3**

The result of constructing either Alternative 2 or 3 will provide the end user with the same level of service. Constructing Alternative 2 (Rehabilitation/Limited Replacement) can achieve that level of service more efficiently and with the least disruption to the user, natural or cultural features and the environment by the extensive use of trenchless technologies for much of the piping work. Rehabilitating manholes will also be less disruptive as opposed to excavations required for replacement. By use of trenchless technologies, restoration of the visible landscape is also minimized. It is also anticipated that Alternative 2 can be constructed in a shorter period than Alternative 3.

### **Overburdened Community Status**

The SRF program includes provisions for qualifying the applicant community as an overburdened community. The benefits for communities with a population of 10,000 or more that qualify for the overburdened community status consist of:

- Award of 50 additional priority points.
- Possible extension of the loan term to 30 years or the useful life of the components funded, whichever is earlier. The estimated useful life of the sewer rehabilitation/limited replacement is 50 years. DWSD is aware that the SRF program offers both 20- and 30-year loan terms and will evaluate which term is the most appropriate for DWSD and its customers.

EGLE requires submittal of an Overburdened Application to determine if the community qualifies for this status. A completed application will be included in the final Project Planning Document.

## ***Environmental Preview / Review***

The environmental setting for the proposed project is within the city limits and will be done in local urban neighborhoods. There is minimal environmental impact as most work will occur within the public right-of-way, where multiple utilities and infrastructure already exist. This work includes interventions such as cured-in-place lining (CIPP), external point repairs, full section replacements, cementitious lining of manholes and replacement of manholes. Trenchless technologies will be used extensively on much of this project. The proposed project will not detrimentally affect the water quality of the area, air quality, wetlands, endangered species, wild and scenic rivers, or unique agricultural lands.

The anticipated environmental impacts resulting from implementing the recommendations of this project planning document include beneficial and adverse; short and long-term; and irreversible and irretrievable. The following is a brief discussion of the anticipated environmental impacts of the selected alternative.

### **Beneficial and Adverse**

The proposed improvements will significantly improve DWSD's capability to operate a reliable sewer collection system, reducing sewer backups into homes, avoiding catastrophic sinkholes from sewer collapses, and increasing efficiency at Detroit WRRF. Implementation of the improvements will also generate construction-related jobs, and local contractors will have an opportunity to bid on contract work. Most of the work to be constructed with this project will be performed by use of trenchless technologies, minimizing disruption to the existing natural and cultural features, and to the end users.

Noise and dust will be generated during construction of the proposed improvements. The contractor will be required to implement efforts to minimize noise, dust, and related temporary construction byproducts. Street congestion and disruption of vehicular movement may occur for short periods of time on the roads where work is actively being done. For work resulting in the need to have open trenches, and spoils from open trenches will be subject to erosion; the contractor will thereby be required to implement a Soil Erosion and Sedimentation Control (SESC) Program as described and regulated under Michigan's Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act (NREPA). Underground utility service inside the project area may be interrupted occasionally for short periods of time. The aesthetics of the area will be temporarily affected until restoration is complete.

### **Short and Long Term**

The short-term adverse impacts associated with construction activities will be minimal, and will be mitigated, in comparison to the resulting long-term beneficial impacts. Short-term impacts include traffic disruption, dust, noise, and site aesthetics. No adverse long-term impacts are anticipated.

### **Irreversible and Irretrievable**

The impact of the proposed project on irreversible and irretrievable commitment of resources includes materials utilized during construction and fossil fuels utilized to implement project construction.

## ***Other Impacts or Concerns***

### **Direct Impacts**

Construction of the proposed project is not expected to have an adverse effect on historical, archaeological, geographic or cultural areas, as the construction activities will occur underground and will require minimal disturbance of the project area soils due to much of the work being performed by use of trenchless technologies. The proposed project will not detrimentally affect the water quality of the area, air quality, wetlands, endangered species, wild and scenic rivers or unique agricultural lands. The construction activities associated with this project will not permanently impact the visible landscape.

### **User Rates**

As discussed above, the impact of financing project Alternative 2 through the SRF loan program is expected to increase by no more than 0.56% the cost of sewer disposal to a typical City of Detroit customer due to the impact of construction cost. However, the actual rate determination will be based on factors that encompass the delivery of comprehensive services by DWSD to its customers. The increase is based on repayment of the SRF loan over a 30-year period.

### **Indirect Impacts**

It is not anticipated that DWSD's proposed improvements to the sewer collection system will alter the ongoing pattern of growth and development in the project area as these neighborhoods are fully developed. Growth patterns in the service area are subject to local use and zoning plans, thus providing further opportunity to minimize indirect impacts.

### **Cumulative Impacts**

Improved reliability, efficiency, and the ability to safely convey storm water and sanitary flows to Water Resource Recovery Facilities are the primary cumulative beneficial impacts anticipated from the implementation of the proposed project.

## ***Mitigation***

Where adverse impacts cannot be avoided, mitigation methods will be implemented. Mitigating measures for the project such as soil erosion control, if required, will be utilized as necessary and in accordance with applicable laws. Details will be further specified in the construction contract documents used for the project.

### **Mitigation of Short-Term Impacts**

Short-term impacts due to construction activities such as noise, dust and minor traffic disruption cannot be avoided. However, efforts will be made to minimize the adverse impacts by use of thorough design and well-planned construction sequencing. Noise from equipment cannot be avoided, but hours of work can be controlled. Dust and soil deposits on the streets can be controlled through watering and construction area sweeping. Construction area footprints will be minimized, and traffic control measures can be utilized. Site restoration will minimize the adverse impacts of construction, and adherence to the Soil Erosion and Sedimentation Control Act will minimize the impacts due to disturbance of the soil structure, if such disturbance is found to be necessary. Specific techniques will be specified in the construction contract documents.

### **Mitigation of Long-Term Impacts**

Adverse long-term impacts due to the proposed project are not anticipated. The aesthetic impacts of construction within the boundaries of the project area will be mitigated by site restoration.

### **Mitigation of Indirect Impacts**

In general, it is not anticipated that mitigative measures to address indirect impacts will be necessary for the recommended improvements addressed in this project planning document. The proposed improvements are located within the project area, so they do not promote growth in areas not currently served by DWSD. Therefore, indirect impacts are not likely to be a concern for these improvements.

## ***Public Involvement***

A public meeting will be scheduled to allow the public the opportunity to generate a better understanding and to address any concerns regarding this plan. As a requirement of the CWSRF funding EGLE guidelines, DWSD will invite the public to gain information and raise any concerns regarding this project planning document.

### **Public Hearing Advertisement and Notice**

A notice will be published no less than 15 days in advance to alert parties interested in this project planning document and request input at a public hearing prior to its adoption. In addition, a notification will be sent to the potentially interested local and federal agencies. This notice includes an invitation to comment.

### **Public Hearing Transcript**

A formal public hearing on the draft project planning document will be held before the DWSD Board of Water Commissioners at 2:00 PM on February 19, 2025, at the Detroit Water Board Building, located at 735 Randolph, Detroit, Michigan 48226. The public may also attend the meeting virtually. The hearing will include a presentation on the project, as well as an opportunity for public comment.

### **Public Hearing Comments Received and Answered**

Comments from the public during the Public Hearing will be addressed and answered by the project team.

### **Adoption of the Project Planning Document**

Upon approval and certification of resolution by the DWSD Board of Water Commissioners, the GLWA Board of Water Commissioners will certify a resolution at its regular monthly meeting on April 23, 2025, authorizing GLWA to proceed with official filing of the project planning document for purposes of securing low interest loan assistance under the SRF Program. Executed copies of both Boards of Water Commissioners' Resolutions and certifications for the project planning document will be provided with the submission.

## *Appendices*

***Appendix A – Submittal Form, Self-Certification Form,  
Disadvantaged Community Status Determination Worksheet,  
Board Resolutions, SRF Scoring Form***

***Appendix B – Public Hearing Notice, Mailing List for Public Hearing, Publication Affidavits, Public Hearing Transcript, Visual Aids, Attendance List***



*Appendix C – Project Planning Document Correspondence*

*Appendix D – Inspection Reports*