

NOTICE OF MEETINGS
DRAINAGE BOARD FOR THE FOLLOWING DRAINS:

1. Luz Relief Drains
2. Evergreen-Farmington Sanitary Sewer Drain
3. Rufe Collier Drain
4. Acacia Park CSO Drain
5. Birmingham CSO Drain
6. Bloomfield Village CSO Drain
7. George W. Kuhn Drain
8. Clinton River Water Resource Recovery Facility
9. Augusta Drain
10. Caddell Drain
11. Joachim Relief Drain
12. Mainland Drain
13. Pontiac Clinton River No. 1 Drain
14. Dorothy Webb Drain
15. Doyon Drain
16. Jacobs Drain
17. McIntosh Drain
18. Finney Drain
19. Bishop Drain
20. Joseph Jones Drain
21. Northwest Oakland Sanitary Sewer Drain

NOTICE IS HEREBY GIVEN THAT MEETINGS OF THE DRAINAGE BOARD FOR THE ABOVE-MENTIONED DRAINS WILL COMMENCE IN THE OAKLAND COUNTY PUBLIC WORKS BUILDING, ONE PUBLIC WORKS DRIVE, WATERFORD, MICHIGAN, AND VIA **MICROSOFT TEAMS** AT 2 P.M., ON **TUESDAY, APRIL 22, 2025**, TO CONDUCT NECESSARY AND APPROPRIATE BUSINESS OF THE DRAINAGE BOARDS. THOSE WHO WISH TO PARTICIPATE REMOTELY MAY FOLLOW THE INSTRUCTIONS ATTACHED TO THIS NOTICE. ALL BOARD MEMBERS WILL BE PARTICIPATING IN-PERSON.

DURING THE MEETING, THERE WILL BE AN AGENDA ITEM FOR PUBLIC COMMENT, DURING WHICH THE PUBLIC MAY PROVIDE INPUT OR ASK QUESTIONS OF THE BOARD. IN THE EVENT A MEMBER OF THE PUBLIC WOULD LIKE TO SUBMIT THEIR INPUT OR QUESTIONS TO BE READ AT THE MEETING BY THE BOARD CHAIRPERSON, PLEASE PROVIDE THE INPUT OR QUESTIONS IN WRITING TO STEPHANIE LAJDZIAK AT LAJDZIAKS@OAKGOV.COM. PERSONS WITH DISABILITIES WHO NEED ASSISTANCE PARTICIPATING IN THE MEETING SHOULD CONTACT STEPHANIE LAJDZIAK AT LAJDZIAKS@OAKGOV.COM.

JIM NASH
Oakland County Water Resources Commissioner
Telephone: 248-858-0958

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Chapter 20 Drainage Board Meeting
Regular Meeting – Tuesday, April 22, 2025

1. Luz Relief Drains

AGENDA

MEETING OF THE DRAINAGE BOARD FOR THE LUZ RELIEF DRAINS EXTENSION

April 22, 2025

1. Call meeting to order.
2. Approve minutes of meeting of February 25, 2025
3. Public Comments
4. Offer and file proofs of publication and of mailing of notice of hearing on necessity.
5. Open the hearing on necessity.
6. Ask for any written objections.
7. Ask for comments or objections from those present.
8. Close the hearing.
9. Adopt resolution approving petition and drain project and directing issuance of Final Order of Determination.
10. Chairperson executes Final Order of Determination and presents it to Board.
11. Adopt resolution to accept and file Final Order of Determination.
12. Other Business.
13. Approve pro rata payment to Drainage Board members
14. Adjourn

MINUTES OF THE MEETING OF THE DRAINAGE BOARD FOR THE LUZ RELIEF DRAINS

FIRST MEETING FOR NEW DRAIN PROJECT

February 25, 2025

The first meeting of the Drainage Board for the hereinafter mentioned Oakland County, Michigan drain project was held at the office of the Oakland County Water Resources Commissioner, Waterford, Michigan on February 25, 2025.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Linnie Taylor for Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

David Woodward, Chairperson of the Oakland County Board of Commissioners

ABSENT: None.

The meeting was called to order by the Chairperson.

Minutes of the meeting held June 22, 2021, were presented for consideration. It was moved by Taylor, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

A memorandum from Michael Walsh, P.E., Civil Engineer III, dated February 25, 2025, requesting the Board receive and file the General Summary of the Extension Project was presented. It was moved by Taylor, supported by Woodward, to receive and file the General Summary of the Extension Project as presented.

ADOPTED: Yeas - 3
Nays - 0

The Chairperson presented to the Drainage Board the petition referred to in the following resolution, attached to which petition was a certified copy of the resolution of the governing body of the public corporation signing the same, authorizing the execution of the petition. The Chairperson stated that the petition with the attached resolution was filed in his office on January 21, 2025, by the Charter Township of Bloomfield.

The following resolution was offered by Taylor and seconded by Woodward, and amended by Woodward as reflected herein:

BE IT RESOLVED BY THE DRAINAGE BOARD FOR THE HEREINAFTER MENTIONED OAKLAND COUNTY, MICHIGAN DRAIN PROJECT, as follows:

1. That this Drainage Board has considered the petition and attached resolution filed with the Oakland County Water Resources Commissioner on January 21, 2025 by the Charter Township of Bloomfield, which petition is as follows:
2. That this Drainage Board determines that the stormwater to be carried by the proposed drain project originates in the County of Oakland only; and that the drain project is necessary for the public health.
3. That this Drainage Board tentatively determines that the petition is sufficient; that the drain project proposed therein is practical; and that the following public corporations be assessed to pay the cost of the project to wit:

Charter Township of Bloomfield
Road Commission for Oakland County, County of Oakland – on account of
drainage of county highways

4. That the name “LUZ RELIEF DRAINS EXTENSION” is hereby given to the drain project and the name “LUZ RELIEF DRAINS EXTENSION DRAINAGE DISTRICT” is hereby confirmed for the drainage district therefor.
5. That this Drainage District shall meet on the 22nd day of April 2025, at 2:00 p.m., prevailing Eastern Time at the Office of the Oakland County Water Resources Commissioner, Waterford, Michigan for the purpose of hearing any objections to the aforementioned drain project, to the petition therefor, and to the matter of assessing the cost of the drain project to the public corporations above named.
6. That a notice of said meeting shall be prepared which notice shall contain the information required by the Drain Code and shall be published twice in The Oakland Press, a newspaper published in the County of Oakland, State of Michigan, the first publication to be not less than twenty (20) days prior to the time of the hearing.
7. That the notice shall be sent by registered or certified mail to the Clerk of the Charter Township of Bloomfield, the Clerk of the County of Oakland, and the Secretary of the Road Commission for Oakland County, which mailing shall be made not less than twenty (20) days prior to the time of the hearing.

ADOPTED: Yeas - 3
Nays - 0

8. It was moved by Taylor and supported by Woodward that the following be appointed to act in the following capacities in connection with the proposed drain project:

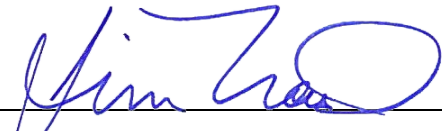
Dickinson Wright PLLC, Troy, Michigan, as bond counsel, in the event bonds are issued to finance the proposed drain project.
Hubbell, Roth & Clark, Inc., as engineers.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Taylor, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Taylor and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

Upon motion by Taylor, seconded by Woodward and unanimously adopted, the meeting was adjourned.



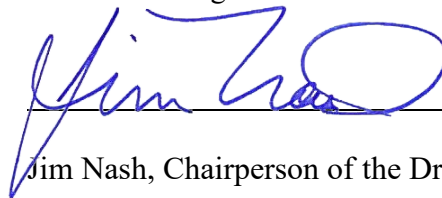
Jim Nash, Chairperson

February 25, 2025

STATE OF MICHIGAN)
)SS
COUNTY OF OAKLAND)

I hereby certify that the foregoing is a true and complete copy of the minutes of a meeting of the Drainage Board for the Luz Relief Drains Extension, Oakland County, Michigan, held on February 25, 2025, and that the minutes are on file in the offices of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Luz Relief Drains Drainage District.



Jim Nash, Chairperson of the Drainage Board

Dated: February 25, 2025

4926-0623-7971 v2 [9007-444]

**RE: NOTICE OF HEARING; PETITION TO LOCATE, ESTABLISH AND
CONSTRUCT AN INTRA-COUNTY DRAIN PROJECT IN THE CHARPTE
TOWNSHIP OF BLOOMFIELD, OAKLAND COUNTY, MICHIGAN**

Stephanie Lajdziak, of the office of the Oakland County Water Resources Commissioner, of the County and State aforesaid, being duly sworn, deposes and says that on March 11, 2025, by United States certified mail, return receipt requested, she mailed (at least 20 days before the meeting described) a copy of the attached Notice of Meeting Re: Petition to Locate, Establish and Construct an Intra-County Drain Project in the above-described community with respect to the hearing to be held on April 22, 2025 to the following persons:

- MARINA MOYA
NOTARY PUBLIC, STATE OF MI
COUNTY OF OAKLAND
MY COMMISSION EXPIRES May 20, 2030
ACTING IN COUNTY OF Oakland

1. Charter Township of Bloomfield
Attn: Martin Brook, Township Clerk
4200 Telegraph Road
P.O. Box 489
Bloomfield Township, MI 48303
Article no.: 7018 2290 0002 1421 1110

2. The Road Commission for Oakland County
Attn: Eric McPherson, Chair
31001 Lahser Rd.
Beverly Hills, MI 48025
Article no. 7018 2290 0002 1421 1103
3. The Road Commission for Oakland County
Attn: Eric McPherson, Chair
2420 Pontiac Lake Rd.
Waterford Twp., MI 48328
Article no. 7018 2290 0002 1421 1127

APPROVED
BY THE BOARD OF SUPERVISORS
ON MAY 19, 2003
FOR THE BOARD OF SUPERVISORS

CHARTER TOWNSHIP OF BLOOMFIELD COUNTY OF OAKLAND

NOTICE OF HEARING

RE: PETITION TO LOCATE, ESTABLISH AND
CONSTRUCT AN INTRA-COUNTY DRAIN
PROJECT IN THE CHARTER TOWNSHIP OF
BLOOMFIELD, OAKLAND COUNTY, MICHIGAN.

NOTICE IS HEREBY GIVEN, that pursuant to the provisions of Chapter 20 of Act No. 40 of the Public Acts of 1956, as amended, a petition was filed with the Water Resources Commissioner of Oakland County, Michigan, petitioning for the location, establishment and construction of an intra-county drain project consisting of extending the Luz Relief Drains by adding a branch to said Drain, which drain project is necessary for the public health, will be located in the Charter Township of Bloomfield and will serve property located entirely within the limits of the Charter Township of Bloomfield.

NOTICE IS FURTHER GIVEN, that the Drainage Board for the drain project has considered the petition and has made a tentative determination that the petition is sufficient and that the drain project is practical; has given the name "LUZ RELIEF DRAINS EXTENSION" as the name of the drain project and the name "LUZ RELIEF DRAINS EXTENSION DRAINAGE DISTRICT" as the name of the drainage district therefor; and has made a tentative determination that the following public corporations should be assessed for the cost of the drain project, to wit:

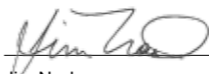
Charter Township of Bloomfield

Road Commission for Oakland County, County of Oakland – on
account of drainage of county highways

NOTICE IS FURTHER GIVEN, that the Drainage Board will meet on the 22nd day of April, 2025, at 2:00 p.m., prevailing Eastern Time, at the Office of the Oakland County Water Resources Commissioner, One Public Works Drive, Waterford, Michigan, for the purpose of hearing any objections to the drain project, to the petition therefor, and to the matter of assessing the cost thereof to the public corporations above named. This notice is given to and for the benefit of the said public corporations and all taxpayers thereof. At the hearing any of said public corporations or any taxpayer thereof will be entitled to be heard.

NOTICE IS FURTHER GIVEN, that after such hearing the Drainage Board shall make a determination as to the sufficiency of the petition, the practicability of the drain project, whether the drain project should be constructed, and if so, the public corporations to be assessed and shall issue an order known as the Final Order of Determination. Section 483 of Act No. 40 of the Public Acts of 1956, as amended, provides that the Final Order of Determination shall not be subject to attack in any court, except by proceedings in certiorari brought within 20 days after the order is filed in the Office of the Oakland County Water Resources Commissioner, the Chairperson of the Drainage Board for the Luz Relief Drains Extension, and that if no such proceeding shall be brought within said 20 day period the drain project shall not thereafter be questioned in any suit at law or in equity, either on jurisdictional or non-jurisdictional grounds.

This notice is given by order of the Drainage Board for the Luz Relief Drains Extension.



Jim Nash

Chairperson of the Drainage Board for the
Luz Relief Drains Extension;
Oakland County Water Resources
Commissioner

Dated: February 25, 2025

FINAL ORDER OF DETERMINATION

IN RE

LUZ RELIEF DRAINS EXTENSION

WHEREAS, pursuant to the provisions of Chapter 20 of Act No. 40, Public Acts of Michigan, 1956, as amended, a petition was filed with the Oakland County Water Resources Commissioner on January 21, 2025, by the Charter Township of Bloomfield, Oakland County, Michigan, petitioning for the following drain project as necessary for the public health, to-wit:

The location, establishment and construction of an intra-county drain project consisting of extending the Luz Relief Drains by adding a branch to said drain, which drain project is necessary for the public health, will be located in the Charter Township of Bloomfield and will serve property located entirely within the limits of the Charter Township of Bloomfield.

WHEREAS, the necessary proceedings have been taken in respect to the petition, including the holding of a hearing for the purpose of receiving any objections to the proposed drain project, to the petition therefor and to the matter of assessing the cost to the public corporations designated by this Board;

THEREFORE, the Drainage Board for the Luz Relief Drains Extension issues this order making the following determinations in accordance with a resolution adopted by it on April 22, 2025, to-wit:

That the said petition is sufficient in all respects; that the drain project is practicable and should be constructed; that it has become necessary for the public health to construct the drain project; and that the following public corporations should be assessed for the cost thereof, to-wit:

Charter Township of Bloomfield
Road Commission for Oakland County, County of Oakland –
on account of drainage of county highways

DRAINAGE BOARD FOR THE
LUZ RELIEF DRAINS EXTENSION

By: _____
Chairperson

Dated: April 22, 2025
Filed: April 22, 2025

2. Evergreen-Farmington Sanitary Drain

AGENDA

DRAINAGE BOARD FOR THE EVERGREEN-FARMINGTON SANITARY DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Bond Resolution and Special Assessment Roll, Series 2025
5. Present Capital Improvement Plan 2026-2030
6. Present Memorandum from Gary Nigro, P.E., Manager, dated April 22, 2025, requesting the Board approve the proposed operating budget and sewer charges (Exhibit A) and cost allocation (Exhibit B) for the rate year beginning July 1, 2025
7. Present Memorandum from Lawrence Young, Civil Engineer II, dated April 22, 2025, requesting the Board approve the Lakeside Level Sensor Replacement Project for the budgeted amount of \$5,000 from capital improvement reserves
8. Present Construction Estimate No. 37 for Walsh Construction for the 8 Mile Road Pump Station & SSO Chamber Improvements – Phase 1 in the amount of \$606,558.67
9. Present Construction Estimate No. 5 for SAK Construction for Design and Construction of the Southfield Sewer Lining Project in the amount of \$39,673.83 with a transfer to the Oakland County Treasurer in the amount of \$4,408.20
10. Present request for Board approval of payment of invoices from the Evergreen Farmington Sanitary Drain from the Maintenance Fund in the amount of \$366,523.04
11. Present request for Board approval of payment of invoices from the Evergreen Farmington Sanitary Drain from the Construction Fund in the amount of \$61,990.22
12. Closed Session for the purpose of discussing a privileged attorney-client memorandum pursuant to Section 8(h) of the Open Meetings Act
13. Other business
14. Approve pro rata payment to Drainage Board members
15. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE EVERGREEN -FARMINGTON SANITARY DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Evergreen-Farmington Sanitary Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

Gallagher provided a proposal for the renewal of the drainage district's insurance policies. It was moved by Markham, supported by Woodward, to approve the insurance policy recommendation as presented and authorize the Chairperson to execute requisite coverage documents and authorize payment of the premium and related invoices.

ADOPTED: Yeas - 3
Nays - 0

A memorandum from Jeffrey Parrott, Supervisor, Right of Way, dated March 25, 2025, requesting the Board authorize the Chairperson to sign the temporary construction license was presented. It was moved by Markham, supported by Woodward, to authorize the Chairperson to sign the temporary construction license as presented.

ADOPTED: Yeas - 3
Nays - 0

A memorandum from Lesli Maes, P.E., Operations Manager, dated March 25, 2025, requesting the Board approve the Walnut Lake 1 Pump Station Controls and Pump Improvement project for the budgeted amount of \$180,000 utilizing funds from the Capital Improvement reserves and authorize Fishbeck Inc, to proceed with the proposed engineering services for a not to exceed amount of \$27,300 was presented. It was moved by Markham,

supported by Woodward, to approve the Walnut Lake 1 Pump Station Controls and Pump Improvement project for the budgeted amount of \$180,000 utilizing funds from the Capital Improvement reserves and authorize Fishbeck Inc, to proceed with the proposed engineering services for a not to exceed amount of \$27,300 as presented.

ADOPTED: Yeas - 3
Nays - 0

A memorandum from Philip Kerby, P.E., Operations Engineer, dated March 25, 2025, requesting the Board add the Sanitary Sewer Rehabilitation project to the capital improvement plan with a design budget of \$77,900 and award the engineering services contract to Hubbell, Roth, & Clark Inc. for a not to exceed amount of \$69,900 was presented. It was moved by Markham, supported by Woodward, to add the Sanitary Sewer Rehabilitation project to the capital improvement plan with a design budget of \$77,900 and award the engineering services contract to Hubbell, Roth, & Clark Inc. for a not to exceed amount of \$69,900 as presented.

ADOPTED: Yeas - 3
Nays - 0

Construction Estimate No. 36 for Walsh Construction Company II, LLC for the 8 Mile Road Pump Station & SSO Chamber Improvements – Phase 1 in the amount of \$ 711,788.33 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 36 for Walsh Construction Company II, LLC for the 8 Mile Road Pump Station & SSO Chamber Improvements – Phase 1 in the amount of \$ 711,788.33 as presented.

ADOPTED: Yeas - 3
Nays - 0

Construction Estimate No. 4 for SAK Construction for Design and Construction of the Southfield Sewer Lining Project in the amount of \$74,276.15 with a transfer to the Oakland County Treasurer in the amount of \$8,252.91 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 4 for SAK Construction for Design and Construction of the Southfield Sewer Lining Project in the amount of \$74,276.15 with a transfer to the Oakland County Treasurer in the amount of \$8,252.91.

ADOPTED: Yeas - 3
Nays - 0

A request for approval of payment of invoices from the Evergreen Farmington Sanitary Drain Maintenance Fund in the amount of \$234,157.03 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices from the Evergreen Farmington Sanitary Drain Maintenance Fund in the amount of \$234,157.03 as presented.

ADOPTED: Yeas - 3

Nays - 0

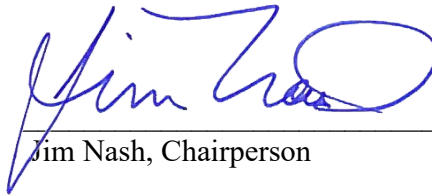
A request for approval of payment of invoices from the Evergreen Farmington Sanitary Drain Construction Fund in the amount of \$96,740.65 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices from the Evergreen Farmington Sanitary Drain Construction Fund in the amount of \$96,740.65 as presented.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Markham and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.




Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Evergreen-Farmington Sanitary Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Evergreen-Farmington Sanitary Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

At a meeting of the Drainage Board for the Evergreen-Farmington Sanitary Drain (the “Drainage Board”) held on April 22, 2025.

PRESENT: _____

ABSENT: _____

The following resolution was offered by _____ and seconded by _____:

**RESOLUTION APPROVING SPECIAL ASSESSMENT ROLL AND AUTHORIZING THE
ISSUANCE OF EVERGREEN-FARMINGTON SANITARY DRAIN BONDS, SERIES 2025**

WHEREAS, pursuant to petitions filed with the Oakland County Water Resources Commissioner by the Charter Township of West Bloomfield and the City of Southfield, proceedings have been taken under the provisions of Chapter 20 of Act 40, Public Acts of Michigan, 1956, as amended (the “Drain Code”), for the location, establishment and construction of the Evergreen-Farmington Sanitary Drain (the “Petitioned Project”), consisting of all improvements necessary to bring the previously established Evergreen-Farmington Sewage Disposal System into compliance with Administrative Consent Order 04995 entered by the State of Michigan Department of the Environment, Great Lakes, and Energy on August 14, 2019, and that now serve the Evergreen-Farmington Sanitary Drain located in the City of Auburn Hills, the Village of Beverly Hills, the Village of Bingham Farms, the City of Birmingham, the Charter Township of Bloomfield, the City of Bloomfield Hills, the City of Farmington, the City of Farmington Hills, the Village of Franklin, the City of Keego Harbor, the City of Lathrup Village, the City of Orchard Lake Village, the City of Southfield, the City of Troy and the Charter Township of West Bloomfield in the County of Oakland, Michigan; and

WHEREAS, the Drainage Board, on November 17, 2020 approved the Final Order of Determination for the Petitioned Project, and on June 22, 2021 approved a Final Order of

Apportionment of the cost of the Petitioned Project to be borne by the several public corporations,
as follows:

City of Auburn Hills	0.46%
Village of Beverly Hills	5.75%
Village of Bingham Farms	0.69%
City of Birmingham	0.11%
Charter Township of Bloomfield	9.54%
City of Bloomfield Hills	1.44%
City of Farmington	0.34%
City of Farmington Hills	28.29%
Village of Franklin	0.21%
City of Keego Harbor	0.32%
City of Lathrup Village	3.06%
City of Orchard Lake Village	0.37%
City of Southfield	38.17%
City of Troy	3.15%
Charter Township of West Bloomfield	8.10%
	<u>100.00%</u>

; and

WHEREAS, on January 20, 2023, the Drainage Board issued its Evergreen-Farmington Sanitary Drain Bonds, Series 2023 in the principal amount of \$121,070,000 (the “2023 Bonds”) for the purpose of financing part of the Petitioned Project; and

WHEREAS, the 2023 Bonds were sold to the Michigan Finance Authority (the “Authority”) in order to receive a subsidized interest rate through participation in the State Water Pollution Control Revolving Fund Program (the “SRF Program”); and

WHEREAS, the Drainage Board has determined that it is necessary and desirable to proceed with additional portions of the Petitioned Project (said additional portions referred to herein as the “Phase II Project”) and to finance the Phase II Project as provided herein; and

WHEREAS, the Chairperson of this Drainage Board (the “Chairperson”) presented an estimate of the aggregate cost of the Phase II Project in the amount of \$14,000,000; and

WHEREAS, the Evergreen-Farmington Sanitary Drain Drainage District (the “Drainage District”) proposes to sell bonds in one or more series to defray the cost of all or part of the Phase II Project; and

WHEREAS, the Chairperson has prepared in accordance with the provisions of Chapter 20 of the Drain Code and presented to the Drainage Board a special assessment roll, designated herein as Special Assessment Roll No. 2-A for the Evergreen-Farmington Sanitary Drain, assessing \$14,000,000 of the cost of the Phase II Project against the foregoing public corporations in accordance with the Final Order of Apportionment, and may prepare a subsequent special assessment roll assessing any remaining cost of the Phase II Project against the foregoing public corporations in accordance with the Final Order of Apportionment once actual costs of the Phase II Project are determined, if such actual costs change from those presented herein, in accordance with and subject to the parameters provided by this resolution; and

WHEREAS, one or more series of said bonds may be sold in a negotiated sale to the Authority in order to enable the Authority to provide assistance with respect to the Phase II Project from the SRF Program.

BE IT RESOLVED BY THE DRAINAGE BOARD FOR THE EVERGREEN-FARMINGTON SANITARY DRAIN, as follows:

1. APPROVAL OF SPECIAL ASSESSMENT ROLL. Special Assessment Roll No. 2-A for the Evergreen-Farmington Sanitary Drain (“Roll No. 2-A”), upon which special assessment roll are spread assessments against the City of Auburn Hills, the Village of Beverly Hills, the Village of Bingham Farms, the City of Birmingham, the Charter Township of Bloomfield, the City of Bloomfield Hills, the City of Farmington, the City of Farmington Hills, the Village of Franklin, the City of Keego Harbor, the City of Lathrup Village, the City of Orchard Lake Village, the City of Southfield, the City of Troy and the Charter Township of West Bloomfield (the “Communities”), aggregating the principal sum of \$14,000,000, is approved and ordered filed with the Chairperson. The aggregate amount assessed and the amount assessed against each public corporation shall be adjusted as provided in Section 3, and an additional roll designated Special Assessment Roll No. 2-B for the Evergreen-Farmington Sanitary Drain (“Roll No. 2-B”; and Roll No. 2-A and Roll No. 2-B each referred to herein as a “Roll” and collectively as the “Rolls”) may be prepared, if necessary, at the time the Phase II Project or any portion of the

Phase II Project financed with a series of bonds sold to the Authority through the SRF Program is completed and administratively closed out by the Authority and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”); provided, however, that any additional roll prepared pursuant to this subsection shall spread assessments against all of the Communities as provided herein.

2. (a) at the time bonds are sold, in accordance with this resolution and as provided in one or more orders of the Chairperson of the Drainage Board, each order corresponding to a series of bonds issued pursuant to this resolution (any such orders referred to collectively herein as the “Supplemental Order”) and (b) in connection with bonds sold to the Authority through the SRF Program, at the time the Phase II Project or any portion of the Phase II Project financed with a series of bonds sold to the Authority through the SRF Program is completed and administratively closed out by the Authority and the Michigan Department of Environment, Great Lakes, and Energy (“EGLE”); provided, however, that any additional roll prepared pursuant to this subsection, subject to any prepayments as provided in Section 2, shall spread assessments against all of the Communities as provided herein.

3. SUPPLEMENTAL ORDERS. The amounts assessed against each public corporation pursuant to Roll No. 2-A and, if applicable, Roll No. 2-B, that are not prepaid shall be divided into annual installments by the Chairperson on behalf of the Drainage Board at the time the bonds issued pursuant to this resolution are sold in an order (such order referred to herein as the “Supplemental Order”) and the aggregate annual installments shall be in amounts not exceeding the annual principal maturities of the bonds by the Drainage District. Any Supplemental Order prepared pursuant to this resolution shall spread assessments against all of the Communities as provided herein.

4. STATEMENT OF APPROVAL OF SPECIAL ASSESSMENT ROLL. The Chairperson shall execute the statement affixed to each Roll setting forth the date of such approval.

5. INSTALLMENTS AND INTEREST. The annual installments of the assessments against the public corporations, as shall be set forth in the Supplemental Order of the Chairperson,

unless prepaid prior thereto as provided herein, shall become due each year on the date indicated in the Supplemental Order, and the amounts of the assessments from time to time unpaid shall bear interest, from the date set forth in the Supplemental Order until paid, which is sufficient to pay the interest on the bonds to be issued by the Drainage District which interest shall be payable annually as set forth in the Supplemental Order. Prepayments of assessments against public corporations corresponding to Roll No. 2-A, as they may be adjusted pursuant to a Supplemental Order corresponding to Roll No. 2-B, if applicable, shall be prepaid on or before July 21, 2025.

6. PREPAYMENT OF INSTALLMENTS. Any of the public corporations that have not prepaid its assessment in full on or before July 21, 2025, as provided in Paragraph 5 herein, may pay in advance of maturity all or any part of an annual installment only at such time, in such manner and in such amount as would allow the Drainage District to redeem a like amount of Bonds together with the interest thereon paid by the public corporation to the date of redemption.

7. CERTIFICATION TO ASSESSED PUBLIC CORPORATIONS. The Chairperson of the Drainage Board, within 10 days of the date hereof, shall certify to each public corporation assessed the amount of the total assessment against it and within 10 days of the date of a Supplemental Order shall certify to each public corporation the amount of the adjusted assessment, if any, the amounts of the various installments, the due date of each installment and the interest upon the assessment from time to time unpaid. Also, each year as provided by law, the Chairperson shall notify each public corporation assessed of the amount of the installment and interest next becoming due.

8. DETERMINATION OF NECESSITY. The Phase II Project is necessary for the public health and in order to defray the cost thereof it is necessary to issue bonds as hereinafter provided.

9. AUTHORIZATION OF BONDS – PURPOSE. Bonds of the Drainage District aggregating the principal sum of not to exceed Fourteen Million Dollars (\$14,000,000) (the “Bonds”), as determined by the Chairperson at the time of sale, shall be issued and sold in one or

more series pursuant to the provisions of the Drain Code and other applicable statutory provisions, for the purpose of defraying the cost of acquiring and constructing all or part of the Phase II Project.

10. BOND DETAILS. The Bonds shall be designated “Evergreen-Farmington Sanitary Drain Bonds, Series 2025;” with such other designations, including, without limitation, designations for multiple series, as determined by the Chairperson; *provided that*, if any series of the Bonds are not issued in calendar year 2025, the Chairperson may re-designate such series of Bonds to reflect the year in which such series of Bonds are issued; shall be dated as of such date as shall be approved by the Chairperson at the time of sale; shall be numbered from 1 upwards; and shall be fully registered. The Bonds shall be sold to the Authority through the SRF Program and each series of Bonds shall be in the form of a single bond in the denomination of the aggregate principal amount of such series of Bonds, with an exhibit attached thereto which identifies the annual maturities for such series of Bonds, and the references herein to a series of “SRF Bonds” shall mean that single bond registered in the name of the Authority; shall bear interest at a rate expected to be 2.50% per annum, and in any event not to exceed 2.75% per annum, pursuant to the terms of the SRF Program and as approved by the Chairperson at the time of sale, from the date of delivery of the various principal installments as hereinafter described, payable on such dates as shall be determined by the Chairperson at the time of sale, and shall mature on such dates and in such years as shall be determined by the Chairperson at the time of sale. Any series of SRF Bonds is expected to be delivered to the Authority as the initial purchaser thereof in installments equal to the amounts advanced from time to time by the Authority to the Drainage District pursuant to the Purchase Contract and the Supplemental Agreement (each as hereinafter defined) corresponding to that series of SRF Bonds.

11. PAYMENT OF PRINCIPAL AND INTEREST. The principal of and interest on the Bonds shall be payable in lawful money of the United States. So long as SRF Bonds are registered in the name of the Authority, the SRF Bonds shall be payable as to principal, redemption premium, if any, and interest at such bank or trust company or other place as shall be designated in writing to the Drainage District by the Authority (the “Authority’s Depository”). So long as the

Authority is the owner of SRF Bonds, the Drainage District agrees that it will deposit with the Authority's Depository payments of the principal of, premium, if any, and interest on the SRF Bonds in immediately available funds at least five business days prior to the date on which any such payment is due, whether by maturity, redemption or otherwise. If SRF Bonds are not registered in the name of the Authority, the principal of and premium, if any, on the SRF Bonds shall be payable upon surrender thereof at the office of the bond registrar and paying agent and the interest shall be payable by check, draft, electronic transfer or other means determined by the bond registrar and paying agent to the registered owner of the SRF Bonds at the address appearing on the registration books of the Drainage District kept by the bond registrar and paying agent as of the 15th day of the month preceding the month in which an interest payment is due.

12. PRIOR REDEMPTION. The Bonds shall be subject to redemption prior to maturity upon the terms and conditions set forth in the forms of bonds contained in Section 16 hereof.

13. BOND REGISTRAR AND PAYING AGENT. The Chairperson shall designate, and may enter into an agreement with, a bond registrar and paying agent for the Bonds which shall be an officer of the Drainage District or a bank or trust company located in the State of Michigan which is qualified to act in such capacity under the laws of the United States of America or the State of Michigan. The Chairperson from time to time as required may designate a similarly qualified successor bond registrar and paying agent.

14. EXECUTION, AUTHENTICATION AND DELIVERY OF BONDS. The Bonds shall be executed in the name of the Drainage District by the manual or facsimile signatures of the Chairperson and at least one other member of the Drainage Board and authenticated by the manual signature of an authorized representative of the bond registrar and paying agent. After the Bonds have been executed and authenticated for delivery to the original purchaser thereof, they shall be delivered by the Chairperson to the purchaser upon receipt of the purchase price. Additional Bonds bearing the facsimile signatures of the Chairperson and at least one other member of the Drainage

Board may be delivered to the bond registrar and paying agent for authentication and delivery in connection with the exchange or transfer of Bonds. The bond registrar and paying agent shall indicate on each Bond the date of its authentication.

15. EXCHANGE AND TRANSFER OF BONDS. Any Bond, upon surrender thereof to the bond registrar and paying agent with a written instrument of transfer satisfactory to the bond registrar and paying agent duly executed by the registered owner or his duly authorized attorney, at the option of the registered owner thereof, may be exchanged for Bonds of any other authorized denominations of the same aggregate principal amount and maturity date and bearing the same rate of interest as the surrendered Bond.

Each Bond shall be transferable only upon the books of the Drainage District, which shall be kept for that purpose by the bond registrar and paying agent, upon surrender of such Bond together with a written instrument of transfer satisfactory to the bond registrar and paying agent duly executed by the registered owner or his duly authorized attorney.

Upon the exchange or transfer of any Bond, the bond registrar and paying agent on behalf of the Drainage District shall cancel the surrendered Bond and shall authenticate and deliver to the transferee a new Bond or Bonds of any authorized denomination of the same aggregate principal amount and maturity date and bearing the same rate of interest as the surrendered Bond. If, at the time the bond registrar and paying agent authenticates and delivers a new Bond pursuant to this section, payment of interest on the Bonds is in default, the bond registrar and paying agent shall endorse upon the new Bond the following: "Payment of interest on this bond is in default. The last date to which interest has been paid is _____, ____."

The Drainage District and the bond registrar and paying agent may deem and treat the person in whose name any Bond shall be registered upon the books of the Drainage District as the absolute owner of such Bond, whether such Bond shall be overdue or not, for the purpose of receiving payment of the principal of and interest on such Bond and for all other purposes, and all payments made to any such registered owner, or upon his order, in accordance with the provisions of this resolution shall be valid and effectual to satisfy and discharge the liability upon such Bond

to the extent of the sum or sums so paid, and neither the Drainage District nor the bond registrar and paying agent shall be affected by any notice to the contrary. The Drainage District agrees to indemnify and save the bond registrar and paying agent harmless from and against any and all loss, cost, charge, expense, judgment or liability incurred by it, acting in good faith and without negligence hereunder, in so treating such registered owner.

For every exchange or transfer of Bonds, the Drainage District or the bond registrar and paying agent may make a charge sufficient to reimburse it for any tax, fee or other governmental charge required to be paid with respect to such exchange or transfer, which sum or sums shall be paid by the person requesting such exchange or transfer as a condition precedent to the exercise of the privilege of making such exchange or transfer.

16. FORM OF BONDS. The Bonds shall be in substantially the following form, with such adjustments as may be necessary to sell the Bonds through the SRF Program, as shall be determined by the Chairperson at the time of sale of the Bonds:

FORM OF BOND

**UNITED STATES OF AMERICA
STATE OF MICHIGAN
COUNTY OF OAKLAND
EVERGREEN-FARMINGTON SANITARY DRAIN DRAINAGE DISTRICT
EVERGREEN-FARMINGTON SANITARY DRAIN BOND, SERIES 2025[]**

INTEREST RATE

MATURITY DATE

DATE OF ORIGINAL ISSUE

Registered Owner: Michigan Finance Authority

Principal Amount:

The Evergreen-Farmington Sanitary Drain Drainage District (the “Drainage District”), County of Oakland, State of Michigan, acknowledges itself indebted to and for value received hereby promises to pay to the Registered Owner identified above, or registered assigns, the Principal Amount set forth above or so much thereof as shall have been advanced to the Drainage District pursuant to a Purchase Contract between the Drainage District and the Michigan Finance Authority (the “Authority”) and a Supplemental Agreement by and among the Drainage District, the Authority and the State of Michigan acting through the Department of Environment, Great Lakes, and Energy on the maturity dates and in the amounts set forth on Exhibit A attached hereto unless redeemed prior thereto as hereinafter provided, the final payment being made upon presentation and surrender of this bond at _____, in _____, Michigan, the bond registrar and paying agent, or at such successor bond registrar and paying agent as may be designated pursuant to the Resolution identified below; and to pay to the Registered Owner, as shown on the registration books at the close of business on the 15th day of the calendar month preceding the month in which an interest payment is due, by check, draft, electronic transfer or other means determined by the bond registrar and paying agent, interest at the rate per annum specified above on such Principal Amount, to the extent advanced to the Drainage District pursuant to the Purchase Contract and the Supplemental Agreement until the Drainage District’s obligation with respect to the payment of such Principal Amount is discharged. Interest is payable on the first days of _____ and _____ in each year, commencing on _____ 1, 20___. Principal and interest are payable in lawful money of the United States of America.

In the event of a default in the payment of principal or interest hereon when due, whether at maturity, by redemption or otherwise, the amount of such default shall bear interest (the “additional interest”) at a rate equal to the rate of interest that is two percent above the Authority’s cost of providing funds (as determined by the Authority) to make payment on the bonds of the Authority issued to provide funds to purchase this bond but in no event in excess of the maximum

rate of interest permitted by law. The additional interest shall continue to accrue until the Authority has been fully reimbursed for all costs incurred by the Authority (as determined by the Authority) as a consequence of the Drainage District's default. Such additional interest shall be payable on the interest payment date following demand of the Authority. In the event that (for reasons other than the default in the payment of any municipal obligation purchased by the Authority) the investment of amounts in the reserve account established by the Authority for the bonds of the Authority issued to provide funds to purchase this bond fails to provide sufficient available funds (together with any other funds that may be made available for such purpose) to pay the interest on outstanding bonds of the Authority issued to fund such account, the Drainage District shall and hereby agrees to pay on demand only the Drainage District's pro rata share (as determined by the Authority) of such deficiency as additional interest on this bond.

During the time funds are being drawn down by the Drainage District under this bond, the Authority will periodically provide the Drainage District a statement showing the amount of principal that has been advanced and the date of each advance, which statement shall constitute prima facie evidence of the reported information; provided that no failure on the part of the Authority to provide such a statement or to reflect a disbursement or the correct amount of a disbursement shall relieve the Drainage District of its obligation to repay the outstanding principal amount actually advanced, all accrued interest thereon, and any other amount payable with respect thereto in accordance with the terms of this bond.

This bond is one of a series of bonds aggregating the principal sum of _____ Dollars (\$ _____) issued by the Drainage District under and pursuant to and in full conformity with the Constitution and Statutes of Michigan (especially Act 40, Public Acts of 1956, as amended) and a bond authorizing resolution adopted by the Drainage Board for the Drainage District (the "Resolution") for the purpose of defraying part of the cost of locating, establishing and constructing improvements to the Evergreen-Farmington Sanitary Drain. The bonds of this series are issued in anticipation of the collection of an equal amount of installments of a special assessment assessed against the City of Auburn Hills, the Village of Beverly Hills, the Village of Bingham Farms, the City of Birmingham, the Charter Township of Bloomfield, the City of Bloomfield Hills, the City of Farmington, the City of Farmington Hills, the Village of Franklin, the City of Keego Harbor, the City of Lathrup Village, the City of Orchard Lake Village, the City of Southfield, the City of Troy and the Charter Township of West Bloomfield on a special assessment roll for the Evergreen-Farmington Sanitary Drain, which assessments are the general obligations of said public corporations, and a Supplemental Order of the Chairperson. The full faith and credit of the Drainage District have been pledged for the prompt payment of the principal of and interest on this bond as the same become due and, in addition, the full faith and credit of the County of Oakland have been pledged therefor. Taxes imposed by said public corporations and the County of Oakland are subject to constitutional tax rate limitations.

This bond is transferable, as provided in the Resolution, only upon the books of the Drainage District kept for that purpose by the bond registrar and paying agent, upon the surrender of this bond together with a written instrument of transfer satisfactory to the bond registrar and paying agent duly executed by the Registered Owner or his attorney duly authorized in writing. Upon the exchange or transfer of this bond a new bond or bonds of any authorized denomination, in the same aggregate principal amount and of the same interest rate and maturity, shall be

authenticated and delivered to the transferee in exchange therefor as provided in the Resolution, and upon payment of the charges, if any, therein provided. Bonds so authenticated and delivered shall be in the denomination of \$5,000 or any integral multiple thereof not exceeding the aggregate principal amount for each maturity.

The bond registrar and paying agent shall not be required to transfer or exchange bonds or portions of bonds that have been selected for redemption.

This bond is subject to redemption prior to maturity at the option of the Drainage District and with the prior written consent of the Authority and on such terms as may be required by the Authority, in such order as shall be determined by the Drainage District, on any one or more interest payment dates. This bond may be partially redeemed in the amount of \$5,000 or any integral multiple thereof. If less than the entire principal amount of the bond maturing in any year is to be redeemed, the portion of the bond to be redeemed shall be selected by lot. The redemption price shall be the par value of the bond or portion of the bond called to be redeemed plus interest to the date fixed for redemption.

Not less than thirty days' notice of redemption shall be given to the holder of the bond called to be redeemed by mail to the registered holder at the registered address. That portion of the bond called for redemption shall not bear interest after the date fixed for redemption, provided funds are on hand with the bond registrar and paying agent to redeem the same.

Notwithstanding any other provision of this bond, so long as the Authority is the owner of this bond, (a) this bond is payable as to principal, premium, if any, and interest at U.S. Bank Trust Company, National Association, or at such other place as shall be designated in writing to the Drainage District by the Authority (the "Authority's Depository"); (b) the Drainage District agrees that it will deposit with the Authority's Depository payments of the principal of, premium, if any, and interest on this bond in immediately available funds by 12:00 noon at least five business days prior to the date on which any such payment is due whether by maturity, redemption or otherwise; in the event that the Authority's Depository has not received the Drainage District's deposit by 12:00 noon on the scheduled day, the Drainage District shall immediately pay to the Authority as invoiced by the Authority an amount to recover the Authority's administrative costs and lost investment earnings attributable to that late payment; and (c) written notice of any redemption of this bond shall be given by the Drainage District and received by the Authority's Depository at least 40 days prior to the date on which such redemption is to be made.

It is hereby certified, recited and declared that all acts, conditions and things required to exist, happen and be performed precedent to and in the issuance of the bonds of this series, existed, have happened and have been performed in due time, form and manner as required by law, and that the total indebtedness of said Drainage District, including the series of bonds of which this bond is one, does not exceed any constitutional or statutory limitation.

IN WITNESS WHEREOF, the Evergreen-Farmington Sanitary Drain Drainage District, County of Oakland, State of Michigan, by its Drainage Board, has caused this bond to be executed in its name by the manual or facsimile signatures of the Chairperson and Secretary of the Drainage Board. This bond shall not be valid unless the Certificate of Authentication has been manually executed by an authorized representative of the bond registrar and paying agent.

EVERGREEN-FARMINGTON SANITARY
DRAIN DRAINAGE DISTRICT

Chairperson of the Drainage Board

Secretary of the Drainage Board

CERTIFICATE OF AUTHENTICATION

This bond is one of the bonds described in the within mentioned Resolution.

Bond Registrar and Paying Agent

By: _____
Authorized Representative

AUTHENTICATION DATE:

ASSIGNMENT

For value received, the undersigned hereby sells, assigns and transfers unto _____
(please print or type name, address and taxpayer identification number of transferee) the within
bond and all rights thereunder and hereby irrevocably constitutes and appoints

attorney to transfer the within bond on the books kept for registration thereof, with full power of
substitution in the premises.

Dated: _____

Signature Guaranteed: _____

Signature(s) must be guaranteed by an eligible guarantor institution participating in a
Securities Transfer Association recognized signature guarantee program.

EXHIBIT A

Based on the schedule provided below unless revised as provided in this paragraph, repayment of principal of this bond shall be made until the full amount advanced to the Drainage District is repaid. In the event the Order of Approval issued by the Department of Environment, Great Lakes, and Energy (the "Order") approves a principal amount of assistance less than the amount of this bond delivered to the Authority, the Authority shall only disburse principal up to the amount stated in the Order. In the event (1) that the payment schedule approved by the Drainage District and described below provides for payment of a total principal amount greater than the amount of assistance approved by the Order, (2) that less than the principal amount of assistance approved by the Order is disbursed to the Drainage District by the Authority or (3) that any portion of the principal amount of assistance approved by the Order and disbursed to the Drainage District is prepaid or forgiven, the Authority shall prepare a new payment schedule which shall be effective upon receipt by the Drainage District.

MATURITY DATE

[] 1

PRINCIPAL AMOUNT

END OF BOND FORM

17. SECURITY. The Bonds shall be issued in anticipation of, and are payable primarily from, the collection of the several installments of special assessments against the public corporations assessed on the applicable Roll and any Supplemental Order of the Chairperson. The full faith and credit of the Drainage District are pledged for the payment of the principal of and interest on the Bonds as the same become due, and, in addition, the full faith and credit of the County of Oakland have been pledged therefor by a two-thirds vote of the members elect of the Board of Commissioners of the County of Oakland.

18. DEFEASANCE. In the event cash or direct obligations of the United States or obligations the principal of and interest on which are guaranteed by the United States, or a combination thereof, the principal of and interest on which, without reinvestment, come due at times and in amounts sufficient to pay, at maturity or irrevocable call for earlier optional redemption, the principal of, premium if any, and interest on the Bonds or any portion of the Bonds, shall have been deposited in trust, this resolution shall be defeased with respect to such Bonds and the owners of the Bonds shall have no further rights under this resolution except to receive payment of the principal of, premium if any, and interest on the Bonds from the cash or securities deposited in trust and the interest and gains thereon and to transfer and exchange Bonds as provided herein.

19. ESTIMATES OF PERIOD OF USEFULNESS AND COST. The estimated period of usefulness of the Phase II Project is determined to be twenty (20) years and upwards. The estimated cost of the Phase II Project (\$14,000,000), as submitted to this Drainage Board and attached as Exhibit A, is approved and adopted.

20. PRINCIPAL AND INTEREST FUND. There shall be established for the Bonds a Principal and Interest Fund that shall be kept in a separate bank account. From the proceeds of the sale of the Bonds there shall be set aside in the Principal and Interest Fund any premium and accrued interest received from the purchaser of the Bonds at the time of delivery of the same. An amount equal to the interest due on the Bonds which may be capitalized, if any, shall also be placed in the Principal and Interest Fund and shall be used solely to pay the principal of and interest on

the Bonds authorized herein. The Chairperson is authorized to determine what amounts of interest shall be capitalized. All collections of installments of the assessments against the public corporations assessed (including principal and interest) on a Roll (and not prepaid) and the Supplemental Order of the Chairperson shall be placed in the Principal and Interest Fund and shall be used solely to pay the principal of and interest on the Bonds authorized herein.

21. CONSTRUCTION FUND. The remainder of the proceeds of the sale of the Bonds, together with the special assessments that have been prepaid as provided in Paragraphs 4 and 5, shall be set aside in a construction fund and used to pay the expenses of the issuance of the Bonds and the costs of acquiring and constructing the Phase II Project, including any engineering, legal and other expenses incidental thereto. Any unexpended balance of the proceeds of the sale of the Bonds remaining after completion of the construction of the Phase II Project shall be used as provided in Section 497 of the Drain Code.

22. APPROVAL OF MICHIGAN DEPARTMENT OF TREASURY. The issuance and sale of the Bonds are subject to permission being granted therefor by the Department of Treasury of the State of Michigan under Act 34, Public Acts of 2001, as amended, and the Chairperson is hereby authorized and directed, if necessary, to make application to the Department of Treasury for permission to issue and sell the Bonds as provided by the terms of this resolution.

23. SALE, ISSUANCE, DELIVERY, TRANSFER AND EXCHANGE OF BONDS. The Bonds shall be sold at a private, negotiated sale to the Authority, and the Drainage Board hereby determines that such negotiated sale is in the best interests of the Drainage District and is the most cost effective and efficient way to sell the Bonds. The sale of any series of SRF Bonds shall be made pursuant to the terms and conditions to be set forth in a Purchase Contract (the "Purchase Contract") and a Supplemental Agreement (the "Supplemental Agreement") and the Chairperson is authorized to determine the principal amount of such series of SRF Bonds to be sold and to execute and deliver the Purchase Contract and the Supplemental Agreement in such forms as shall be approved by the Chairperson by order executed at the time of sale. In addition, the Chairperson and any member of the Drainage Board are each authorized to execute and deliver

to the Authority such certificates or documents as the Authority or bond counsel shall require and to do all other things necessary to effectuate the sale, issuance, delivery, transfer and exchange of such SRF Bonds in accordance with the provisions of this resolution.

Approval by the Drainage District of the matters delegated in this Section 22 or any other sections may be evidenced by execution of an Order by the Chairperson or the execution or approval of such documents by the Chairperson. The Chairperson, together with the Oakland County Treasurer (the Treasurer for the Drainage District), or any one of them, are authorized to execute any documents or certificates necessary to complete the transaction, including, but not limited to, any certificates, receipts, orders, agreements, instruments, security reports, a blanket letter of representations, and any certificates relating to federal or state securities laws, rules or regulations.

24. REPLACEMENT OF BONDS. Upon receipt by the Chairperson of the Drainage Board of proof of ownership of an unmatured Bond, of satisfactory evidence that the Bond has been lost, apparently destroyed or wrongfully taken and of security or indemnity that complies with applicable law and is satisfactory to the Chairperson, the Chairperson may authorize the bond registrar and paying agent to deliver a new executed Bond to replace the Bond lost, apparently destroyed or wrongfully taken in compliance with applicable law. In the event an outstanding matured Bond is lost, apparently destroyed or wrongfully taken, the Chairperson may authorize the bond registrar and paying agent to pay the Bond without presentation upon the receipt of the same documentation required for the delivery of a replacement Bond. The bond registrar and paying agent, for each new Bond delivered or paid without presentation as provided above, shall require the payment of expenses, including counsel fees, which may be incurred by the bond registrar and paying agent and the Drainage District in the premises. Any Bond delivered pursuant to the provisions of this Section 24 in lieu of any bond lost, apparently destroyed or wrongfully taken shall be of the same form and tenor and be secured in the same manner as the Bond in substitution for which such Bond was delivered.

25. TAX COVENANT. The Drainage District covenants to comply with all requirements of the Internal Revenue Code of 1986, as amended, necessary to assure that the interest on the Bonds will be and will remain excludable from gross income for federal income tax purposes. The Chairperson is authorized to do all things necessary to assure that the interest on the Bonds will be and will remain excludable from gross income for federal income tax purposes.

26. REDUCTION IN PRINCIPAL AMOUNT OF BOND ISSUE. If the Chairperson shall determine that it is not necessary to sell any series of the Bonds in the amount of \$14,000,000 because of prepayments of special assessments, a reduction on the computation of costs, or otherwise, the Chairperson may by order reduce the principal amount of such series of Bonds to be sold to the amount deemed necessary so long as the proceeds of the sale of the Bonds will be sufficient to pay all of the costs of the portion of the Phase II Project intended to be financed by such series of Bonds. In the event the principal amount of any series of Bonds is reduced pursuant to this section, the Chairperson shall reduce the amount of such series of Bonds maturing in any one or more years as necessary and may enter an Order amending the annual installments of the special assessments due on the corresponding Roll.

27. AMENDMENT TO ROLL. Any Roll may be prepared in part based on estimates of the costs of the Phase II Project. In addition to other supplements, amendments or revisions authorized by this resolution, upon receipt of the final costs of the Phase II Project, the Chairperson is authorized to amend any Roll to reduce the amount of the assessments and the annual installments of the special assessments due on such Roll based on the final costs of the Phase II Project; provided, however, the amount of such special assessments and annual installments shall not be less than the amount of principal outstanding on any Bonds corresponding to such Roll and issued pursuant to this resolution.

28. AMENDMENTS AND SUPPLEMENTAL RESOLUTIONS. The Drainage Board may from time to time adopt such amendments to this resolution as are necessary for the

issuance of the Bonds. In addition, the Drainage Board may adopt such supplemental resolutions as are necessary for the issuance of any series of Bonds authorized pursuant to this resolution.

29. CONFLICTING RESOLUTIONS. All resolutions and parts of resolutions insofar as they may be in conflict herewith are hereby rescinded.

YEAS:

NAYS:

RESOLUTION DECLARED ADOPTED.

EXHIBIT A

ESTIMATE OF COST
EVERGREEN-FARMINGTON SANITARY DRAIN BONDS

Legal/Financial Services	\$ 23,900.00
Bond Counsel Fee	\$ 45,500.00
<u>Engineering, Construction, Administrative and Other Costs</u>	<u>\$13,138,147.17</u>
<u>Subtotal Prior Contingency</u>	<u>\$13,207,547.17</u>
<u>Plus Contingency 6% (Rounded)</u>	<u>\$ 792,452.83</u>
Total Phase II Project Cost	\$14,000,000.00
Size of Bond Issue	\$14,000,000.00

STATE OF MICHIGAN)
)ss
COUNTY OF OAKLAND)

I hereby certify that the foregoing is a true and complete copy of a resolution adopted at a meeting of the Drainage Board for the Evergreen-Farmington Sanitary Drain, Oakland County, Michigan, held on April 22, 2025, the original of which resolution is on file in the office of the Oakland County Water Resources Commissioner and is available to the public.

I further certify that notice of the meeting was given in accordance with the Open Meetings Act.

Chairperson of the Drainage Board

**SPECIAL ASSESSMENT ROLL NO. 2-A
FOR THE
EVERGREEN-FARMINGTON SANITARY DRAIN
(An Intra-County Drain Project in the County of Oakland, Michigan)**

Project: To construct improvements to the Evergreen-Farmington Sanitary Drain – Phase II
Total Estimated Cost: \$14,000,000
Total Amount to be Assessed: \$14,000,000

Public Corporations	Percentage of Apportionment	Total Assessment	Amount of Prepaid Assessments Payment Due 21-July-2025	Amount of Assessment to be Paid in Installments	Percentage of Bond Issue
City of Auburn Hills	0.46%	\$ 64,400	\$-0-	\$ 64,400	0.46%
Village of Beverly Hills	5.75%	805,000	\$-0-	805,000	5.75%
Village of Bingham Farms	0.69%	96,600	\$-0-	96,600	0.69%
City of Birmingham	0.11%	15,400	\$-0-	15,400	0.11%
Charter Township of Bloomfield	9.54%	1,335,600	\$-0-	1,335,600	9.54%
City of Bloomfield Hills	1.44%	201,600	\$-0-	201,600	1.44%
City of Farmington	0.34%	47,600	\$-0-	47,600	0.34%
City of Farmington Hills	28.29%	3,960,600	\$-0-	3,960,600	28.29%
Village of Franklin	0.21%	29,400	\$-0-	29,400	0.21%
City of Keego Harbor	0.32%	44,800	\$-0-	44,800	0.32%
City of Lathrup Village	3.06%	428,400	\$-0-	428,400	3.06%
City of Orchard Lake Village	0.37%	51,800	\$-0-	51,800	0.37%
City of Southfield	38.17%	5,343,800	\$-0-	5,343,800	38.17%
City of Troy	3.15%	441,000	\$-0-	441,000	3.15%
Charter Township of West Bloomfield	8.10%	1,134,000	\$-0-	1,134,000	8.10%
Total	100.00%	\$14,000,000	\$-0-	\$14,000,000	100.00%

The amounts assessed against the City of Auburn Hills, the Village of Beverly Hills, the Village of Bingham Farms, the City of Birmingham, the Charter Township of Bloomfield, the City of Bloomfield Hills, the City of Farmington, the City of Farmington Hills, the Village of Franklin, the City of Keego Harbor, the City of Lathrup Village, the City of Orchard Lake Village, the City of Southfield, the City of Troy and the Charter Township of West Bloomfield which are not prepaid shall be payable in installments as follows:

See attached.

Interest on unpaid installments to begin on August 28, 2025, and installments shall be payable October 1, 2028, and annually thereafter at a rate that will provide amounts sufficient to pay the interest when due on all series of the Evergreen-Farmington Sanitary Drain Drainage District's Drain Bonds, Series 2025 to be issued by the Drainage District.

The foregoing special assessment roll was approved by the Drainage Board for the Evergreen-Farmington Sanitary Drain on April 22, 2025.

Chairperson, Drainage Board

I hereby certify that the foregoing special assessment roll was prepared in accordance with the directions of the Drainage Board for the Evergreen-Farmington Sanitary Drain and the statutory provisions applicable thereto.

Chairperson, Drainage Board

EVERGREEN-FARMINGTON SANITARY DRAIN
EVERGREEN-FARMINGTON SANITARY DRAIN DRAINAGE DISTRICT
DRAIN BONDS, SERIES 2025

SEE ATTACHED SCHEDULE

EVERGREEN-FARMINGTON SANITARY DRAIN

Installment Payments for Special Assessment Roll No. 2-A

[Attached]

Evergreen-Farmington Sanitary Drain Drainage District
County of Oakland, State of Michigan
CWSRF 5872-01
Installment Payments for Special Assessment Roll No. 2-A - Original Bond Amount

Public Corporations	Total Installments	City of Auburn Hills	Village of Beverly Hills	Village of Bingham Farms	City of Birmingham	Charter Township of Bloomfield	City of Bloomfield Hills	City of Farmington	City of Farmington Hills	Village of Franklin	City of Keego Harbor	City of Lathrup Village	City of Orchard Lake Village	City of Southfield¹	City of Troy	Charter Township of West Bloomfield
Apportionment	100%	0.46%	5.75%	0.69%	0.11%	9.54%	1.44%	0.34%	28.29%	0.21%	0.32%	3.06%	0.37%	38.17%	3.15%	8.10%
Installments Due																
10/01/2028	\$ 545,000	\$ 2,507	\$ 31,332	\$ 3,755	\$ 594	\$ 51,993	\$ 7,848	\$ 1,853	\$ 154,175	\$ 1,139	\$ 1,744	\$ 16,677	\$ 2,011	\$ 208,065	\$ 17,162	\$ 44,145
10/01/2029	560,000	2,576	32,200	3,864	616	53,424	8,064	1,904	158,424	1,176	1,792	17,136	2,072	213,752	17,640	45,360
10/01/2030	575,000	2,645	33,063	3,968	633	54,855	8,280	1,955	162,668	1,208	1,840	17,595	2,128	219,474	18,113	46,575
10/01/2031	590,000	2,714	33,925	4,071	649	56,286	8,496	2,006	166,911	1,239	1,888	18,054	2,183	225,203	18,585	47,790
10/01/2032	605,000	2,783	34,788	4,175	666	57,717	8,712	2,057	171,155	1,271	1,936	18,513	2,239	230,925	19,058	49,005
10/01/2033	620,000	2,852	35,650	4,278	682	59,148	8,928	2,108	175,398	1,302	1,984	18,972	2,294	236,654	19,530	50,220
10/01/2034	635,000	2,921	36,513	4,382	699	60,579	9,144	2,159	179,642	1,334	2,032	19,431	2,350	242,376	20,003	51,435
10/01/2035	650,000	2,990	37,375	4,485	715	62,010	9,360	2,210	183,885	1,365	2,080	19,890	2,405	248,105	20,475	52,650
10/01/2036	665,000	3,059	38,238	4,589	732	63,441	9,576	2,261	188,129	1,397	2,128	20,349	2,461	253,827	20,948	53,865
10/01/2037	685,000	3,151	39,388	4,727	754	65,349	9,864	2,329	193,787	1,439	2,192	20,961	2,535	261,461	21,578	55,485
10/01/2038	700,000	3,220	40,250	4,830	770	66,780	10,080	2,380	198,030	1,470	2,240	21,420	2,590	267,190	22,050	56,700
10/01/2039	720,000	3,312	41,400	4,968	792	68,688	10,368	2,448	203,688	1,512	2,304	22,032	2,664	274,824	22,680	58,320
10/01/2040	740,000	3,404	42,550	5,106	814	70,596	10,656	2,516	209,346	1,554	2,368	22,644	2,738	282,458	23,310	59,940
10/01/2041	755,000	3,473	43,413	5,210	831	72,027	10,872	2,567	213,590	1,586	2,416	23,103	2,794	288,180	23,783	61,155
10/01/2042	775,000	3,565	44,563	5,348	853	73,935	11,160	2,635	219,248	1,628	2,480	23,715	2,868	295,814	24,413	62,775
10/01/2043	795,000	3,657	45,713	5,486	875	75,843	11,448	2,703	224,906	1,670	2,544	24,327	2,942	303,448	25,043	64,395
10/01/2044	815,000	3,749	46,863	5,624	897	77,751	11,736	2,771	230,564	1,712	2,608	24,939	3,016	311,082	25,673	66,015
10/01/2045	835,000	3,841	48,013	5,762	919	79,659	12,024	2,839	236,222	1,754	2,672	25,551	3,090	318,716	26,303	67,635
10/01/2046	855,000	3,933	49,163	5,900	941	81,567	12,312	2,907	241,880	1,796	2,736	26,163	3,164	326,350	26,933	69,255
10/01/2047	880,000	4,048	50,600	6,072	968	83,952	12,672	2,992	248,952	1,848	2,816	26,928	3,256	335,896	27,720	71,280
	\$ 14,000,000	\$ 64,400	\$ 805,000	\$ 96,600	\$ 15,400	\$ 1,335,600	\$ 201,600	\$ 47,600	\$ 3,960,600	\$ 29,400	\$ 44,800	\$ 428,400	\$ 51,800	\$ 5,343,800	\$ 441,000	\$ 1,134,000

1. City of Southfield is the balance customer for rounding.

EVERGREEN-FARMINGTON SANITARY DRAIN

CAPITAL IMPROVEMENT PLAN

2026-2030

Capital and Major Maintenance Report

April 14, 2025



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Overview

This document presents the proposed five-year Capital Improvement Plan (CIP) for fiscal years 2026-2030 (October 1, 2025, through September 30, 2030) for the Evergreen-Farmington Sanitary Drain (EFSD). The CIP includes anticipated capital and major maintenance work for the period and provides recommendations for the revenue requirements of the major maintenance and capital rate components and system reserves. This forecast of the system's recommended investment is intended to establish long-term budget needs to support future rate stability. The goal is to utilize revenue-based financing where possible, however, forecasts include necessary bond financing. State Revolving Fund loan opportunities and possible state and federal grant options will be pursued to maintain the desired levels of service. The State administered Corrective Action Plan impacts the capital investment and schedule for the various projects included in this plan.

Asset Condition

The condition of the assets in this system is determined by either physical inspection or estimated by useful life where an inspection has not been performed. Strategies related to the future inspection, rehabilitation and replacement are based on the asset's expected performance. These produce intervention recommendations which are reviewed by engineers and field supervisors who select the appropriate action. In this way, capital investment and major maintenance activities address the highest risk assets and maintain the lowest lifecycle cost. The activities may include additional inspection, rehabilitation, repair or replacement.

One of the primary factors used in the system investment strategy is condition of the assets. The overall condition (measured as current Probability of Failure) for all assets in the system is summarized by Replacement Cost in Figure 1, with over 71% of the system categorized in good condition and approximately 13% categorized in poor condition.

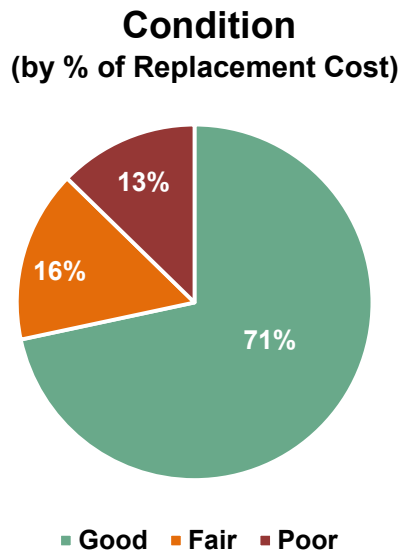


Figure 1: Overall System Condition, by Replacement Cost



To address the rehabilitation, repair, or replacement of the assets categorized in poor condition, a five-year plan has been developed for both capital improvement and major maintenance activities. In some cases, where inspection information is lacking, a re-inspection of the asset is indicated. Details of the investment needed to address these assets are presented in the “Recommendations” section of this report. Condition and risk maps of the gravity main and manhole assets can be found in Appendix A.

Work history is tracked at the asset level. Table 1 provides a summary of the previous year’s inspection, maintenance and corrective action activities. The goal of optimized maintenance is for an 80/20 balance between Predictive/Preventive work and Corrective work. Figure 2 shows a desirable trend for this system.

Table 1: FY2024 Work Order Summary

Evergreen-Farmington Sanitary Drain			
Work Order Type	Work Order Quantity	Work Distribution	Goal
Predictive Maintenance*	1,563	69.7%	80%
Preventive Maintenance	568	25.3%	
Corrective Maintenance	112	5.0%	20%

**Collection system inspections are included in Predictive Maintenance*

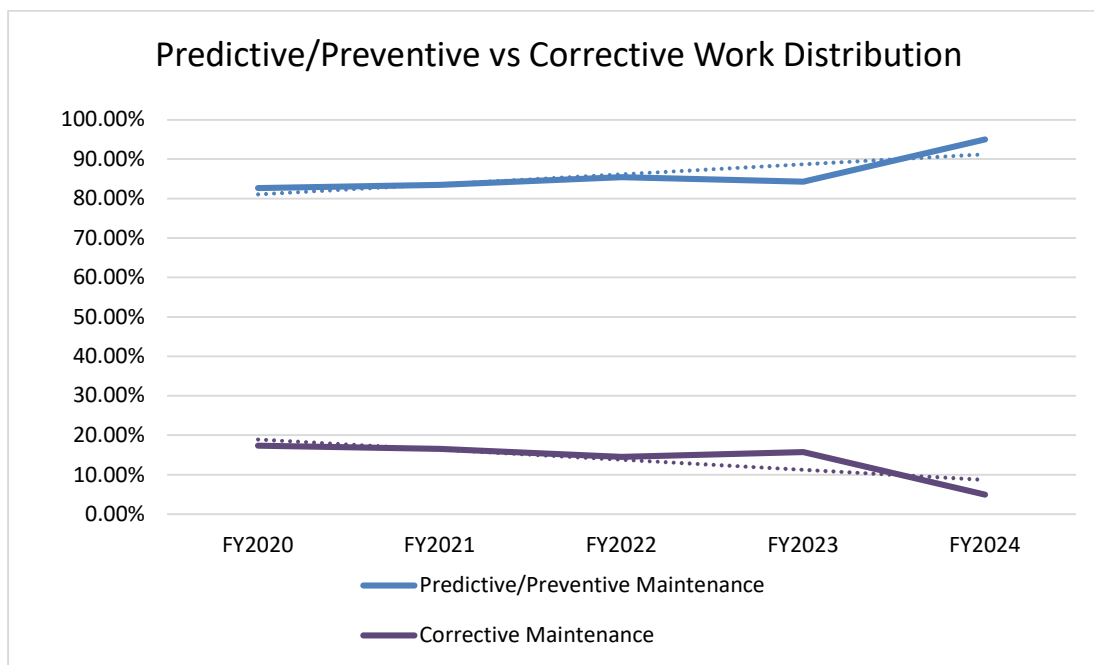


Figure 2: Work Distribution



Level of Service

Level of Service (LOS) is asset management terminology that refers to the quality of service provided to meet customer expectations. It defines the way in which a utility owner wants its system to perform over the long term and is a fundamental part of how the utility is operated and the planned investment is determined. In other words, level of service refers to the operation and investment in the system to provide customers and users the desired quality of service. There is a direct link between the LOS provided and the cost to the customer.

In determining the LOS for the Evergreen-Farmington Sanitary Drain system, a risk-based approach is used. Inspections are based on strategies that consider age, condition and other factors to recommend an efficient and cost-effective cycle. This risk-based approach to condition assessment is applied to horizontal assets (pipe and manholes) and vertical assets (equipment within a facility such as pumps, electrical equipment, structures and buildings), and is performed on a frequency determined by asset type.

The frequency and type of capital and major maintenance activities are also based on a desired LOS. This involves performing asset rehabilitations and replacements to maintain acceptable risk and optimal lifecycle costs. Acceptable risk can vary by system based upon the resources available to operate and maintain a particular utility. Delaying capital and/or major maintenance activities increases the risk of service interruptions and reduces the quality of service to customers.

The financial health of a system is also a measurable component of LOS. Each system develops a long range plan (LRP) and an accompanying rate structure to ensure adequate revenues are collected for budgeted and anticipated future needs. The LRP includes multiple reserve accounts used to fund activities including an Emergency Repair Reserve, Capital Improvement Reserve, Major Maintenance Reserve and Operating Reserve.

Asset Inventory

A Geographic Information System (GIS) geodatabase is the primary means to inventory and map the assets in the system. The geodatabase captures key attributes associated with each asset, such as installation date (age), size and material. There are over 7,730 assets in the Evergreen-Farmington Sanitary Drain valued at or with a replacement value of over \$1.42 billion as of 2025. A more detailed asset inventory can be found in Appendix B.

Assets include:

- 828,799 feet of sanitary gravity main
- 10,430 feet of sanitary gravity linear storage
- 52,548 feet of sanitary non-gravity main
- 3,309 sanitary manholes
- 13 sanitary sewage lift stations
- 117 sewer flow meters; 61 for billing, 6 for control, 50 for system information
- 669 vertical assets



High Risk Assets

Not all assets are equally important to a utility's operation. Some assets are highly critical to maintaining operations while others could be out of service for a period of time without a negative impact due to redundancy or efficiencies. Critical assets are assets that provide extremely important functions, especially those for which there is no available redundancy or substitution. The consequences of failure of critical assets are serious, having potential to significantly impact customer services. We have analyzed the system and determined which assets are critical.

The overall criticality is an asset prioritization measure and is determined by the consequence of failure. The Consequence of Failure estimates the impact of an assets failure and considers not only the financial impacts but also public safety, service interruption, regulatory requirements and impacts to the public. Generally, the Consequence of Failure does not change throughout the life of an asset. For example, static attributes such as depth and proximity to surface waters and large roadways will affect Consequence of Failure.

The Risk of failure for a critical asset is determined by the Probability of Failure multiplied by the Consequence of Failure. The Probability of Failure is determined by measures such as asset age, condition, failure history, maintenance records, etc. Probability of Failure typically increases as an asset ages or continues to operate. Risk is used to prioritize repairs, replacements and asset inspections. For a more detailed explanation of asset risk, see Appendix C.

At this time, there are 192 assets falling into the high risk category in the EFSD system and are therefore prioritized for attention in the 2025-2030 window. These assets are listed in Appendix D. The plan to address these assets is part of planned improvements presented below in the Capital Improvement and Major Maintenance Expense Budget tables. To summarize the action plan for these assets:

- 36 are in planned projects
- 156 to be inspected in the 2025-2030 window



Major Maintenance Expense Budget

Major maintenance work occurs to support an asset in a variety of ways, allowing it to reach its intended useful life. For horizontal assets this includes pipe cleaning, televised inspection, pipe spot repair, joint grouting, and other activities. For vertical assets this includes rehabilitation or rebuilding of equipment. This table describes current and recommended work through FY2030. A summarized list of Projects can be found in Appendix E. A comparison of Budgeted and Actual Costs can be found in Appendix F.

Table 2: Major Maintenance Expense Budget

Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
EFSD Evaluate Sewage Flow Meters	Reserve	149664	\$70,000	\$0	\$0	\$0	\$0	\$70,000	\$70,000
EFSD CCTV Program	Reserve	149127	\$900,000	\$500,000	\$500,000	\$500,000	\$900,000	\$900,000	\$3,300,000
EFSD Manhole Inspection Program	Reserve	149128	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
EFSD Manhole Lining	Reserve	149121	\$0	\$1,000,000	\$0	\$1,000,000	\$0	\$0	\$2,000,000
EFSD Manhole Repair Program	Reserve	149131	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0
EFSD Pipe Grouting	Reserve	149124	\$200,000	\$200,000	\$400,000	\$100,000	\$400,000	\$400,000	\$1,500,000
EFSD PowerPlan Support Cost	Reserve	149669	\$292,806	\$265,875	\$273,852	\$282,068	\$290,530	\$299,246	\$1,411,571
EFSD RTB Unplanned Major Maintenance	Reserve	149662	\$20,000	\$20,000	\$20,000	\$50,000	\$50,000	\$50,000	\$190,000
EFSD Spot Repair	Reserve	149126	\$500,000	\$20,000	\$500,000	\$20,000	\$500,000	\$500,000	\$1,540,000
EFSD 2023 Regional Sampling	Reserve	PRJ-17438	\$50,000	\$50,000	\$50,000	\$50,000	\$25,000	\$50,000	\$225,000
EFSD Quarton Lake Lining Assessment	Reserve	PRJ-17432	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0
EFSD Hydraulic Modeling & Response Plan (HMRP)	Reserve	149662	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0
EFSD Meter-Based Billing Update	Reserve	149662	\$44,617	\$0	\$0	\$0	\$0	\$0	\$0
Various Sites Site/Facility Improvements	Reserve	149662	\$10,000	\$0	\$0	\$0	\$0	\$0	\$0
Amy PS Site/Facility Improvements	Reserve	149662	\$0	\$12,000	\$50,000	\$0	\$5,000	\$0	\$67,000
Amy PS Replace Force Main ARV Valves & ARV Structure	Reserve	PRJ-17433	\$80,000	\$80,000	\$0	\$0	\$0	\$0	\$80,000



Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
Chestnut Hill Flow Regulator Site/Facility Improvements	Reserve	149662	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Eldon PS Site/Facility Improvements	Reserve	149662	\$0	\$0	\$0	\$15,000	\$5,000	\$0	\$20,000
Middlebelt Storage Tunnel Operational Enhancements	Reserve	PRJ-17542	\$107,000	\$75,000	\$0	\$0	\$0	\$0	\$75,000
Morris Lake PS Site/Facility Improvements	Reserve	149662	\$0	\$10,000	\$10,000	\$5,000	\$0	\$0	\$25,000
Quarton Dewatering Chamber Site/Facility Improvements	Reserve	149662	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Quarton Inlet Diversion Chamber Site/Facility Improvements	Reserve	149662	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Quarton Rd PS Site/Facility Improvements	Reserve	149662	\$0	\$0	\$0	\$15,000	\$0	\$0	\$15,000
Quarton Sites Operational Enhancements	Reserve	PRJ-17543	\$83,468	\$0	\$0	\$0	\$0	\$0	\$0
Walnut Lk 1 PS Site/Facility Improvements	Reserve	149662	\$0	\$194,000	\$35,000	\$135,000	\$22,000	\$0	\$386,000
Walnut Lk 3 PS Site/Facility Improvements	Reserve	149662	\$0	\$0	\$0	\$0	\$0	\$30,000	\$30,000
Rate Funded			\$2,837,890	\$2,506,875	\$1,918,852	\$2,267,068	\$2,277,530	\$2,379,246	\$11,349,571
Bond/Grant Funded			\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total			\$2,837,890	\$2,506,875	\$1,918,852	\$2,267,068	\$2,277,530	\$2,379,246	\$11,349,571



Capital Improvement Expense Budget

Capital activities either add new assets, replace an existing asset or modify an existing asset in such a way as to extend its useful life beyond the original expectation. For horizontal assets, useful life can be extended by lining and other structural rehabilitations. For vertical assets, useful life is also extended by rehabilitation, rebuilding or modification of equipment. This table describes current and recommended work through FY2030. A summarized list of Projects can be found in Appendix E. A comparison of Budgeted and Actual Costs can be found in Appendix F.

Table 3: Capital Improvement Expense Budget

Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
EFSD Sewage Meter Replacements	Reserve	149664	\$51,930	\$160,000	\$200,000	\$50,000	\$50,000	\$50,000	\$510,000
EFSD RTB Unplanned Capital Improvement	Reserve	149667	\$0	\$0	\$50,000	\$75,000	\$100,000	\$100,000	\$325,000
EFSD Pipe Lining/Replacement	Reserve	149125	\$0	\$0	\$0	\$500,000	\$4,000,000	\$1,000,000	\$5,500,000
EFSD CAP - 8 Mile Conveyance (ACO) - Reimburse @ Bonding	Bond/Grant	PRJ-17452	\$30,000,000	\$15,000,000	\$8,749,700	\$0	\$0	\$0	\$23,749,700
EFSD CAP - Lathrup Village SRT Improvements	Bond/Grant	PRJ-17450	\$700,000	\$0	\$0	\$0	\$0	\$0	\$0
EFSD CAP - Walnut 1 CAP - Design (ACO) (AKA Evergreen Road Conveyance)	Bond/Grant	PRJ-17449	\$1,500,000	\$8,000,000	\$2,338,189	\$0	\$0	\$0	\$10,338,189
EFSD Collection System Improvements	Reserve	149125	\$1,250,000	\$2,000,000	\$3,500,000	\$0	\$0	\$0	\$5,500,000
EFSD Asset Mgmt Software Implementation	Reserve	149669	\$99,350	\$0	\$0	\$0	\$0	\$0	\$0
EFSD Southfield Rouge Arm Lining - Area 7	Reserve	PRJ-17455	\$7,000,000	\$2,500,000	\$0	\$0	\$0	\$0	\$2,500,000
8 Mile PS Capital Improvements	Bond/Grant	PRJ-17460	\$980,531	\$0	\$0	\$0	\$0	\$0	\$0
12 Mile & I-696 PS Can to Submersible Station Upgrade	Reserve	PRJ-17459	\$1,960,000	\$0	\$0	\$0	\$0	\$0	\$0
Adams Road LM Site/Facility Improvements	Reserve	149667	\$0	\$0	\$5,000	\$0	\$0	\$0	\$5,000
Amy PS Site/Facility Improvements	Reserve	149667	\$100,000	\$0	\$120,000	\$5,000	\$0	\$45,000	\$170,000
Biddestone PS Can to Submersible Station Upgrade	Reserve	PRJ-17555	\$1,150,000	\$1,250,000	\$0	\$0	\$0	\$0	\$1,250,000
Burnley (Wattles) Regulator Site/Facility Improvements	Reserve	149667	\$0	\$0	\$5,000	\$0	\$0	\$0	\$5,000
Chestnut Hill (Wattles) Regulator Site/Facility Improvements	Reserve	149667	\$0	\$0	\$0	\$6,000	\$0	\$0	\$6,000



Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
Drake PS Rehabilitation - Design & Construction	Reserve	PRJ-17579	\$180,000	\$1,530,000	\$2,100,000	\$0	\$0	\$0	\$3,630,000
Eldon PS Site/Facility Improvements	Reserve	149667	\$0	\$0	\$0	\$0	\$5,000	\$0	\$5,000
Inkster PS Can to Submersible Station Upgrade	Reserve	PRJ-17554	\$1,159,000	\$1,250,000	\$0	\$0	\$0	\$0	\$1,250,000
Lakeside LM Site/Facility Improvements	Reserve	149667	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Lathrup LM Site/Facility Improvements	Reserve	149667	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Middlebelt Storage Tunnel Site/Facility Improvements	Reserve	149667	\$0	\$0	\$0	\$73,000	\$0	\$0	\$73,000
Middlebelt, N of 14 Mile LM Site/Facility Improvements	Reserve	149667	\$0	\$36,000	\$0	\$5,000	\$0	\$0	\$41,000
Morris Lake PS Site/Facility Improvements	Reserve	149667	\$0	\$15,000	\$135,000	\$80,000	\$0	\$5,000	\$235,000
Morris Lake PS Replace Check/Plug Valves	Reserve	PRJ-17445	\$32,000	\$0	\$0	\$0	\$0	\$0	\$0
Quarton Dewatering Chamber Site/Facility Improvements	Reserve	149667	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Quarton Inlet Diversion Chamber Site/Facility Improvements	Reserve	149667	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Quarton Rd PS Site/Facility Improvements	Reserve	149667	\$0	\$0	\$45,000	\$10,000	\$0	\$0	\$55,000
Springdale LM Site/Facility Improvements	Reserve	149667	\$0	\$0	\$5,000	\$0	\$0	\$0	\$5,000
Thornbrook PS Rehabilitation - Design & Construction	Reserve	PRJ-17580	\$180,000	\$35,000	\$1,500,000	\$2,285,000	\$0	\$0	\$3,820,000
Walnut Lk 1 PS Site/Facility Improvements	Reserve	149667	\$180,000	\$250,000	\$285,000	\$95,000	\$20,000	\$0	\$650,000
Walnut Lk 2 PS Can to Submersible Station Upgrade	Reserve	PRJ-17458	\$2,150,000	\$500,000	\$0	\$0	\$0	\$0	\$500,000
Walnut Lk 3 PS Can to Submersible Station Upgrade	Reserve	PRJ-17456	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0
Rate Funded			\$15,592,280	\$9,526,000	\$7,950,000	\$3,204,000	\$4,175,000	\$1,200,000	\$26,055,000
Bond/Grant Funded			\$33,180,531	\$23,000,000	\$11,087,889	\$0	\$0	\$0	\$34,087,889
Total			\$48,772,811	\$32,526,000	\$19,037,889	\$3,204,000	\$4,175,000	\$1,200,000	\$60,142,889



Recommendations

Major Maintenance

The recommendation is for the system to increase major maintenance funding over the next few years to allow for rehabilitation and ongoing inspection of the horizontal and vertical assets in the system. For FY2026, the recommendation is to invest \$2.5 million in Major Maintenance work. Output from the asset management software indicates that over the next 20 years investment could be as high as \$54.0 million to maintain the desired level of service. This equates to an annual average major maintenance investment of \$2.7 million. At this time there is a backlog of horizontal assets requiring re-inspection, which is anticipated to be addressed over the next five years.

Capital Improvements

The latest condition assessment indicates the system is currently in good condition. In total, the system has utilized 110% of the useful life of its assets and is estimated to have a replacement value exceeding \$1.42 billion. It is recommended that the system invest \$32.5 million on capital improvements in FY2026, with \$9.5 million funded through rates and the remainder through bonds. Over the five-year planning period, the total projected capital is \$60.0 million, of which \$26 million is proposed for rate-finance and the remainder bonded. This results in an annual average capital spend rate of \$12.0 million. Output from the asset management software indicates that over the next 20 years investment could be as high as \$202.1 million to maintain the desired level of service. This equates to an annual average capital investment of \$10.1 million.

Summary

The Stormwater, Asset Management, and Wastewater (SAW) Program was established in 2013 to help agencies develop, update, and improve asset management plans for their wastewater and stormwater systems. This program provided grants and/or matching funds to assist with this work and move towards financial sustainability.

The majority of assets in the system were inspected between 2016 and 2018 through the SAW Grant program. These inspections identified numerous assets in need of improvement. Critical issues have been addressed while less serious issues have been prioritized and are being resolved. Budgets are based on an evaluation of overall risk and address assets with an unacceptable level of risk or require intervention to ensure risk does not become unacceptable in the near term. To maintain the existing level of service within the system, forecasts indicate that an average of \$10.1 million/year is invested in capital improvements and \$2.7 million/year is invested in major maintenance items for each of the next 20 years. This is a projected annual spend of \$12.8 million.

A general rule of thumb is to budget for 1% of a system's replacement value on an annual basis. This assumes all assets to have a 100 year useful life. Since this is not the case, the 1% number will underestimate the needs of vertical assets and overestimate the needs of some horizontal assets. However, this number is useful in guiding discussion on future budget needs during the rate setting process. 1% of the replacement value of the system is currently estimated at \$14.3 million.

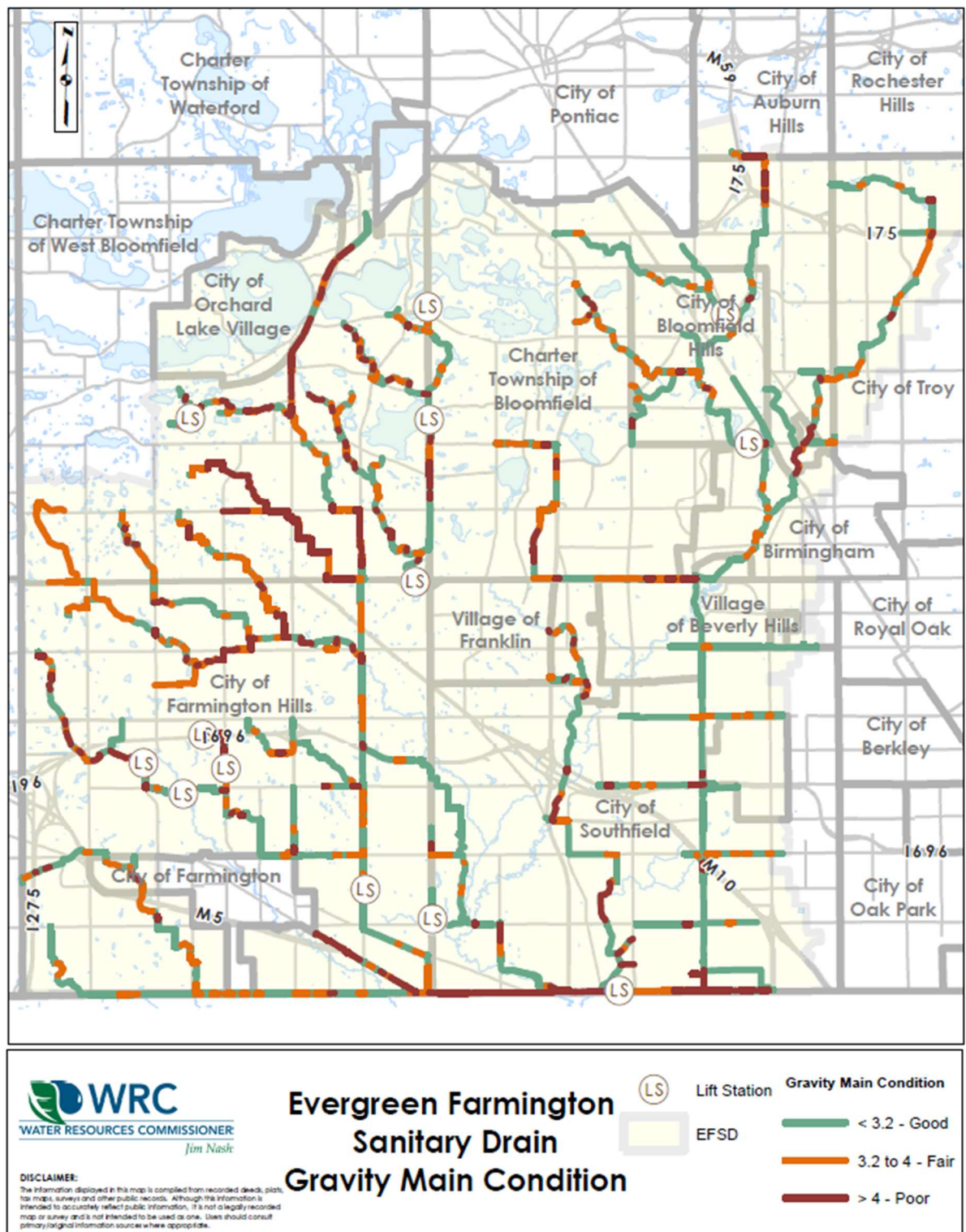
It is recommended the system approve the proposed \$2.5 million for Major Maintenance and \$9.5 million for rate-financed Capital for FY2026. The comprehensive workplan outlined for this five-year planning window, as detailed in Tables 2 and 3 above, is designed to support both ongoing projects and future initiatives, ensuring the system remains well-maintained and capable of meeting evolving needs.



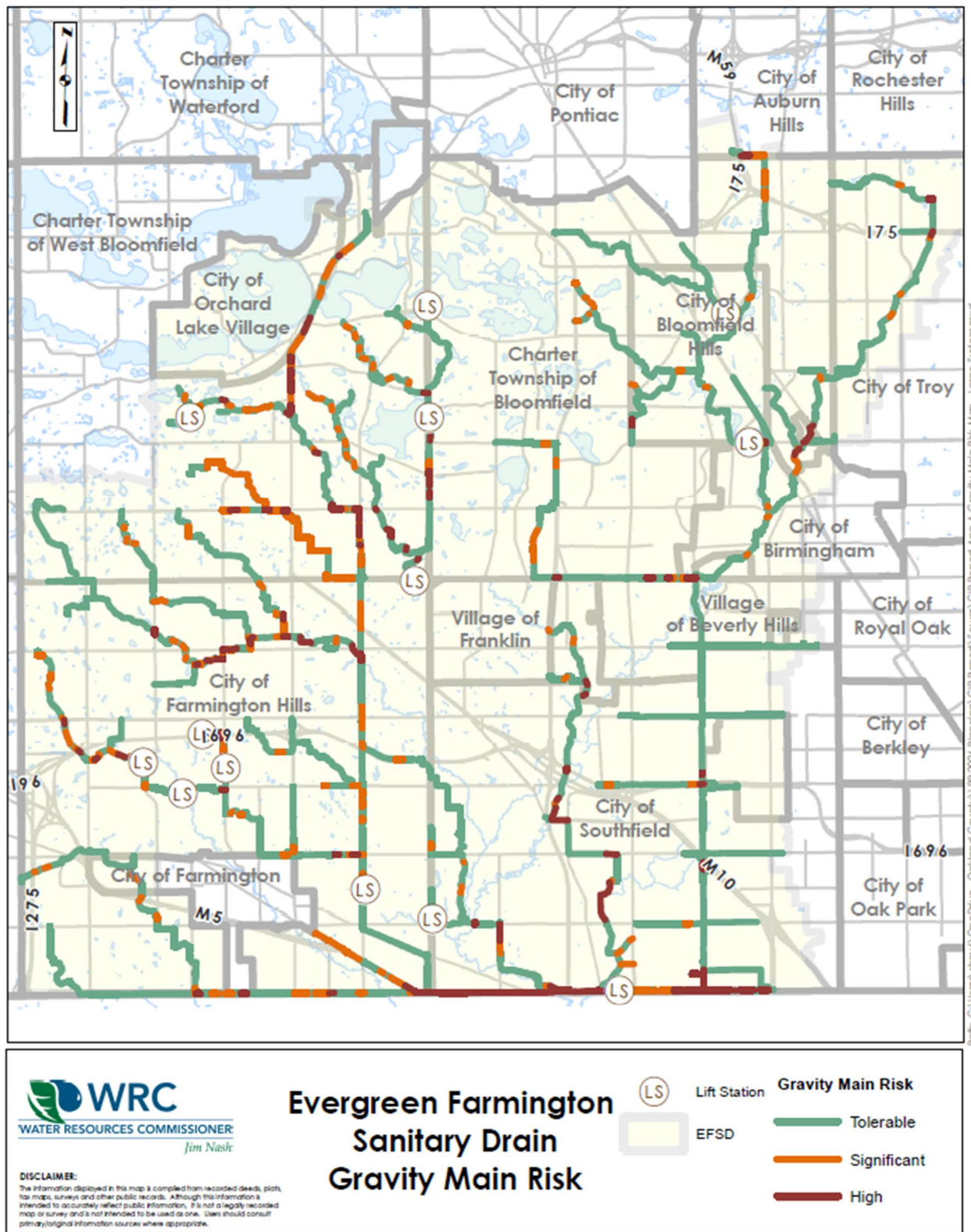
Appendix A

Gravity Main and Manhole Condition and Risk Maps

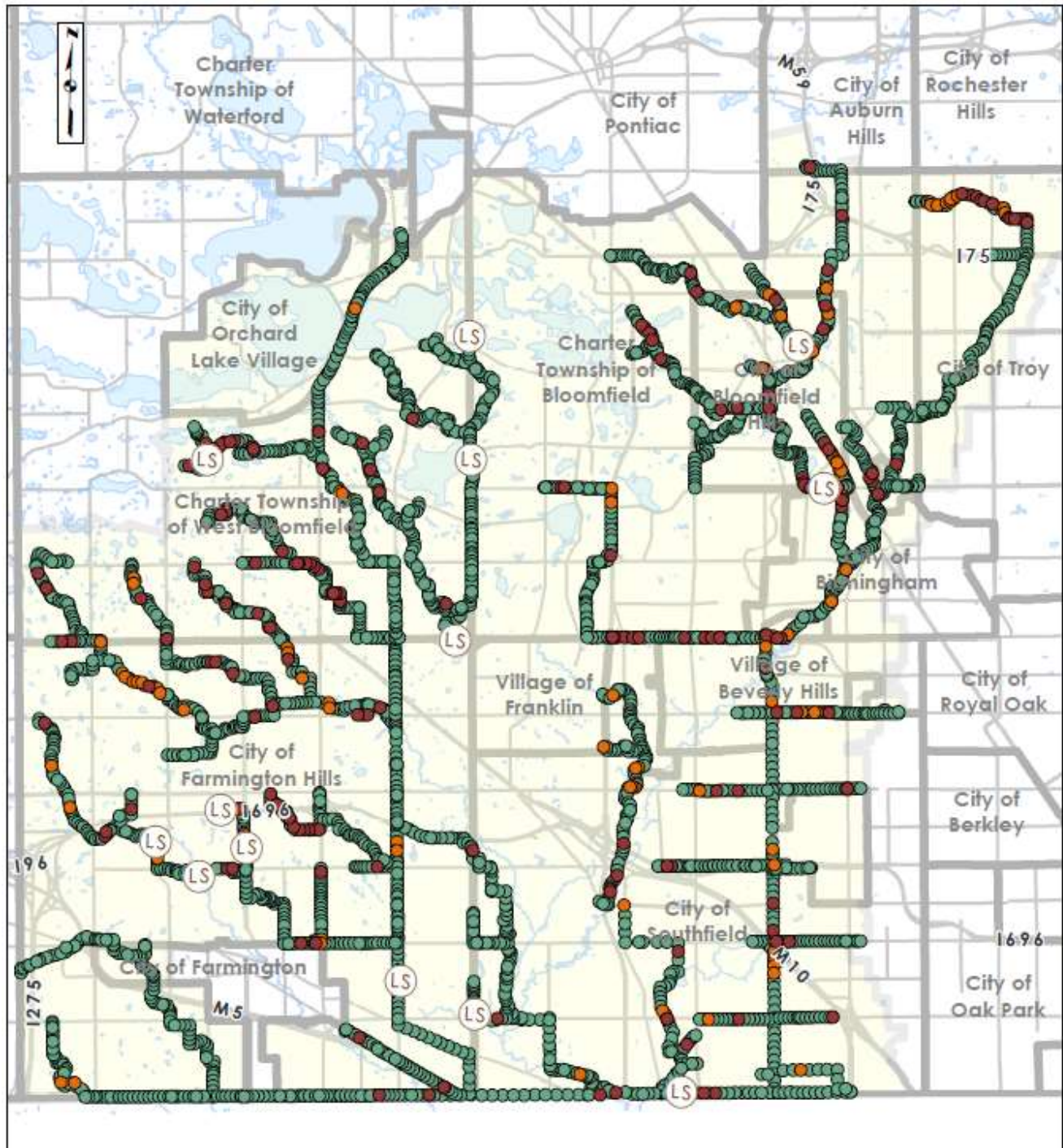
A. Gravity Main Condition Map



B. Gravity Main Risk Map



C. Manhole Condition Map



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

Evergreen Farmington Sanitary Drain Manhole Condition



Lift Station



EFSD

Manhole Condition

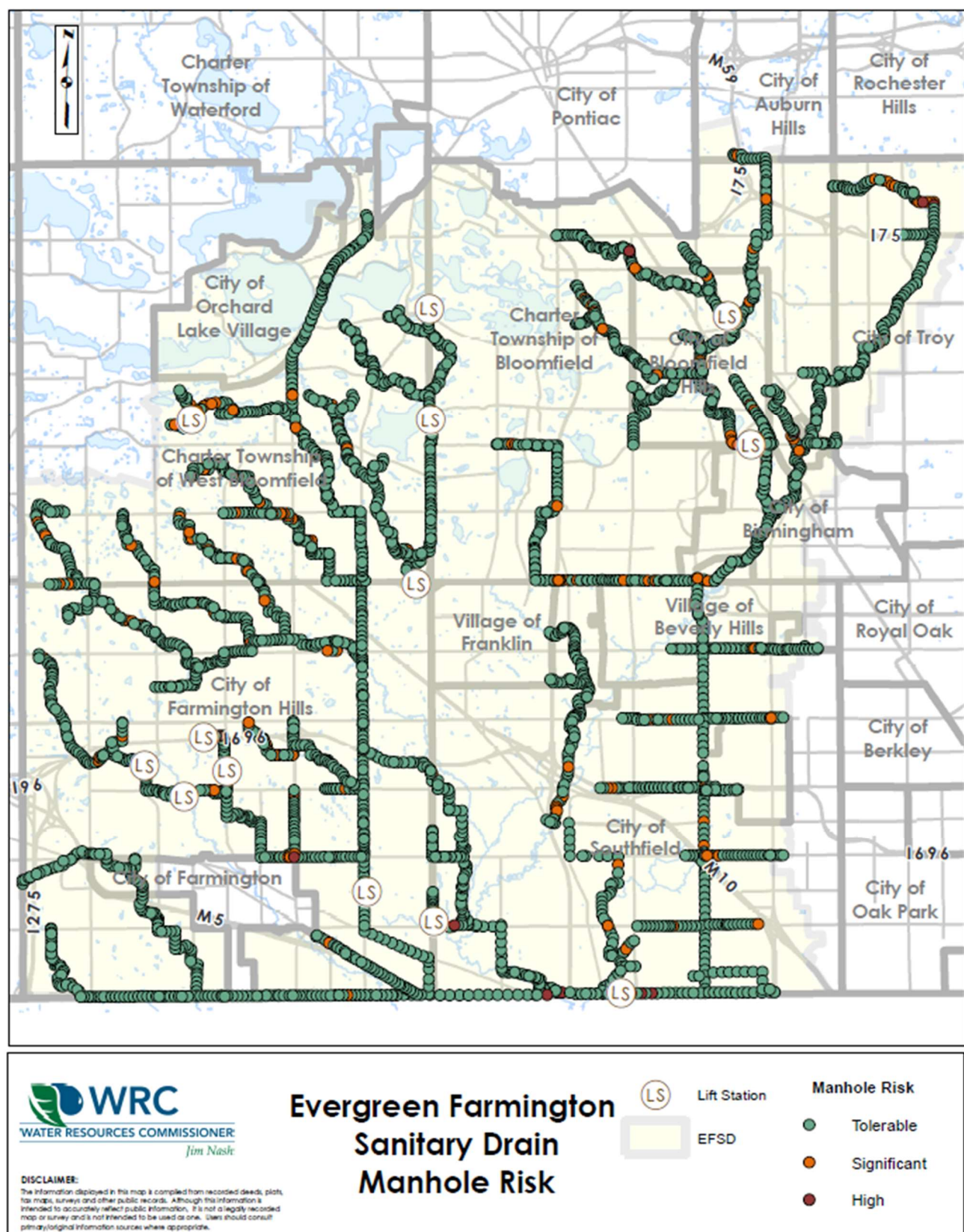
- < 3.2 - Good
- 3.2 to 4 - Fair
- > 4 - Poor

Date: 3/19/2025

A - 3



D. Manhole Risk Map



Appendix B

Detailed Asset Inventory



ASSET SUMMARY Evergreen Farmington Sanitary Drain - 82410

Structures		Sites	
Type	Count	Type	Count
Sewer Access Manhole	38	Sewage Dump Site	1
Sewer Cleanout	17	Sewage Lift Station	13
Sewer Flow Regulator - Passive	11	Sewer Flow Meter	117
Sewer Manhole	3,309	Sewer Flow Regulator - Active	10
Sewer System Valve	7	Sewer Level Monitoring Site	9

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Sanitary		
Linear Storage	10,430	18
Sewer Gravity Main	828,799	3,427
Non-Gravity - Sanitary		
Force Main	52,548	76
Totals:	891,776	3,521

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Sanitary		
Clay	23,558	101
Concrete	767,189	3,066
Corrugated Metal	625	2
Metal	2,094	24
Plastic	45,761	252
Non-Gravity - Sanitary		
Concrete	15,245	25
Metal	12,137	23
Plastic	25,078	23
Unknown	88	5

Report Date: 03/18/2025



ASSET SUMMARY

Evergreen Farmington Sanitary Drain - 82410

Vertical Assets Summary	
Type	Count
ActuatorNS	34
AntennaStructureNS	6
CommunicationEquipmentNS	33
CompressorNS	9
DriveShaftNS	21
ElectricEquipmentNS	91
ElevatorHoistNS	16
FlowMeterNS	120
GasDetectorNS	4
GeneratorNS	13
HeatingAndCoolingNS	7
InstrumentationNS	82
MotorNS	33
PipingNS	11
PlantValveNS	33
PumpNS	51
SafetySecurityNS	2
SewerOdorControlNS	2
StorageTankNS	2
StructureNS	46
VariableSpeedControlNS	21
VentilationNS	19
WetWellNS	13
Total:	669

Report Date: 03/18/2025



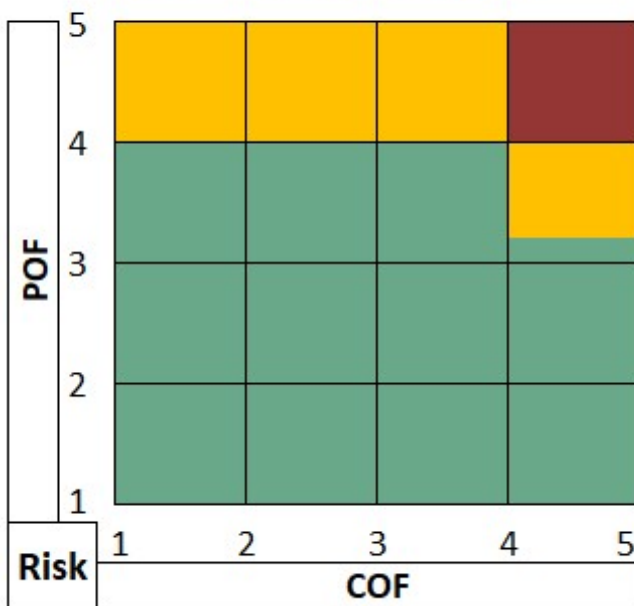
Appendix C

Risk Matrix

Risk can be assessed by identifying assets that do not meet the required Minimum Acceptable Condition (MAC), which is measured as the minimum acceptable Probability of Failure score. The MAC can be adjusted to reflect the determined Level of Service. Systems where financial hardships exist and/or there is a significant amount of previously deferred maintenance may set a higher MAC to better prioritize work within their current budgets, but also carry a higher level of risk. In this way, assets with higher criticality can be prioritized over those with lower criticality, which allows for the most cost-effective means to budget work.

The MAC varies depending on an individual asset's COF. The standard for this system is an MAC of 3.2 for assets that have a COF equal to or greater than 4.0 and an MAC of 4.0 for assets with a COF less than 4.0. The following graphic shows the relationship between POF, COF and Risk.

$$\text{Risk} = \text{COF Total} * \text{POF Total}$$



Scale	
Type	Color
High Risk	Critical assets requiring short-term action. Consider for Current thru Year 2 Projects. Consider use of Emergency Reserve funding.
Significant Risk	Assets requiring medium-term action. Consider for Year 1 -5 Projects.
Tolerable Risk	Assets to be managed using routine procedures. Increase frequency of inspection and/or rehabilitation with rising COF or POF.



Appendix D

High Risk Assets Prioritized for Repair/Replacement or Inspection

Risk	Description	Site	Asset ID	Action/Recommendation
25.0	Sanitary - Flow Regulator	N/A	406241	EFSD 2026 Manhole Inspection Program
25.0	Sanitary - Flow Regulator	N/A	406246	EFSD 2026 Manhole Inspection Program
25.0	Sanitary - Flow Regulator	N/A	475634	EFSD 2026 Manhole Inspection Program
24.4	Sanitary Gravity Main	N/A	29393	EFSD 2025 CCTV Program
23.7	Sanitary Gravity Main	N/A	29316	EFSD 2025 CCTV Program
22.9	Sanitary Gravity Main	N/A	29317	EFSD 2025 CCTV Program
22.7	Sanitary Gravity Main	N/A	475493	EFSD 2025 CCTV Program
21.9	Sanitary Gravity Main	N/A	4771	EFSD 2025 CCTV Program
21.9	Sanitary Gravity Main	N/A	29162	EFSD CAP - 8 Mile Conveyance (ACO) - Reimburse @ Bonding
21.9	Sanitary Gravity Main	N/A	1097330	EFSD CAP - 8 Mile Conveyance (ACO) - Reimburse @ Bonding
21.9	Sanitary Gravity Main	N/A	1690498	EFSD 2025 CCTV Program
21.5	Sanitary Gravity Main	N/A	29719	EFSD 2026 Pipe Grouting
21.3	Sanitary Gravity Main	N/A	28930	EFSD 2025 CCTV Program
21.3	Sanitary Gravity Main	N/A	29687	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	28931	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	29075	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	29310	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	29691	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	31407	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	31413	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	31415	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	31416	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	31417	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	37888	EFSD 2025 CCTV Program
21.0	Sanitary Gravity Main	N/A	28929	EFSD 2025 CCTV Program
20.6	Sanitary Gravity Main	N/A	31406	EFSD 2025 CCTV Program
20.6	Sanitary Gravity Main	N/A	31414	EFSD 2025 CCTV Program
20.2	Sanitary Gravity Main	N/A	28932	EFSD 2025 CCTV Program
20.0	Sanitary Gravity Main	N/A	29246	EFSD Southfield Rouge Arm Lining - Area 7
20.0	Sanitary - Flow Regulator	N/A	24	EFSD 2026 Manhole Inspection Program
20.0	Sanitary - Flow Regulator	N/A	34	EFSD 2026 Manhole Inspection Program
20.0	Sanitary - Flow Regulator	N/A	35	EFSD 2026 Manhole Inspection Program
20.0	Sanitary - Flow Regulator	N/A	913642	EFSD 2026 Manhole Inspection Program
20.0	Sanitary Gravity Main	N/A	28928	EFSD 2025 CCTV Program
20.0	Sanitary Gravity Main	N/A	29066	EFSD 2025 CCTV Program
20.0	Sanitary Gravity Main	N/A	29165	EFSD 2025 CCTV Program
20.0	Sanitary Gravity Main	N/A	29309	EFSD 2025 CCTV Program



Risk	Description	Site	Asset ID	Action/Recommendation
19.9	Sanitary Gravity Main	N/A	29172	EFSD 2025 CCTV Program
19.9	Sanitary Gravity Main	N/A	29685	EFSD 2025 CCTV Program
19.9	Sanitary Gravity Main	N/A	23169	EFSD 2025 CCTV Program
19.7	Sanitary Gravity Main	N/A	29167	EFSD 2025 CCTV Program
19.7	Sanitary Gravity Main	N/A	29168	EFSD 2025 CCTV Program
19.7	Sanitary Gravity Main	N/A	26536	EFSD 2026 Pipe Grouting
19.7	Sanitary Gravity Main	N/A	21654	EFSD 2026 CCTV Program
19.6	Sanitary Gravity Main	N/A	7632	EFSD 2026 CCTV Program
19.6	Sanitary Gravity Main	N/A	29311	EFSD 2026 CCTV Program
19.6	Sanitary Gravity Main	N/A	29684	EFSD 2025 CCTV Program
19.6	Sanitary Gravity Main	N/A	29686	EFSD 2025 CCTV Program
19.6	Sanitary Gravity Main	N/A	31410	EFSD 2025 CCTV Program
19.5	Sanitary Gravity Main	N/A	29690	EFSD 2025 CCTV Program
19.5	Sanitary - Manholes	N/A	25159	EFSD 2026 Manhole Inspection Program
19.5	Sanitary - Manholes	N/A	25161	EFSD 2026 Manhole Inspection Program
19.4	Sanitary Gravity Main	N/A	29171	EFSD 2025 CCTV Program
19.3	Sanitary Gravity Main	N/A	951	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	29163	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	29170	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	31405	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	31408	EFSD 2026 CCTV Program
19.2	Sanitary Gravity Main	N/A	31409	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	31411	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	31412	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	218	EFSD 13 Mile Rd Arm Lining
19.2	Sanitary Gravity Main	N/A	2615	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	7295	EFSD 2025 CCTV Program
19.2	Sanitary Gravity Main	N/A	1332892	EFSD 2026 CCTV Program
19.1	Sanitary Gravity Main	N/A	26464	EFSD 2026 CCTV Program
19.1	Sanitary - Manholes	N/A	1502	EFSD 2026 Manhole Inspection Program
19.1	Sanitary Gravity Main	N/A	23162	EFSD 2026 CCTV Program
19.1	Sanitary Gravity Main	N/A	29222	EFSD 2026 CCTV Program
19.0	Sanitary Gravity Main	N/A	33133	EFSD 2026 CCTV Program
19.0	Sanitary Gravity Main	N/A	29239	EFSD 2025 CCTV Program
19.0	Sanitary Gravity Main	N/A	29240	EFSD 2025 CCTV Program
19.0	Sanitary Gravity Main	N/A	29247	EFSD Southfield Rouge Arm Lining - Area 7
19.0	Sanitary Gravity Main	N/A	29248	EFSD Southfield Rouge Arm Lining - Area 7
18.9	Sanitary Gravity Main	N/A	29644	EFSD 2026 Spot Repair
18.9	Sanitary Gravity Main	N/A	28927	EFSD 2025 CCTV Program
18.8	Sanitary - Manholes	N/A	25421	EFSD 2026 Manhole Inspection Program



Risk	Description	Site	Asset ID	Action/Recommendation
18.8	Sanitary - Manholes	N/A	25490	EFSD 2026 Manhole Inspection Program
18.8	Sanitary Gravity Main	N/A	33132	EFSD 2026 CCTV Program
18.6	Sanitary Gravity Main	N/A	4772	EFSD 2025 CCTV Program
18.6	Sanitary Gravity Main	N/A	7292	EFSD 2025 CCTV Program
18.6	Sanitary Gravity Main	N/A	270	EFSD 2026 CCTV Program
18.5	Sanitary Gravity Main	N/A	23749	EFSD Walnut Lake Arm Lining
18.5	Sanitary Gravity Main	N/A	1332890	EFSD 2026 CCTV Program
18.5	Sanitary Gravity Main	N/A	29243	EFSD Southfield Rouge Arm Lining - Area 7
18.5	Sanitary Gravity Main	N/A	954256	EFSD 2025 CCTV Program
18.3	Sanitary Gravity Main	N/A	1332889	EFSD 2026 CCTV Program
18.2	Sanitary Gravity Main	N/A	21719	EFSD 2026 CCTV Program
18.2	Sanitary Gravity Main	N/A	7330	EFSD 2025 CCTV Program
18.2	Sanitary Gravity Main	N/A	29173	EFSD 2025 CCTV Program
18.0	Sanitary Gravity Main	N/A	309	EFSD 2026 CCTV Program
18.0	Sanitary Gravity Main	N/A	1106888	EFSD 2026 CCTV Program
18.0	Sanitary Gravity Main	N/A	25769	EFSD 2026 Pipe Grouting
18.0	Sanitary Gravity Main	N/A	29428	EFSD 2026 CCTV Program
18.0	Sanitary - Manholes	N/A	1491018	EFSD 2026 Manhole Repair Program
18.0	Sanitary - Manholes	N/A	1491058	EFSD 2026 Manhole Repair Program
17.9	Sanitary Gravity Main	N/A	25960	EFSD 2027 Spot Repair
17.9	Sanitary Gravity Main	N/A	23752	EFSD 2025 Spot Repair
17.9	Sanitary Gravity Main	N/A	29619	EFSD 2025 CCTV Program
17.8	Sanitary Gravity Main	N/A	7465	EFSD 2026 CCTV Program
17.8	Sanitary Gravity Main	N/A	3411	EFSD 2025 CCTV Program
17.8	Sanitary Gravity Main	N/A	29242	EFSD Southfield Rouge Arm Lining - Area 7
17.8	Sanitary Gravity Main	N/A	29206	EFSD 2026 CCTV Program
17.8	Sanitary Gravity Main	N/A	797269	EFSD 2026 CCTV Program
17.7	Sanitary Gravity Main	N/A	6884	EFSD 2026 CCTV Program
17.6	Sanitary Gravity Main	N/A	22498	EFSD 2026 CCTV Program
17.6	Sanitary Gravity Main	N/A	29238	EFSD Southfield Rouge Arm Lining - Area 7
17.6	Sanitary Gravity Main	N/A	26532	EFSD 2027 Spot Repair
17.6	Sanitary Gravity Main	N/A	22203	EFSD 2025 CCTV Program
17.5	Sanitary Gravity Main	N/A	24616	EFSD 2026 CCTV Program
17.5	Sanitary Gravity Main	N/A	3864	EFSD 2029 CCTV Program
17.5	Sanitary Gravity Main	N/A	23148	EFSD 2026 CCTV Program
17.5	Sanitary Gravity Main	N/A	23161	EFSD 2026 CCTV Program
17.5	Sanitary Gravity Main	N/A	3451	EFSD 2025 CCTV Program
17.5	Sanitary Gravity Main	N/A	29318	EFSD 2025 CCTV Program
17.5	Sanitary Gravity Main	N/A	21718	EFSD 2026 CCTV Program
17.5	Sanitary Gravity Main	N/A	29244	EFSD Southfield Rouge Arm Lining - Area 7



Risk	Description	Site	Asset ID	Action/Recommendation
17.5	Sanitary Gravity Main	N/A	29245	EFSD Southfield Rouge Arm Lining - Area 7
17.5	Sanitary Gravity Main	N/A	29074	EFSD 2025 CCTV Program
17.5	Sanitary Gravity Main	N/A	8372	EFSD 2029 CCTV Program
17.5	Sanitary Gravity Main	N/A	24622	EFSD 2026 CCTV Program
17.4	Sanitary Gravity Main	N/A	23254	EFSD 2025 CCTV Program
17.4	Sanitary Gravity Main	N/A	2418	EFSD 2026 CCTV Program
17.4	Sanitary Gravity Main	N/A	21716	EFSD 2026 CCTV Program
17.4	Sanitary Gravity Main	N/A	23755	EFSD 2025 CCTV Program
17.4	Sanitary Gravity Main	N/A	23701	EFSD 2025 CCTV Program
17.3	Sanitary Gravity Main	N/A	24629	EFSD 2026 Pipe Grouting
17.2	Sanitary Gravity Main	N/A	25751	EFSD 2027 CCTV Program
17.1	Sanitary Gravity Main	N/A	24636	EFSD 2027 Spot Repair
17.1	Sanitary Gravity Main	N/A	22726	EFSD 2026 CCTV Program
17.1	Sanitary Gravity Main	N/A	26533	EFSD 2028 CCTV Program
17.1	Sanitary Gravity Main	N/A	2412	EFSD 2026 CCTV Program
17.0	Sanitary Gravity Main	N/A	22202	EFSD 2025 CCTV Program
17.0	Sanitary Gravity Main	N/A	29397	EFSD 2026 CCTV Program
17.0	Sanitary Gravity Main	N/A	29430	EFSD 2026 CCTV Program
16.9	Sanitary Gravity Main	N/A	2214	EFSD 2026 Pipe Grouting
16.9	Sanitary Gravity Main	N/A	21643	EFSD 2026 CCTV Program
16.9	Sanitary Gravity Main	N/A	8159	EFSD 2025 CCTV Program
16.9	Sanitary Gravity Main	N/A	19595	EFSD 2026 CCTV Program
16.8	Sanitary Gravity Main	N/A	23041	EFSD 2025 CCTV Program
16.8	Sanitary Gravity Main	N/A	2953	EFSD 2025 CCTV Program
16.8	Sanitary Gravity Main	N/A	22182	EFSD 2025 CCTV Program
16.8	Sanitary Gravity Main	N/A	21860	EFSD 2026 CCTV Program
16.8	Sanitary - Manholes	N/A	26706	EFSD 2026 Manhole Inspection Program
16.7	Sanitary Gravity Main	N/A	4375	EFSD 2025 CCTV Program
16.7	Sanitary Gravity Main	N/A	7548	EFSD 2027 Spot Repair
16.7	Sanitary Gravity Main	N/A	94	EFSD 2026 CCTV Program
16.7	Sanitary Gravity Main	N/A	24567	EFSD 2026 Pipe Grouting
16.7	Sanitary Gravity Main	N/A	29219	EFSD 2026 CCTV Program
16.7	Sanitary Gravity Main	N/A	23166	EFSD 2025 CCTV Program
16.7	Sanitary Gravity Main	N/A	21653	EFSD 2026 CCTV Program
16.6	Sanitary Gravity Main	N/A	23164	EFSD 2025 CCTV Program
16.6	Sanitary Gravity Main	N/A	8538	EFSD 2028 CCTV Program
16.6	Sanitary Gravity Main	N/A	28131	EFSD 2026 CCTV Program
16.6	Sanitary Gravity Main	N/A	9258	EFSD 2025 CCTV Program
16.6	Sanitary Gravity Main	N/A	25958	EFSD 2027 Spot Repair
16.6	Sanitary Gravity Main	N/A	23709	EFSD 2025 CCTV Program



Risk	Description	Site	Asset ID	Action/Recommendation
16.6	Sanitary Gravity Main	N/A	29232	EFSD 2026 CCTV Program
16.6	Sanitary Gravity Main	N/A	797268	EFSD 2025 CCTV Program
16.5	Sanitary Gravity Main	N/A	38907	EFSD 2026 CCTV Program
16.5	Sanitary Gravity Main	N/A	29062	EFSD 2026 CCTV Program
16.5	Sanitary Gravity Main	N/A	29376	EFSD Westland Drive & Force Main Lining
16.5	Sanitary Gravity Main	N/A	268	EFSD 2026 CCTV Program
16.5	Sanitary Gravity Main	N/A	3724	EFSD 2026 CCTV Program
16.5	Sanitary Gravity Main	N/A	21671	EFSD 2026 CCTV Program
16.4	Sanitary Gravity Main	N/A	7466	EFSD 2026 CCTV Program
16.4	Sanitary Gravity Main	N/A	7553	EFSD 2026 CCTV Program
16.4	Sanitary Gravity Main	N/A	8169	EFSD 2026 CCTV Program
16.3	Sanitary Gravity Main	N/A	24548	EFSD 2025 CCTV Program
16.3	Sanitary Gravity Main	N/A	22501	EFSD 2026 CCTV Program
16.3	Sanitary Gravity Main	N/A	22165	EFSD 2025 CCTV Program
16.3	Sanitary Gravity Main	N/A	23157	EFSD 2026 CCTV Program
16.3	Sanitary Gravity Main	N/A	244715	EFSD 2025 CCTV Program
16.2	Sanitary Gravity Main	N/A	21435	EFSD 2026 CCTV Program
16.2	Sanitary Gravity Main	N/A	220	EFSD 2029 CCTV Program
16.2	Sanitary Gravity Main	N/A	29618	EFSD 2025 CCTV Program
16.2	Sanitary Gravity Main	N/A	4023	EFSD 2026 CCTV Program
16.2	Sanitary Gravity Main	N/A	7477	EFSD 2026 CCTV Program
16.2	Sanitary Gravity Main	N/A	23155	EFSD 2026 CCTV Program
16.1	Sanitary Gravity Main	N/A	21757	EFSD 2026 CCTV Program
16.1	Sanitary Gravity Main	N/A	23160	EFSD 2026 CCTV Program
16.1	Sanitary Gravity Main	N/A	29217	EFSD 2026 Pipe Grouting
16.1	Sanitary Gravity Main	N/A	5671	EFSD 13 Mile Rd Arm Lining
16.1	Sanitary Gravity Main	N/A	29213	EFSD 2026 CCTV Program
16.1	Sanitary Gravity Main	N/A	26534	EFSD 2027 Spot Repair
16.1	Sanitary Gravity Main	N/A	23056	EFSD 2025 CCTV Program
16.1	Sanitary Gravity Main	N/A	93	EFSD 2026 CCTV Program
16.1	Sanitary Gravity Main	N/A	29223	EFSD 2026 Pipe Grouting
16.1	Sanitary Gravity Main	N/A	1625	EFSD 2025 CCTV Program
16.0	Sanitary Gravity Main	N/A	4374	EFSD 2025 CCTV Program
16.0	Sanitary Gravity Main	N/A	7603	EFSD 13 Mile Rd Arm Lining
16.0	Sanitary Gravity Main	N/A	19596	EFSD 2026 CCTV Program



Appendix E

Project Summary

Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
Walnut Lk 3 PS Can to Submersible Station Upgrade	Project Mgmt	Evans Bantios, P.E.	Active	PRJ-17456	2019	2025	\$1,731,000
EFSD Evergreen Interceptor Repair	Project Mgmt	Evans Bantios, P.E.	Completed	PRJ-17440	2019	2024	\$2,600,000
EFSD Middlebelt & 12 Mile Sinkhole	Project Mgmt	Evans Bantios, P.E.	Completed	PRJ-17457	2019	2025	\$50,000
EFSD CAP - 8 Mile Conveyance (ACO) - Reimburse @ Bonding	Project Mgmt	Evans Bantios, P.E.	Active	PRJ-17452	2020	2027	\$83,749,700
12 Mile & I-696 PS Can to Submersible Station Upgrade	Project Mgmt	Scott Schultz, P.E.	Active	PRJ-17459	2021	2025	\$2,400,000
EFSD CAP - Lathrup Village SRT Improvements	Project Mgmt	Evans Bantios, P.E.	Active	PRJ-17450	2021	2025	\$3,432,903
Walnut Lk 2 PS Can to Submersible Station Upgrade	Project Mgmt	Scott Schultz, E.I.T.	Active	PRJ-17458	2021	2026	\$2,100,000
8 Mile PS Capital Improvements	Project Mgmt	Evans Bantios, P.E.	Active	PRJ-17460	2022	2025	\$100,000
EFSD Hydraulic Modeling & Response Plan (HMRP)	Regional Systems	Larry Young, E.I.T.	Active	PRJ-17439	2022	2025	\$135,000
EFSD Southfield Rouge Arm Lining - Area 7	Project Mgmt	Scott Schultz, E.I.T.	Active	PRJ-17455	2022	2026	\$9,188,000
Morris Lake PS Replace Check/Plug Valves	RTB	Lesli Maes, P.E.	Active	PRJ-17445	2022	2025	\$12,000
EFSD Evergreen Ext 1 Lahser Rd Pipe Lining	Sewer Maint	Phil Kerby, P.E.	Completed	PRJ-17454	2022	2025	\$250,000
Walnut Lk 1 PS Replace Wet Well Ventilation	RTB	Lesli Maes, P.E.	Completed	PRJ-17446	2022	2024	\$45,000
Amy PS Replace Force Main ARV Valves & ARV Structure	RTB	Lesli Maes, P.E.	Active	PRJ-17433	2023	2026	\$50,000
EFSD 2023 Regional Sampling	Environmental	Joel Kohn	Active	PRJ-17438	2023	2030	\$50,000
EFSD CAP - Walnut 1 CAP - Design (ACO) (AKA Evergreen Road Conveyance)	Project Mgmt	Evans Bantios, P.E.	Active	PRJ-17449	2023	2027	\$450,000
EFSD Quarton Lake Lining Assessment	Sewer Maint	Phil Kerby, P.E.	Active	PRJ-17432	2023	2025	\$30,000
Amy PS Rebuild Sewage Pump 1	RTB	Lesli Maes, P.E.	Completed	PRJ-17320	2023	2024	\$25,000
Amy PS Rebuild Sewage Pump 3	RTB	Lesli Maes, P.E.	Completed	PRJ-17321	2023	2024	\$25,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
Drake PS Add Water Service	RTB	Lesli Maes, P.E.	Completed	PRJ-17442	2023	2024	\$20,000
Drake PS Replace Pump and Motor for Sewage Pump 3	RTB	Lesli Maes, P.E.	Completed	PRJ-17443	2023	2025	\$85,000
Eldon PS Add Actuator & Remove Flap Gate	RTB	Lesli Maes, P.E.	Completed	PRJ-17444	2023	2024	\$50,000
Thornbrook PS Add Water Service	RTB	Lesli Maes, P.E.	Completed	PRJ-17441	2023	2024	\$45,000
Biddestone PS Can to Submersible Station Upgrade	Project Mgmt	Scott Schultz, E.I.T.	Active	PRJ-17555	2024	2026	\$290,000
Drake PS Rehabilitation - Design & Construction	RTB	Lesli Maes, P.E.	Active	PRJ-17579	2024	2027	\$75,000
EFSD Meter-Based Billing Update	Systems Control	Larry Young, E.I.T.	Active	PRJ-17581	2024	2025	\$57,000
Inkster PS Can to Submersible Station Upgrade	Project Mgmt	Scott Schultz, E.I.T.	Active	PRJ-17554	2024	2026	\$240,000
Middlebelt Storage Tunnel Operational Enhancements	RTB	Lesli Maes, P.E.	Active	PRJ-17542	2024	2026	\$125,000
Quarton Sites Operational Enhancements	RTB	Lesli Maes, P.E.	Active	PRJ-17543	2024	2025	\$85,000
Thornbrook PS Rehabilitation - Design & Construction	RTB	Lesli Maes, P.E.	Active	PRJ-17580	2024	2028	\$75,000
EFSD Asset Mgmt Software Implementation	Asset Mgmt	Jenny Shaw	Budgeted		2024	2025	\$141,930
EFSD 2025 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Active		2025	2025	\$900,000
EFSD 2025 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Active		2025	2025	\$80,000
EFSD 2025 Manhole Repair Program	Sewer Maint	Phil Kerby, P.E.	Active		2025	2025	\$250,000
EFSD 2025 Pipe Grouting	Sewer Maint	Phil Kerby, P.E.	Active		2025	2025	\$200,000
EFSD 2025 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Active		2025	2025	\$292,806
EFSD 2025 RTB Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Active		2025	2025	\$20,000
EFSD 2025 Spot Repair	Sewer Maint	Phil Kerby, P.E.	Active		2025	2025	\$500,000
EFSD Evaluate Sewage Flow Meters	Systems Control	Tess Reynolds	Active		2025	2025	\$70,000
Amy PS Replace Dry Well Exchanger, Furnace & Wet Well Ventilation	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$100,000
EFSD 13 Mile Rd Arm Lining	Project Mgmt	TBD	Budgeted		2025	2026	\$1,000,000
EFSD Walnut Lake Arm Lining	Sewer Maint	Phil Kerby, P.E.	Budgeted		2025	2025	\$750,000
Lakeside and Springdale LM Replace Transducer	Systems Control	Lesli Maes, P.E.	Budgeted		2025	2025	\$10,000
Walnut Lk 1 PS Controls and Pump Improvements	RTB	Lesli Maes, P.E.	Budgeted		2025	2027	\$680,000
EFSD Replace 6 ADS Sewage Meters	Systems Control	Larry Young, E.I.T.	Planning		2025	2025	\$51,930
Walnut Lk 1 PS Streambank Stabilization	RTB	Evans Bantios, P.E.	Budgeted		2026	2026	\$100,000
Amy PS Rebuild Sewage Pumps 1-3	RTB	Lesli Maes, P.E.	Planning		2026	2027	\$36,000
EFSD 12 Mile Rd Arm Lining	Project Mgmt	TBD	Planning		2026	2027	\$2,000,000
EFSD 2026 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2026	2026	\$500,000
EFSD 2026 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2026	2026	\$80,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
EFSD 2026 Manhole Lining	Sewer Maint	Phil Kerby, P.E.	Planning		2026	2026	\$1,000,000
EFSD 2026 Pipe Grouting	Sewer Maint	Phil Kerby, P.E.	Planning		2026	2026	\$200,000
EFSD 2026 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2026	2026	\$265,875
EFSD 2026 RTB Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$20,000
EFSD 2026 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2026	2026	\$160,000
EFSD 2026 Spot Repair	Sewer Maint	Phil Kerby, P.E.	Planning		2026	2026	\$20,000
Middlebelt, N of 14 Mile LM Site Upgrade	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$36,000
Morris Lake PS Evaluate and Replace Electrical & Controls	RTB	Lesli Maes, P.E.	Planning		2026	2027	\$150,000
Morris Lake PS Rebuild Sewage Pump 1 & 2	RTB	Lesli Maes, P.E.	Planning		2026	2027	\$20,000
Walnut Lk 1 PS Rebuild Sewage Pumps 1 & 2 and Rehab Drive Shafts	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$40,000
Walnut Lk 1 PS Replace West Wet Well Transducer	Systems Control	Lesli Maes, P.E.	Planning		2026	2026	\$5,000
Walnut Lk 1 PS Resurface Site Driveway	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$49,000
Adams Road LM Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2027	2027	\$5,000
Amy PS Evaluate Sewage Pump Flow Meters	Systems Control	Lesli Maes, P.E.	Planning		2027	2027	\$2,000
Amy PS Rebuild Motors for Sewage Pumps 1, 2 & 3	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$24,000
Amy PS Replace VFDs for Sewage Pumps 1, 2 & 3	Systems Control	Lesli Maes, P.E.	Planning		2027	2027	\$120,000
Burnley Flow Regulator Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2027	2027	\$5,000
EFSD 2027 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$500,000
EFSD 2027 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$80,000
EFSD 2027 Pipe Grouting	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$400,000
EFSD 2027 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2027	2027	\$273,852
EFSD 2027 RTB Unplanned Capital Improvement	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$50,000
EFSD 2027 RTB Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$20,000
EFSD 2027 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2027	2027	\$200,000
EFSD 2027 Spot Repair	Sewer Maint	Phil Kerby, P.E.	Planning		2027	2027	\$500,000
EFSD Westland Drive & Force Main Lining	Project Mgmt	TBD	Planning		2027	2027	\$3,000,000
Quarton Rd PS Replace Diversion Valve, Actuator & Sewage Pump No. 1	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$45,000
Springdale LM Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2027	2027	\$5,000
Walnut Lk 1 PS Rebuild Motors for Sewage Pumps 1 thru 6	RTB	Lesli Maes, P.E.	Planning		2027	2028	\$70,000
Walnut Lk 1 PS Replace Dry Well Sump Pump 1 & Pump 2	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$25,000
Walnut Lk 1 PS Replace Unit Heaters & Exhaust Fans	RTB	Lesli Maes, P.E.	Planning		2027	2028	\$85,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
Amy PS Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Chestnut Hill Flow Regulator Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$6,000
Chestnut Hill Flow Regulator Replace Transducer	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
EFSD 2028 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$500,000
EFSD 2028 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$80,000
EFSD 2028 Manhole Lining	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$1,000,000
EFSD 2028 Pipe Grouting	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$100,000
EFSD 2028 Pipe Lining/Replacement - Design	Project Mgmt	TBD	Planning		2028	2028	\$500,000
EFSD 2028 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2028	2028	\$282,068
EFSD 2028 RTB Unplanned Capital Improvement	RTB	Lesli Maes, P.E.	Planning		2028	2028	\$75,000
EFSD 2028 RTB Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2028	2028	\$50,000
EFSD 2028 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2028	2028	\$50,000
EFSD 2028 Spot Repair	Sewer Maint	Phil Kerby, P.E.	Planning		2028	2028	\$20,000
Eldon PS Rebuild Sewage Pumps 1 & 2	RTB	Lesli Maes, P.E.	Planning		2028	2028	\$15,000
Lakeside LM Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Lathrup LM Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Middlebelt Storage Tunnel Replace 3 Cell Modems	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$16,000
Middlebelt Storage Tunnel Replace 5 Level Sensors	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$57,000
Middlebelt, N of 14 Mile LM Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Morris Lake PS Replace ATS & Generator	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$80,000
Morris Lake PS Replace Wet Well Transducer	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Quarton Dewatering Chamber Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Quarton Dewatering Chamber Replace Transducer	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Quarton Inlet Diversion Chamber Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Quarton Inlet Diversion Chamber Replace Transducer	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$5,000
Quarton Rd PS Replace Cell Modems	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$10,000
Quarton Rd PS Replace Transducers	Systems Control	Lesli Maes, P.E.	Planning		2028	2028	\$15,000
Walnut Lk 1 PS Evaluate/Replace Generator 2 Fuel Tank	RTB	Lesli Maes, P.E.	Planning		2028	2028	\$100,000
Walnut Lk 1 PS Replace Air Compressors AC-1 & 2	RTB	Lesli Maes, P.E.	Planning		2028	2029	\$70,000
Amy PS Replace Wet Well Transducer	Systems Control	Lesli Maes, P.E.	Planning		2029	2029	\$5,000
EFSD 2029 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$900,000
EFSD 2029 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$80,000
EFSD 2029 Pipe Grouting	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$400,000



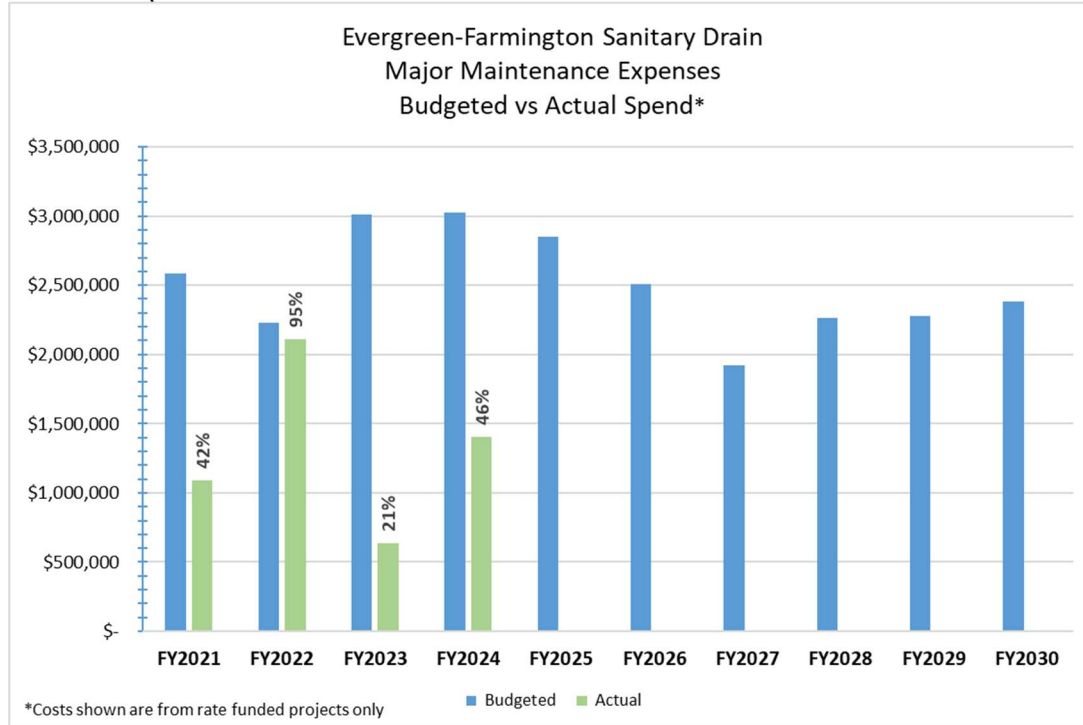
Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
EFSD 2029 Pipe Lining/Replacement	Project Mgmt	TBD	Planning		2029	2029	\$4,000,000
EFSD 2029 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2029	2029	\$290,530
EFSD 2029 RTB Unplanned Capital Improvement	RTB	Lesli Maes, P.E.	Planning		2029	2029	\$100,000
EFSD 2029 RTB Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2029	2029	\$50,000
EFSD 2029 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2029	2029	\$50,000
EFSD 2029 Spot Repair	Sewer Maint	Phil Kerby, P.E.	Planning		2029	2029	\$500,000
Eldon PS Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2029	2029	\$5,000
Eldon PS Replace Transducer	Systems Control	Lesli Maes, P.E.	Planning		2029	2029	\$5,000
Walnut Lk 1 PS Rebuild Sewage Pump 3	RTB	Lesli Maes, P.E.	Planning		2029	2029	\$22,000
Amy PS Replace Drywell Crane	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$15,000
Amy PS Replace Transformer LP-1A	Systems Control	Lesli Maes, P.E.	Planning		2030	2030	\$30,000
EFSD 2030 CCTV Program	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$900,000
EFSD 2030 Manhole Inspection Program	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$80,000
EFSD 2030 Pipe Grouting	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$400,000
EFSD 2030 Pipe Lining/Replacement	Project Mgmt	TBD	Planning		2030	2030	\$1,000,000
EFSD 2030 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2030	2030	\$299,246
EFSD 2030 RTB Unplanned Capital Improvement	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$100,000
EFSD 2030 RTB Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$50,000
EFSD 2030 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2030	2030	\$50,000
EFSD 2030 Spot Repair	Sewer Maint	Phil Kerby, P.E.	Planning		2030	2030	\$500,000
EFSD Evaluate Sewage Flow Meters	Systems Control	Tess Reynolds	Planning		2030	2030	\$70,000
Morris Lake PS Replace Cell Modem	Systems Control	Lesli Maes, P.E.	Planning		2030	2030	\$5,000
Walnut Lk 3 PS Rebuild Sewage Pump 1 & 2	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$30,000



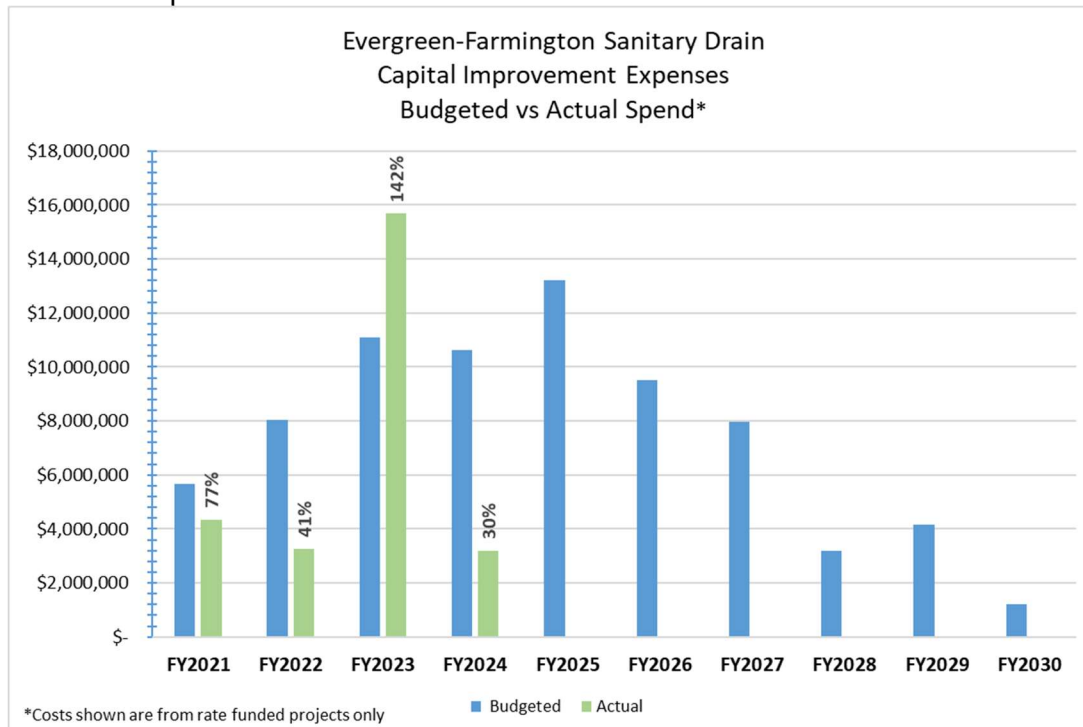
Appendix F

Budgeted vs Actual Expense Comparison

Major Maintenance Expenses



Capital Improvement Expenses



**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER**

MEMORANDUM

TO: Jim Nash, Chairperson of the Evergreen-Farmington Sanitary Drain Drainage District Board

FROM: Gary Nigro, P.E., Manager

SUBJECT: FY 2025-2026 Rate Recommendation

DATE: April 22, 2025

The purpose of this memorandum is to communicate a recommendation to the Board of the Evergreen-Farmington Sanitary Drain Drainage District (EFSD) detailing the proposed monthly charges to our customers based on approved Great Lakes Water Authority monthly charges for its fiscal 2025-26 rate year.

The attached exhibits highlighting the proposed budget, sewer charges, cost allocation, and capital improvement plan, were presented to the EFSD customers on April 15, 2025.

The proposed budget and sewer charges are attached in Exhibit A. Because of increases in operating expenses, the total annual charge to the customers will increase 5.5% to \$56,119,010.

The proposed cost allocation to each customer for operation and maintenance charges is included in Exhibit B. The methodology will remain the same as previous years, based on a rolling 5-year flow average.

Recommended Action: Approve the proposed operating budget and sewer charges (Exhibit A) and cost allocation (Exhibit B) for the rate year beginning July 1, 2025, as presented.

EXHIBIT A

PROPOSED OPERATING BUDGET AND SEWER CHARGES

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL SYSTEM

Schedule updated by GLWA Staff Pending Review by
Willdan Financial Services

Service Charges and Allocated Revenues Requirements

ADOPTED - EFFECTIVE JULY 1, 2025 FOR ALL BILLS ISSUED ON OR AFTER AUGUST 1, 2025

Line No.	Member Partner	Contract	Fixed Monthly Charge (a)	Projected Revenue From Charges
			\$/mo	\$
1	OMID Common	Model	\$ 6,539,900	\$ 78,478,800
2	Rouge Valley	Older	\$ 5,030,200	\$ 60,362,400
3	Oakland GWK	Older	\$ 4,200,700	\$ 50,408,400
4	Evergreen Farmington	Model	\$ 3,296,700	\$ 39,560,400
5	SE Macomb San Dist	Model	\$ 2,269,500	\$ 27,234,000
6	Dearborn	Model	\$ 1,869,200	\$ 22,430,400
7	Grosse Pointe Farms	Older	\$ 242,600	\$ 2,911,200
8	Grosse Pointe Park	Model	\$ 173,100	\$ 2,077,200
9	Melvindale	Model	\$ 143,000	\$ 1,716,000
10	Farmington	Model	\$ 109,000	\$ 1,308,000
11	Center Line	Model	\$ 95,400	\$ 1,144,800
12	Allen Park	Model	\$ 76,900	\$ 922,800
13	Grosse Pointe	Model	\$ 106,600	\$ 1,279,200
14	Highland Park	Model	\$ 433,000	\$ 5,196,000
15	Hamtramck	Model	\$ 390,900	\$ 4,690,800
16	Harper Woods	Model	\$ 14,800	\$ 177,600
17	Redford Township	Model	\$ 30,600	\$ 367,200
18	Wayne County #3	Older	\$ 4,300	\$ 51,600
19	Total Wholesale Contract Member Partners (c)			\$ 300,316,800
Other Sewer System Charges				
20	Industrial Waste Control (c)			\$ 9,150,300
21	Pollutant Surcharges (c)			\$ 5,112,700
22	Subtotal Regional Wholesale Revenues			\$ 314,579,800
Detroit Customer Class - \$				
23	Wholesale Revenue Requirement (d)			\$ 220,840,400
24	less: Ownership Benefit per Lease			\$ (5,516,000)
25	Net Local System Wholesale Revenue Requirement (c)			\$ 215,324,400
26	Total Revenue from Wholesale Charges (22) + (25) (c)			\$ 529,904,200

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL SYSTEM

Schedule updated by GLWA Staff Pending Review by
Willdan Financial Services

Service Charges and Allocated Revenues Requirements

ADOPTED - EFFECTIVE JULY 1, 2025 FOR ALL BILLS ISSUED ON OR AFTER AUGUST 1, 2025

<u>Detroit Customer Class -Other</u>		
27	Indirect Retail Revenue Requirements (e)	\$ 38,434,100
28	less: Use of Lease Payment for Debt Service	\$ -
29	Net Indirect Retail Revenue Requirements (e)	\$ 38,434,100
30	Subtotal Subject to GLWA Board Approval (25) + (29)	\$ 253,758,500
31	Direct Retail Revenue Requirements (f)	\$ 60,104,400
32	Total Local System Revenue Requirement (29) + (31)	\$ 98,538,500
33	Total Requirement from Detroit Customer Class (25) + (32) (agrees with GLWA Budget Schedule 3)	\$ 313,862,900

- (a) Proposed effective date of July 1, 2025. Effective on all bills issued on or after August 1, 2025.
 - (b) Reserved
 - (c) Agrees with GLWA Budget Schedule
 - (d) Wholesale revenue requirements for the Detroit Customer Class.
 - (e) Local System revenue requirements related to Master Bond Ordinance and related agreements
 - (f) Local System operating expenses (net of shared services reimbursement) and I&E deposit. Not Subject to GLWA Board approval.
- (e) & (f) Local System information provided from Detroit Water & Sewerage Department as of February 1, 2025

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL SYSTEM

Industrial Specific Retail Charges

ADOPTED - EFFECTIVE JULY 1, 2025 FOR ALL BILLS ISSUED ON OR AFTER AUGUST 1, 2025

Schedule updated by
GLWA Staff Pending
Review by Willdan
Financial Services

Industrial Waste Control Charges			
Meter Size	Full Charge	Admin Only Charge	
inches	\$/mo	\$/mo	
5/8	\$ 3.89	\$	0.97
3/4	\$ 5.84	\$	1.46
1	\$ 9.73	\$	2.43
1-1/2	\$ 21.40	\$	5.34
2	\$ 31.12	\$	7.76
3	\$ 56.41	\$	14.07
4	\$ 77.80	\$	19.40
6	\$ 116.70	\$	29.10
8	\$ 194.50	\$	48.50
10	\$ 272.30	\$	67.90
12	\$ 311.20	\$	77.60
14	\$ 389.00	\$	97.00
16	\$ 466.80	\$	116.40
18	\$ 544.60	\$	135.80
20	\$ 622.40	\$	155.20
24	\$ 700.20	\$	174.60
30	\$ 778.00	\$	194.00
36	\$ 855.80	\$	213.40
48	\$ 933.60	\$	232.80

Pollutant Surcharges		
Pollutant		Charge
		\$/lb
BIOCHEMICAL OXYGEN DEMAND (BOD)		
for concentrations > 275 mg/l	\$	0.409
TOTAL SUSPENDED SOLIDS (TSS)		
for concentrations > 350 mg/l	\$	0.548
PHOSPHORUS (P)		
for concentrations > 12 mg/l	\$	7.907
FATS, OIL AND GREASE (FOG)		
for concentrations > 100 mg/l	\$	0.131
SEPTAGE DISPOSAL FEE		
Per 500 gallons of disposal	\$	40.00

Evergreen Farmington Sewage Disposal System

82410

Financial Summary

	2024 Actual	2025 Budget	2026 Forecast	Inc / (Dec)	% Variance
<u>Operating Revenues</u>					
Operating Rate Revenue	\$ 41,443,929.93	\$ 43,749,610.00	\$ 46,288,770.00	\$ 2,539,160.00	5.8%
Operating Non-Rate Revenue	2,002,904.60	828,220.00	1,249,950.00	421,730.00	50.9%
Operating Revenues	<u>\$ 43,446,834.53</u>	<u>\$ 44,577,830.00</u>	<u>\$ 47,538,720.00</u>	<u>\$ 2,960,890.00</u>	<u>6.6%</u>
<u>Operating Expenses</u>					
Sewage Treatment	\$ 35,512,555.81	\$ 37,912,800.00	\$ 39,560,400.00	\$ 1,647,600.00	4.3%
Sewer System Maintenance	784,276.46	642,980.00	715,060.00	72,080.00	11.2%
Sewer System Engineering	214,003.90	268,730.00	263,960.00	(4,770.00)	-1.8%
Water Purchases	-	-	-	-	
Water Maintenance Unit	-	-	-	-	
Water Systems Engineering	-	-	-	-	
Septage Unloading Facility	144,146.25	220,130.00	235,930.00	15,800.00	7.2%
Pump Maintenance Unit	961,008.27	1,343,520.00	1,437,340.00	93,820.00	7.0%
Systems Control Unit	1,758,091.02	1,507,320.00	1,862,100.00	354,780.00	23.5%
Plan Review and Permitting	224,359.12	203,520.00	219,220.00	15,700.00	7.7%
Inspection	13,238.81	11,740.00	13,350.00	1,610.00	13.7%
IPP	36,156.41	8,110.00	20,170.00	12,060.00	148.7%
Laboratory	-	-	-	-	
Mapping Unit	98,820.23	66,180.00	42,860.00	(23,320.00)	-35.2%
Miss Dig	1,449.10	1,740.00	1,660.00	(80.00)	-4.6%
Billing Services Unit	-	-	-	-	
General and Administrative	2,867,509.62	2,391,060.00	3,166,670.00	775,610.00	32.4%
Total Operating Expenses	<u>42,615,615.00</u>	<u>44,577,830.00</u>	<u>47,538,720.00</u>	<u>2,960,890.00</u>	<u>6.6%</u>
Net Income	<u>\$ 831,232.33</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	
Depreciation	-	-	-	-	
<u>Reserves</u>					
Non-Operating Revenue	\$ (348,801.72)	\$ 1,252,500.00	\$ 1,260,240.00	\$ 7,740.00	0.6%
Non-Operating Expense	(72,158.60)	-	-	-	
Major Maintenance Reserve Revenue	1,543,595.40	2,000,000.00	2,060,000.00	60,000.00	3.0%
Major Maintenance Reserve Expense	(1,404,232.38)	(2,847,810.00)	(2,506,880.00)	340,930.00	-12.0%
Emergency Reserve Revenue	-	-	-	-	
Emergency Reserve Expense	-	-	-	-	
Capital Reserve Revenue	6,200,000.16	6,200,000.00	12,510,000.00	6,310,000.00	101.8%
Capital Reserve Expense	(3,180,619.50)	(13,198,350.00)	(9,526,000.00)	3,672,350.00	-27.8%
Change in Net Assets	<u>\$ 3,569,015.69</u>	<u>\$ (6,593,660.00)</u>	<u>\$ 3,797,360.00</u>	<u>\$ 10,391,020.00</u>	<u>-157.6%</u>
<u>Rate Revenue</u>					
Revenue Requirements:					
Operating Expense	\$ 42,615,602.20	\$ 44,577,830.00	\$ 47,538,720.00	\$ 2,960,890.00	6.6%
Non-Operating	(348,801.72)	1,252,500.00	1,260,240.00	7,740.00	0.6%
Major Maintenance	1,543,595.40	2,000,000.00	2,060,000.00	60,000.00	3.0%
Emergency Maintenance	-	-	-	-	
Capital	6,200,000.16	6,200,000.00	12,510,000.00	6,310,000.00	101.8%
Total Revenue Requirements	<u>\$ 50,010,396.04</u>	<u>\$ 54,030,330.00</u>	<u>\$ 63,368,960.00</u>	<u>\$ 9,338,630.00</u>	<u>17.3%</u>
Non-Rate Revenue	<u>\$ (2,002,904.60)</u>	<u>\$ (828,220.00)</u>	<u>\$ (7,249,950.00)</u>	<u>\$ (6,421,730.00)</u>	<u>775.4%</u>
Rate Required Revenue	<u>\$ 48,007,491.44</u>	<u>\$ 53,202,110.00</u>	<u>\$ 56,119,010.00</u>	<u>\$ 2,916,900.00</u>	<u>5.5%</u>

Evergreen Farmington Sanitary Drainage District, Effective July 1, 2025

Monthly Charge Breakdown

	Effective July 1, 2025
GLWA Fixed Charge	\$ 39,560,400.00
OCWRC Fixed Charge ⁽¹⁾	7,978,320.00
Non-Operating	1,260,240.00
Major Maintenance Reserve	2,060,000.00
Emergency Reserve	-
Capital Improvement Reserve	6,510,000.00
Misc Revenue	(1,249,950.00)
Total Charge:	56,119,010.00

	Effective July 1, 2025 Annual Charge	Effective July 1, 2025 Monthly Charge
Auburn Hills	\$ 416,403	\$ 34,700.25
Beverly Hills	2,469,237	205,769.75
Bingham Farms	319,878	26,656.50
Birmingham	4,100,055	341,671.25
Bloomfield Hills	1,359,763	113,313.59
Bloomfield Township	10,138,460	844,871.66
Franklin	278,352	23,196.00
Lathrup Village	1,076,362	89,696.84
Southfield	10,610,981	884,248.42
Troy	2,363,732	196,977.66
Farmington	435,484	36,290.34
Farmington Hills	13,006,142	1,083,845.17
Keego Harbor	442,219	36,851.58
Orchard Lake Village	493,848	41,154.01
West Bloomfield Township	7,122,624	593,552.01
Acacia Park RTB	434,360	36,196.67
Birmingham RTB	483,746	40,312.16
Bloomfield RTB	567,364	47,280.34
Total	\$ 56,119,010	\$ 4,676,584.20

Evergreen Farmington Sanitary Drainage District, Effective July 1, 2025
Share & Monthly Charge Comparison

	FY 2024-2025 (July - June)		FY 2025-2026 (July - June)		% Change Mthly Charge
	Share % of System	Monthly Charge	Share % of System	Monthly Charge	
Auburn Hills	0.723%	\$ 32,054.34	0.742%	\$ 34,700.25	8.3%
Beverly Hills	4.518%	200,305.92	4.400%	205,769.75	2.7%
Bingham Farms	0.580%	25,714.34	0.570%	26,656.50	3.7%
Birmingham	7.543%	334,419.67	7.306%	341,671.25	2.2%
Bloomfield Hills	2.463%	109,197.33	2.423%	113,313.59	3.8%
Bloomfield Township	17.930%	794,928.17	18.066%	844,871.66	6.3%
Franklin	0.500%	22,167.58	0.496%	23,196.00	4.6%
Lathrup Village	1.988%	88,138.16	1.918%	89,696.84	1.8%
Southfield	18.475%	819,090.84	18.908%	884,248.42	8.0%
Troy	4.176%	185,143.33	4.212%	196,977.66	6.4%
Farmington	0.795%	35,246.42	0.776%	36,290.34	3.0%
Farmington Hills	23.326%	1,034,160.25	23.176%	1,083,845.17	4.8%
Keego Harbor	0.816%	36,177.34	0.788%	36,851.58	1.9%
Orchard Lake Village	0.883%	39,147.93	0.880%	41,154.01	5.1%
West Bloomfield Township	12.570%	557,292.08	12.692%	593,552.01	6.5%
Acacia Park RTB	0.798%	35,379.42	0.774%	36,196.67	2.3%
Birmingham RTB	0.865%	38,349.83	0.862%	40,312.16	5.1%
Bloomfield RTB	1.051%	46,596.25	1.011%	47,280.34	1.5%
Total	100.000%	\$ 4,433,509.20	100.000%	\$ 4,676,584.20	5.5%

Charges have been rounded

**EVERGREEN FARMINGTON SANITARY DRAINAGE DISTRICT
SCHEDULE OF RATES AND CHARGES
EFFECTIVE JULY 1, 2025**

1. Wastewater Disposal Charge

Each community shall pay monthly, a charge in accordance with schedule below:

	Effective July 1, 2025 Monthly Charge
Auburn Hills	\$ 34,700.25
Beverly Hills	205,769.75
Bingham Farms	26,656.50
Birmingham	341,671.25
Bloomfield Hills	113,313.59
Bloomfield Township	844,871.66
Franklin	23,196.00
Lathrup Village	89,696.84
Southfield	884,248.42
Troy	196,977.66
Farmington	36,290.34
Farmington Hills	1,083,845.17
Keego Harbor	36,851.58
Orchard Lake Village	41,154.01
West Bloomfield Township	593,552.01
Acacia Park RTB	36,196.67
Birmingham RTB	40,312.16
Bloomfield RTB	47,280.34
	<u>\$ 4,676,584.20</u>

2. Pollutant Surcharge

In accordance with current Great Lakes Water Authority (GLWA) standards and rates, the following pollutant surcharges shall be levied against industrial and commercial customers contributing sewage to the System with concentrations of pollutants exceeding the levels described as follows:

POLLUTANT SURCHARGE RATE, PER EXCESS POUND	EFFECTIVE JULY 1, 2025 \$/LB
Biochemical Oxygen Demand (BOD) in excess of 275 mg/l	\$0.409
Total Suspended Solids (TSS) in excess of 350 mg/l	0.548
Phosphorus (PHOS) in excess of 12 mg/l	7.907
Fats, Oil, & Grease (FOG) in excess of 100 mg/l	0.131

3. **Industrial Waste Control Charge (IWC)**

Each community shall report monthly the total number and size of water meters used by non-residential users of the System. Where metered water is not available, the community shall report monthly the "Assigned Water Meter Size" of non-residential users of the System as determined by WRC via Residential Equivalency Units (REU) equivalents or use of AWWA M22 (Chapter 5 – Sizing the Customer's Service and Meter).

Based on the reported number of water meter sizes, actual and assigned, for non-residential users of the System, each community shall pay a monthly IWC in accordance with the following schedule:

METER SIZE	EFFECTIVE JULY 1, 2025 MONTHLY IWC CHARGE
5/8"	\$ 3.89
3/4"	5.84
1"	9.73
1 1/2"	21.40
2"	31.12
3"	56.41
4"	77.80
6"	116.70
8"	194.50
10"	272.30
12"	311.20
14"	389.00
16"	466.80
18"	544.60

Non-residential users shall be defined as all users other than those in single family houses, apartment buildings, condominiums, town houses, mobile homes, schools, churches and municipal buildings.

4. **Penalty**

The sewage disposal service charge shall be payable monthly. If any municipality does not pay its service charge by the due date, there will be a penalty of one (1) percent for each month or a fraction thereof for which the charge remains.

EXHIBIT B

COST ALLOCATION/ SHARES

Fiscal Year 2026 Proposed Cost Allocation

Basis of Proposed Shares

**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER**

MEMORANDUM

TO: Jim Nash, Chairperson of the Evergreen-Farmington Sanitary Drain Drainage Board

FROM: Lawrence Young, Civil Engineer II

SUBJECT: Lakeside Level Sensor Replacement Project

DATE: April 22, 2025

The Quarton Relief Sewer is a critical component to wet weather operations of the Evergreen-Farmington Sanitary Drain. Currently, it relies on a submersible pressure transducer to monitor sewer levels. Due to constant exposure to sewage, this equipment is difficult and time consuming to maintain. In addition, the equipment is approaching the end of its useful life.

To improve reliability and ease of maintenance, it is recommended that the current sensor be replaced with a radar level sensor. Unlike the submersible model, the radar sensor has minimal contact with sewage, making it significantly easier to maintain.

Requested Action: Approve the Lakeside Level Sensor Replacement Project for the budgeted amount of \$5,000 from capital improvement reserves.

Jim Nash, Oakland County Water Resources Commissioner
Evergreen Farmington Sanitary Drain Drainage District
8 Mile Road CAP 8 Mile Road Pump Station & SSO Chamber Improvements - Phase 1
Southfield
Oakland County, Michigan

Construction Estimate No. 37

March 1, 2025 to Mar 31, 2025

Department No. : 6010101
Fund No. : FND84410
Project No. : PRJ-17452

Account No. : 730352
Program No. : PRG149015
Activity : FAC
Vendor No. : 23191
Contract No. : 6628
Date of Contract : 2/2/2022
Completion Date : 8/13/2027

Contractor :
Walsh Construction Company II, LLC
3031 W Grand Blvd, Suite 640
Detroit, MI 48202

Original Contract Amount:		\$0.00
Previous Change Order Numbers: CO Nos. 1 through 9.		\$50,512,444.14
Change Orders This Estimate Number:		\$0.00
Total Net Change Orders:		\$50,512,444.14
<u>Adjusted Contract Amount:</u>		<u>\$50,512,444.14</u>
Subtotal To Date: (Sheet 2 of 3 Column 7)		\$32,428,872.36
Less Deductions to Date: (Sheet 2 of 3 Column 7)		\$0.00
Gross Estimate: (Work in Place)	64.20%	\$32,428,872.36
Less Amount Reserved: (5% of Adjusted Contract Amount)		\$2,525,622.21
Total Amount Allowed To Date:		\$29,903,250.15
Less Previous Estimates:		\$29,296,691.48
Net Payment Request To Be Paid To Contractor:		\$606,558.67
Reserve Payment to Contractor		\$0.00
Balance of Contract To Date	\$18,083,571.78	Accounting Auditor: _____
Less Previous Transfers To Reserve:		\$2,525,622.21
<u>Amount of Current Transfer:</u>		<u>\$0.00</u>

Prepared by: Lawrence Gilbert
Lawrence Gilbert, P.E. - NTH Consultants

Date: 3/31/2025

Recommended by: Joe Siwek
Joe Siwek, P.E. - Consulting Engineer (Fishbeck)

Date: 4/2/2025

Recommended by: Evangelos Bantios
Evangelos Bantios, P.E. - Project Engineer

Date: 4/14/2025

Approved by: Joel Brown
Joel Brown, P.E. - Chief Engineer

Date: 4/15/2025

Approved by Board on: _____

JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER

**Jim Nash, Oakland County Water Resources Commissioner
Evergreen Farmington Sanitary Drain Drainage District
For Design and Construction of the Southfield Sewer Lining Project
Southfield
Oakland County, Michigan**

Construction Estimate No. 5

March 12, 2025 to March 31, 2025

Department No.: 6010101
Fund No.: 82410
Project No.: PRJ-17455
PO#: PO00071175

Account No.: 730352
Program No.: 149125
Activity: ENGCON
Vendor No. 41132
Contract No.: 11156
Date of Contract: 9/24/2024
Completion Date: 12/20/2025

Contractor:
SAK Construction
864 Hoff Road
O'Fallon, MO 63366

Original Contract Amount: \$7,387,461.00

Previous Change Order Numbers (none): \$0.00

Change Orders This Estimate Numbers (none): \$0.00

Total Net Change Orders: \$0.00

Adjusted Contract Amount: \$7,387,461.00

Subtotal To Date: (Sheet 2 of 2 Column 7) \$307,769.21

Less Deductions to Date: (Sheet 2 of 2 Column 7) \$0.00

Gross Estimate: (Work in Place) 4.17% \$307,769.21

Less Amount Reserved: (10% of Gross Estimate) \$30,776.92

Total Amount Allowed To Date: \$276,992.29

Less Previous Estimates: \$237,318.46

Net Payment Request To Be Paid To Contractor: \$39,673.83

Reserve Payment to Contractor \$0.00

Balance of Contract To Date ✓ \$7,079,691.79 Accounting Auditor: *BCR* 4/11/2025

Less Previous Transfers To Reserve: \$26,368.72

Amount of Current Transfer: \$4,408.20

Prepared by: Scott Schultz
Scott Schultz - Project Engineer

Date: 4/11/25

Recommended by: Maria Sedki
Maria Sedki, P.E. - Consulting Engineer

Date: 04/11/2025

Approved by: Joel Brown
Joel Brown, P.E. - Chief Engineer

Date: 4/11/2025

Approved by Board on: _____

**JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER**

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the Evergreen Farmington Sanitary Drain Ch20 (Maintenance)

FROM: Shawn Phelps, Chief of Fiscal Services *HP for Shawn Phelps*
OCWRC Accounting

DATE: April 22, 2025

SUBJECT: Request for Approval of Invoices

The following is a detail of charges paid from the Evergreen Farmington Sanitary Drain Ch20 and Invoices

Payable To	Ref No.	For	Amount
DLZ Michigan Inc	SINV00333931	Inv# 000403292 - Engineering Services - Proj #17459	2,136.00
		Subtotal - Project #17459	2,136.00
DLZ Michigan Inc	SINV00333936	Inv# 000403246 - Engineering Services - Proj #17554	1,418.54
		Subtotal - Project #17554	1,418.54
DLZ Michigan Inc	SINV00333934	Inv# 000403248 - Engineering Services - Proj #17555	2,004.68
		Subtotal - Project #17555	2,004.68
ADS LLC	SINV00331881	Inv# 35801-0225-K - Contracted Services	4,725.00
ADS LLC	SINV00332108	Inv# 35801-0225-I - Contracted Services	1,450.00
ADS LLC	SINV00332111	Inv# 35801-0125-I - Contracted Services	1,450.00
ADS LLC	SINV00332121	Inv# 35801-0125-A - Contracted Services	51,275.00
ADS LLC	SINV00332122	Inv# 35801-0125-K - Contracted Services	4,725.00
ADS LLC	SINV00332123	Inv# 35801-0225-A - Contracted Services	51,275.00
Applied Science Inc	SINV00330707	Inv# 9009 - Contracted Services	14,951.70
Applied Science Inc	SINV00331514	Inv# 9108 - Contracted Services	5,309.00
Applied Science Inc	SINV00331547	Inv# 9112 - Contracted Services	1,435.50
Applied Science Inc	SINV00331747	Inv# 9078 - Contracted Services	23,965.50
Applied Science Inc	SINV00331751	Inv# 9083 - Contracted Services	2,010.00
Applied Science Inc	SINV00331753	Inv# 9109 - Contracted Services	6,107.50
Applied Science Inc	SINV00331803	Inv# 9049 - Contracted Services	49,807.00
Applied Science Inc	SINV00331804	Inv# 9053 - Contracted Services	1,909.50
Applied Science Inc	SINV00331883	Inv# 9051 - Contracted Services	5,568.08
Applied Science Inc	SINV00332113	Inv# 9081 - Contracted Services	9,397.69
Applied Science Inc	SINV00332117	Inv# 9110 - Contracted Services	5,880.38
D Angelo Brothers	SINV00328552	Inv# 1122-63 - Contracted Services	8,018.98
D Angelo Brothers	SINV00334052	Inv# 1122-66 - Contracted Services	4,599.29
Dickinson Wright PLLC	SINV00334689	Inv# 2025070 - Legal Services	8,794.20
Dukes Root Control Inc	SINV00329072	Inv# 31063 - Contracted Services	88,320.00
Great Lakes Elevator LLC	SINV00332212	Inv# 12086 - Contracted Services	2,400.00
Kotz Sangster Wysocki PC	SINV00332633	Inv# 618551 - Legal Services	4,837.50
Orchard Hiltz and McCliment Inc (OHM)	SINV00331516	Inv# 85953 - Contracted Services	2,752.00
		Subtotal	360,963.82
		Total	366,523.04

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the Evergreen Farmington Sanitary Drain Ch20 (Construction)

FROM: Shawn Phelps, Chief of Fiscal Services *HP for Shawn Phelps*
OCWRC Accounting

DATE: April 22, 2025

SUBJECT: Request for Approval of Invoices

The following is a detail of charges paid from the Evergreen Farmington Sanitary Drain Ch20 and Invoices

Payable To	Ref No.	For	Amount
Applied Science Inc	SINV00331805	Inv# 9050 - Contracted Services - PRJ-17449	1,608.00
Applied Science Inc	SINV00332234	Inv# 9080 - Contracted Services - PRJ-17449	6,526.50
Hubbell Roth and Clark Inc (HRC)	SINV00331549	Inv# 0225637 - Engineering Services - PRJ-17449	25,961.56
Hubbell Roth and Clark Inc (HRC)	SINV00334868	Inv# 0226421 - Engineering Services - PRJ-17449	25,332.55
		Subtotal - Project #17449	59,428.61
Hubbell Roth and Clark Inc (HRC)	SINV00332767	Inv# 0225621 - Engineering Services - PRJ-17450	2,561.61
		Subtotal - Project #17450	2,561.61
		Total	61,990.22

3. Rufe Collier Drain

AGENDA

FIRST MEETING OF THE DRAINAGE BOARD FOR THE RUFÉ COLLIER DRAIN NEW DRAIN PROJECT

City of Pontiac
City of Auburn Hills

April 22, 2025

1. Call meeting to order.
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Memorandum from Taylor Warstler, Civil Engineer II, dated April 22, 2025, requesting the Board receive and file the General Summary of the Project to Extend the Drainage District
5. Present petition from the City of Pontiac and the City of Auburn Hills.
6. Resolution to:
 - A. Acknowledge consideration of petitions.
 - B. Determine that the drain project is necessary for the public health.
 - C. Designate public corporations to be assessed.

City of Pontiac
City of Auburn Hills
Board of County Road Commissioners Of The County of Oakland (Road Commission, County of Oakland) – on account of drainage of county highways
State of Michigan – on account of drainage of state highways
 - D. Name the drain project and the drainage district.
 - E. Set the time for the first hearing.
 - F. Direct that notice be published in The Oakland Press.
 - G. Direct that notice be mailed.
7. Resolution to appoint registered engineer.

8. Authorize staff to advertise for request for proposals.
9. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$72,246.31
10. Other business.
11. Approve pro rata payment of to the Drainage Board members
12. Adjourn.

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE RUFÉ COLLIER DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Rufe Collier Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Maintenance Fund in the amount of \$7,005.20 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund from the Maintenance Fund in the amount of \$7,005.20.

ADOPTED: Yeas - 3
Nays - 0

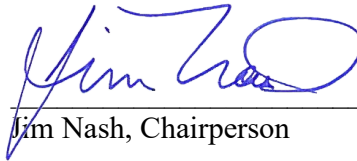
A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Construction Fund in the amount of \$52,393.84 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund from the Maintenance Fund in the amount of \$52,393.84.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.




Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Rufe Collier Drain, Oakland County, Michigan, held on 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Rufe Collier Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER****MEMORANDUM**

TO: Jim Nash, Chairperson of the Rufe Collier Drain Drainage Board

FROM: Taylor Warstler, Civil Engineer II

SUBJECT: General Summary of the Project to Extend the Rufe Collier Drain

DATE: April 22, 2025

On March 3, 2025, the City Council of Auburn Hills approved a petition to extend the Rufe Collier Drain Drainage District. On April 1, 2025, the City Council of Pontiac approved a similar petition. The Oakland County Water Resources Commissioner received certified copies of the petitions from Auburn Hills on March 12, 2025 and from Pontiac on April 9, 2025.

Ducks Unlimited, the world's largest nonprofit waterfowl and wetlands conservation organization, awarded a \$929,849 grant, with no required match, to the District for the design of a drain and wetland restoration project. The proposed project will maintain, improve, extend, and consolidate the Drain by stabilizing streambanks, reducing erosion and sedimentation, and constructing additional wetland storage along the drain. The project will also include the design, but not construction, of trails within Murphy Park to eventually connect the park to the Clinton River Trail. This project will allow the Rufe Collier Drain to extend downstream to absorb the existing Chapter 4 Bartlett Drain and extend upstream to include the entire open channel within Murphy Park.

The cost of the project will be limited to the grant funding received from Ducks Unlimited and any additional funding acquired for the project. A conceptual map showing the proposed drainage area of the District is attached. Design of the project will be completed as soon as practicable with construction expected to be completed by the end of September 2026.

Requested Action: Receive and file.

Resolution of the Pontiac City Council



25-58 (I) **Resolution for Rufe Collier Drain Petition.** Moved by Councilperson Jones and seconded by Councilperson James.

WHEREAS, the City of Pontiac recognizes that it is necessary as a matter of public health for the location, establishment and construction of an intra-county drain project consisting of improvement to the Rufe Collier Drain by extending said Drain downstream along the entire route and course of the existing Bartlett Drain, and by improving and maintaining said Rife Collier Drain, as extended, restoring channels and reaches, creating pools, riffles, and stabilizing streambanks, reducing erosion and sedimentation, constructing structure to improve floodplain storage, enhancing wetlands and access thereto, and constructing additional wetland storage.

RESOLVED:

1. That the City of Pontiac makes and causes to be filed a petition in form substantially as set forth in Exhibit A attached hereto.
2. That the Mayor and City Clerk are authorized and directed to execute the petition for and on behalf of the City of Pontiac and to file the same with the Water Resources Commissioner of the County of Oakland.
3. That the City Council hereby consents to the assessment of part of the cost of the drain project, so located, against the City of Pontiac and hereby agrees that it will pay its share of all costs incurred by the Oakland County Water Resources Commissioner or by the Drainage District in the event the drain project, for any reason, is not completed.
4. That all prior resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution are hereby rescinded.

Ayes: McGuinness, Parker, Carrington, Goodman, James, and Jones

No: None

Abstain: Rutherford

Resolution Passed

I, Garland S. Doyle, City Clerk of the City of Pontiac, hereby certify that the above Resolution is a true and accurate copy of the Resolution passed by the City Council of the City of Pontiac on April 1, 2025.



A handwritten signature in black ink, appearing to read "Garland S. Doyle", written over a horizontal line.

GARLAND S. DOYLE, City Clerk

At a regular meeting of the City Council of the City of Auburn Hills, Oakland County, Michigan held on March 3, 2025.

PRESENT: Mayor Marzolf, Council Members Ferguson, Fletcher, Hawkins, Knight, McDaniel, and Verbeke

ABSENT: None

The following resolution was offered by Council Member Ferguson and seconded by Council Member Fletcher:

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF AUBURN HILLS, OAKLAND COUNTY, MICHIGAN, as follows:

1. That the City of Auburn Hills makes and causes to be filed a petition in form substantially as follows:

PETITION

TO THE DRAINAGE BOARD FOR THE
HEREINAFTER MENTIONED OAKLAND
COUNTY, MICHIGAN DRAIN PROJECT

The undersigned public corporation hereby petitions for the location, establishment and construction of an intra-county drain project consisting of improvements to the Rufe Collier Drain by extending said Drain downstream along the entire route and course of the existing Bartlett Drain, subsuming said Bartlett Drain into the Rufe Collier Drain, by extending said Drain upstream from its current point of ending along an existing open channel extending to the west and northwest adjacent to Murphy Park grounds and facilities and Murphy Park Drive, and by improving and maintaining said Rufe Collier Drain, as extended, restoring channels and reaches, creating pools, riffles, and stabilizing streambanks, reducing erosion and sedimentation, constructing structures to improve floodplain storage, enhancing wetlands and access thereto, and constructing additional wetland storage along the Rufe Collier Drain, as extended, and related improvements that serve said Rufe Collier Drain, as extended, which drain project is necessary for the public health, and will serve property located entirely within the limits of the City of Pontiac and the City of Auburn Hills. The Rufe Collier Drain carries storm water originating in the County of Oakland only.

This petition is filed pursuant to the provisions of Chapter 20 of Act No. 40 of the Public Acts of Michigan of 1956, as amended.

It is understood and agreed that the entire cost of the drain project, including litigation costs and the amount of any judgment, arbitration award or settlement to the extent such costs are payable by the Rufe Collier Drain, is to be assessed against all public corporations that benefit from the drain project and contribute to the conditions that make the drain project necessary, including this petitioner.

A certified copy of the resolution of the governing body of the City of Auburn Hills authorizing execution of this petition is attached hereto.

CITY OF AUBURN HILLS

By: _____

Mayor

By: _____

Clerk

2. That the Mayor and City Clerk are authorized and directed to execute the petition for and on behalf of the City of Auburn Hills and to file the same with the Water Resources Commissioner of the County of Oakland.

3. That the City Council hereby consents to the assessment of part of the cost of the drain project, so located, against the City of Auburn Hills and hereby agrees that it will pay its share of all costs incurred by the Oakland County Water Resources Commissioner or by the Drainage District in the event the drain project, for any reason, is not completed.

4. That all prior resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution are hereby rescinded.

ADOPTED: Yeas - Ferguson, Fletcher, Hawkins, Knight, Marzolf, McDaniel, Verbeke

Nays - None

STATE OF MICHIGAN)

)SS

COUNTY OF OAKLAND)

I hereby certify that that foregoing is a true and complete copy of a resolution adopted by the City Council of the City of Auburn Hills, Oakland County, Michigan, at a regular meeting held on March 3, 2025, the original of which is on file in my office. I certify further that notice of the meeting was given and such meeting was conducted in accordance with the Open Meetings Act.

Laura M. Pierce

City Clerk
City of Auburn Hills

DRAINAGE BOARD FOR THE RUFÉ COLLIER DRAIN
FIRST MEETING FOR NEW DRAIN PROJECT

APRIL 22, 2025

The first meeting of the Drainage Board for the hereinafter mentioned Oakland County, Michigan drain project was held at the office of the Oakland County Water Resources Commissioner, Waterford, Michigan on April 22, 2025.

PRESENT: _____

ABSENT: _____

The meeting was called to order by the Chairperson. The Chairperson presented to the Drainage Board the petition referred to in the following resolution, attached to which petition was a certified copy of the resolution of the governing body of the public corporation signing the same, authorizing the execution of the petition. The Chairperson stated that the petition with the attached resolution was filed in his office on April __, 2025, by the City of Pontiac and the City of Auburn Hills.

The following resolution was offered by _____ and seconded by _____, as reflected herein:

BE IT RESOLVED BY THE DRAINAGE BOARD FOR THE HEREINAFTER MENTIONED OAKLAND COUNTY, MICHIGAN DRAIN PROJECT, as follows:

1. That this Drainage Board has considered the petitions and attached resolutions filed with the Oakland County Water Resources Commissioner on January 21, 2025 by the City of Pontiac and the City of Auburn Hills, which petitions are as follows:

2. That this Drainage Board determines that the stormwater to be carried by the proposed drain project originates in the County of Oakland only; and that the drain project is necessary for the public health.

3. That this Drainage Board tentatively determines that the petition is sufficient; that the drain project proposed therein is practical; and that the following public corporations be assessed to pay the cost of the project to wit:

City of Pontiac

City of Auburn Hills

Board of County Road Commissioners Of The County of Oakland (Road Commission, County of Oakland) – on account of drainage of county highways

State of Michigan – on account of drainage of state highways

4. That the name “RUFÉ COLLIER DRAIN EXTENSION” is hereby given to the drain project and the name “RUFÉ COLLIER DRAIN EXTENSION DRAINAGE DISTRICT” is hereby confirmed for the drainage district therefor.

5. That this Drainage District shall meet on the ____ day of _____, 2025, at ____:____.m., prevailing Eastern Time at the Office of the Oakland County Water Resources Commissioner, Waterford, Michigan for the purpose of hearing any objections to the aforementioned drain project, to the petition therefor, and to the matter of assessing the cost of the drain project to the public corporations above named.

6. That a notice of said meeting shall be prepared which notice shall contain the information required by the Drain Code and shall be published twice in The Oakland Press, a newspaper published in the County of Oakland, State of Michigan, the first publication to be not less than twenty (20) days prior to the time of the hearing.

7. That the notice shall be sent by registered or certified mail to the Clerk of the City of Pontiac and the Clerk to the City of Auburn Hills, the Clerk of the County of Oakland, the

Secretary of the Board of County Road Commissioners Of The County of Oakland (Road Commission, County of Oakland), and all public corporations to be assessed as provided by law, which mailing shall be made not less than twenty (20) days prior to the time of the hearing.

ADOPTED: Yeas - _____

Nays - _____

8. It was moved by _____ and supported by _____ that the following be appointed to act in the following capacities in connection with the proposed drain project:

Hubbell, Roth & Clark, Inc., as engineers.

ADOPTED: Yeas -

Nays -

Upon motion by _____, seconded by _____ and unanimously adopted, the meeting was adjourned.

Chairperson

April 22, 2025

STATE OF MICHIGAN)
)SS
COUNTY OF OAKLAND)

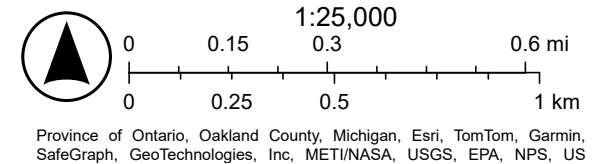
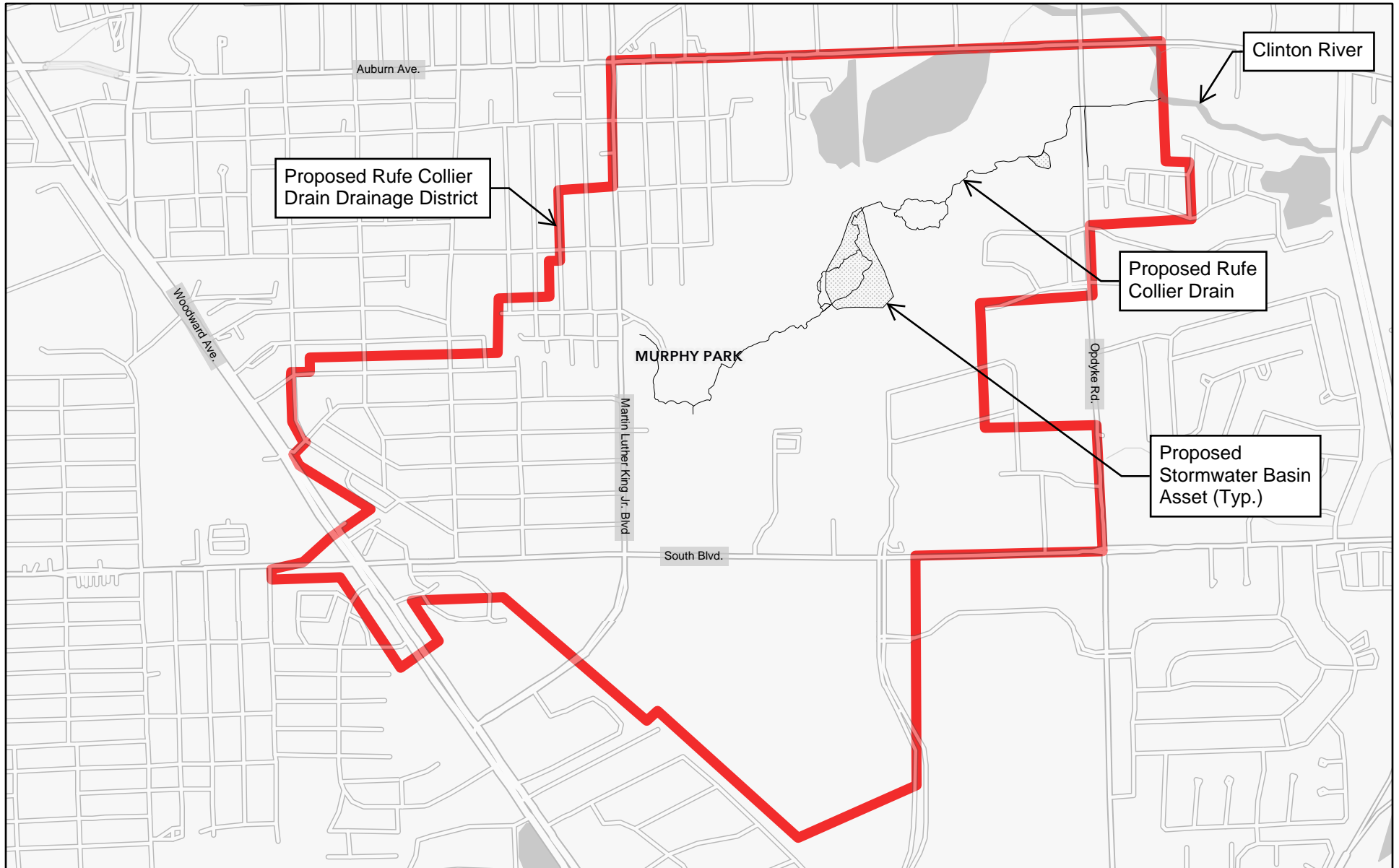
I hereby certify that the foregoing is a true and complete copy of the minutes of a meeting of the Drainage Board for the Rufe Collier Drain Extension, Oakland County, Michigan, held on April 22, 2025, and that the minutes are on file in the offices of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Rufe Collier Drain, all in accordance with the Open Meetings Act.

Jim Nash,
Chairperson of the Drainage Board

Dated: April 22, 2025

Area to be Served of the Proposed Rufe Collier Drain Drainage District



MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the RUFÉ COLLIER DRAIN (CONSTRUCTION FUND)

FROM: Shawn Phelps, Chief of Fiscal Services *Ⓢ for Shawn Phelps*
OCWRC Drain Accounting

DATE: April 22, 2025

SUBJECT: Request for Reimbursement of Drain Revolving Fund

The following is a detail of Maintenance charges paid from the Drain Revolving Fund for the period ending April 15, 2025.

<u>Ref No.</u>	<u>Paid To</u>	<u>For</u>	<u>Amount</u>
SINV00328487	Drummond Carpenter	Invoice # 5301 - Contracted Services - 12/1/24 - 12/31/24 - PRJ-17851	\$57,296.60
TBP	Drummond Carpenter	Invoice # 5342 - Contracted Services - 01/1/25 - 01/31/25 - PRJ-17851	5,404.63
TBP	Drummond Carpenter	Invoice # 5399 - Contracted Services - 02/1/25 - 02/28/25 - PRJ-17851	9,545.08
TOTAL Project 1-7851			<u>\$72,246.31</u>

4. Acacia Park CSO

AGENDA

DRAINAGE BOARD FOR THE ACACIA PARK CSO DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Maintenance Assessment Recommendation in the amount of \$1,359,490
5. Present request for reimbursement of the Evergreen Farmington Fund in the amount of \$106,138.26
6. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$7,016.75
7. Other business
8. Approve pro rata payment to Drainage Board members
9. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE ACACIA PARK CSO DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Acacia Park CSO Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

David Woodward, Chairperson of the Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$28,464.28 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$28,464.28.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Markham and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Acacia Park CSO Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Acacia Park CSO Drain Drainage District.

Jim Nash, Chairperson

Dated: March 25, 2025

OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE

Acacia Park CSO Drain

Assessment for the following year of expenses: July 1, 2025 through June 30, 2026

Operating Expenses

Sewage Treatment	\$ 446,300.00
Sewer System Maintenance	58,370.00
Sewer System Engineering	35,340.00
Pump Maintenance Unit	347,950.00
Systems Control Unit	8,360.00
Laboratory	1,980.00
Mapping Unit	1,350.00
General and Administrative	48,430.00
Total Operating Expenses	<u>\$ 948,080.00</u>

Revenue Requirements:

Operating Expense	\$ 948,080.00
Non-Operating	-
Major Maintenance	200,000.00
Emergency Maintenance	-
Capital	250,000.00
Total Revenue Requirements	<u>\$ 1,398,080.00</u>
Non-Rate Revenue	<u>(38,590.00)</u>
Rate Required Revenue	<u>\$ 1,359,490.00</u>

Recommended July 1, 2025 through June 30, 2026 assessment:

Total Anticipated Expenses for July 1, 2025 - June 30, 2026	\$ 1,359,490.00
Total Anticipated Funds Needed	<u>\$ 1,359,490.00</u>

TOTAL RECOMMENDED ASSESSMENT

\$ 1,359,490.00

Billings are to be at the end of the calendar quarters.

Prepared by: Raphael Chiolla
Raphael Chiolla - WRC Financial Services

Date: 3/31/2025

Approved by: Gary Nigro
Gary Nigro - Manager, Water Resources Commissioner

Date: 3/31/2025

**SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE
OF THE ACACIA PARK CSO DRAIN**

Public Corporation	Percentage of Apportionment	Total Amount of Assessment
Village of Beverly Hills	68.16000%	\$ 926,628.38
City of Birmingham	28.83000%	\$ 391,940.97
County of Oakland	3.01000%	\$ 40,920.65
Total	100.00000%	\$ 1,359,490.00

Assessment Due Date: To be collected on the following quarters: 9/30/2025, 12/31/2025, 3/31/2026 and 6/30/2026

I hereby certify that I have prepared the Special Assessmnt Roll for the Maintenance of the Acacia Park CSO Drain for the period July 1, 2025 through June 30, 2026 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the Acacia Park CSO Drain

The foregoing Special Assessment Roll for the maintenance of the Acacia Park CSO Drain was approved by the Drainage Board on _____.

Jim Nash
Chairman of the Drainage Board for the Acacia Park CSO Drain

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the ACACIA PARK CSO DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services *HP for Shawn Phelps*
OCWRC Accounting

DATE: April 22, 2025

SUBJECT: Request for Reimbursement of Evergreen Farmington Fund

The following is a detail of charges paid from the Evergreen Farmington Fund
for the period ending April 15, 2025.

Date	Ref No.	For	Amount
01/31/25	JE# 035930	Jan 2025 Storm Water Flow Charges	\$35,379.42
02/28/25	JE# 036524	Feb 2025 Storm Water Flow Charges	35,379.42
03/31/25	JE# 037321	Mar 2025 Storm Water Flow Charges	35,379.42
		Total	<u>\$106,138.26</u>

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the ACACIA PARK CSO DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Approval of Invoices

The following is a detail of Maintenance charges paid from the Drain Revolving Fund and Invoices
for the period ending April 15, 2025

G/L Date	Ref No.	Paid To	For	Amount
	V # SIN00332216	Hamlett Environmental Technologies	Invoice # 2025061 - Contracted Services	\$ 1,790.75
			Total	\$ 1,790.75
	V # SIN00330898	ICS Integration Services LLC	Invoice # 3206 - Contracted Services - Proj 1-7368	\$ 5,226.00
			Project # 1-7368 Total	\$ 5,226.00
			Grand Total	\$ 7,016.75

5. Birmingham CSO

AGENDA

DRAINAGE BOARD FOR THE BIRMINGHAM CSO DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Maintenance Assessment Recommendation in the amount of \$1,481,840
5. Present request for reimbursement of the Evergreen Farmington Fund in the amount of \$115,049.49
6. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$27,773.67
7. Other business
8. Approve pro rata payment to Drainage Board members
9. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE BIRMINGHAM CSO DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Birmingham CSO Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

David Woodward, Chairperson of the Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.


A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$9,495.82 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$9,495.82.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Markham and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

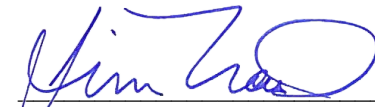


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Birmingham CSO Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Birmingham CSO Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE

Birmingham CSO Drain

Assessment for the following year of expenses: July 1, 2025 through June 30, 2026

Operating Expenses

Sewage Treatment	\$ 496,820.00
Sewer System Maintenance	55,690.00
Sewer System Engineering	29,600.00
Pump Maintenance Unit	380,830.00
Systems Control Unit	12,780.00
Laboratory	1,760.00
Mapping Unit	5,520.00
General and Administrative	50,210.00
Total Operating Expenses	<u>\$ 1,033,210.00</u>

Revenue Requirements:

Operating Expense	\$ 1,033,210.00
Non-Operating	-
Major Maintenance	250,000.00
Emergency Maintenance	-
Capital	225,000.00
Total Revenue Requirements	<u>\$ 1,508,210.00</u>
Non-Rate Revenue	<u>(26,370.00)</u>
Rate Required Revenue	<u>\$ 1,481,840.00</u>

Recommended July 1, 2025 through June 30, 2026 assessment:

Total Anticipated Expenses for July 1, 2025 - June 30, 2026	\$ 1,481,840.00
Total Anticipated Funds Needed	<u>\$ 1,481,840.00</u>

TOTAL RECOMMENDED ASSESSMENT

\$ 1,481,840.00

Billings are to be at the end of the calendar quarters.

Prepared by: Raphael Chiolla
Raphael Chiolla - WRC Financial Services

Date: 3/31/2025

Approved by: Gary Nigro
Gary Nigro - Manager, Water Resources Commissioner

Date: 3/31/2025

OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE

Birmingham CSO Drain

Assessment for the following year of expenses: July 1, 2025 through June 30, 2026

SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE OF THE BIRMINGHAM CSO DRAIN

Public Corporation	Percentage of Apportionment	Total Amount of Assessment
City of Birmingham	96.86000%	\$ 1,435,310.22
County of Oakland	0.29000%	\$ 4,297.34
State of Michigan	2.85000%	\$ 42,232.44
Total	100.00000%	\$ 1,481,840.00

Assessment Due Date: To be collected on the following quarters: 9/30/2025, 12/31/2025, 3/31/2026 and 6/30/2026

I hereby certify that I have prepared the Special Assessment Roll for the Maintenance of the Birmingham CSO Drain for the period July 1, 2025 through June 30, 2026 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the Birmingham CSO Drain

The foregoing Special Assessment Roll for the maintenance of the Birmingham CSO Drain was approved by the Drainage Board on _____.

Jim Nash
Chairman of the Drainage Board for the Birmingham CSO Drain

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the BIRMINGHAM CSO DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services *SP for Shawn Phelps*
OCWRC Accounting

DATE: April 22, 2025

SUBJECT: Request for Reimbursement of Evergreen Farmington Fund

The following is a detail of charges paid from the Evergreen Farmington Fund
for the period ending April 15, 2025.

Date	Ref No.	For	Amount
01/31/25	JE# 035930	Jan 2025 Storm Water Flow Charges	\$38,349.83
02/28/25	JE# 036524	Feb 2025 Storm Water Flow Charges	38,349.83
03/31/25	JE# 037321	Mar 2025 Storm Water Flow Charges	38,349.83
		Total	<u>\$115,049.49</u>

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the BIRMINGHAM CSO DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Approval of Invoices

The following is a detail of Maintenance charges paid from the Drain Revolving Fund and Invoices
for the period ending April 15, 2025

G/L Date	Ref No.	Paid To	For	Amount
	V # SINV00332216	Hamlett Environmental Technologies	Invoice # 2025061 - Contracted Services	\$ 1,790.75
	V # SINV00333249	Haviland Products Company	Invoice # 534997 - Chlorination Supplies	5,593.72
	V # SINV00332108	ADS LLC	Invoice # 35801-0225-I - Contracted Services	495.00
	V # SINV00332111	ADS LLC	Invoice # 35801-0125-I - Contracted Services	\$ 495.00
			Total	\$ 8,374.47
	V # SINV00331467	GWF USA, Inc	Invoice # INV-0091 - Contracted Services - Proj 1-3196	\$ 4,706.25
			Project # 1-3196 Total	\$ 4,706.25
	V # SINV00329855	Allied Building Service Co of Detroit	Invoice # 00348157 - Contracted Services - Proj 1-7624	\$ 14,692.95
			Project # 1-7624 Total	\$ 14,692.95
			Grand Total	\$ 27,773.67

6. Bloomfield Village CSO

AGENDA

DRAINAGE BOARD FOR THE BLOOMFIELD VILLAGE CSO DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Maintenance Assessment Recommendation in the amount of \$2,272,900
5. Present Memorandum from George Nichols, P.E., Assistant Chief Engineer, dated April 22, 2024, requesting the Board award the construction contract to SAK Construction, LLC in the amount of \$118,500 and authorize the Chairperson to execute the contract
6. Present Memorandum from George Nichols, P.E., Assistant Chief Engineer, dated April 22, 2024, requesting the Board award the construction contract to Pipeline Management Company in the amount of \$124,716.00 and authorize the Chairperson to execute the contract
7. Present request for reimbursement of the Evergreen Farmington Fund in the amount of \$139,788.75
8. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$28,844.56
9. Other business
10. Approve pro rata payment to Drainage Board members
11. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE BLOOMFIELD VILLAGE CSO DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Bloomfield Village CSO Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

David Woodward, Chairperson of the Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.


A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$13,504.00 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$13,504.00.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Markham and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

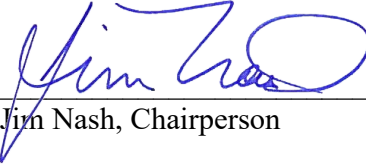


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Bloomfield Village CSO Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for Bloomfield Village CSO Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE

Bloomfield Village CSO Drain

Assessment for the following year of expenses: July 1, 2025 through June 30, 2026

Operating Expenses

Sewage Treatment	\$ 671,100.00
Sewer System Maintenance	93,170.00
Sewer System Engineering	51,000.00
Pump Maintenance Unit	409,370.00
Systems Control Unit	11,150.00
Laboratory	2,140.00
Mapping Unit	1,980.00
General and Administrative	56,830.00
Total Operating Expenses	<u>\$ 1,296,740.00</u>

Revenue Requirements:

Operating Expense	\$ 1,296,740.00
Non-Operating	-
Major Maintenance	330,000.00
Emergency Maintenance	-
Capital	660,000.00
Total Revenue Requirements	<u>\$ 2,286,740.00</u>
Non-Rate Revenue	<u>(13,840.00)</u>
Rate Required Revenue	<u>\$ 2,272,900.00</u>

Recommended July 1, 2025 through June 30, 2026 assessment:

Total Anticipated Expenses for July 1, 2025 - June 30, 2026	\$ 2,272,900.00
Total Anticipated Funds Needed	<u>\$ 2,272,900.00</u>

TOTAL RECOMMENDED ASSESSMENT

\$ 2,272,900.00

Billings are to be at the end of the calendar quarters.

Prepared by: Raphael Chirolla
Raphael Chirolla - WRC Financial Services

Date: 3/31/2025

Approved by: Gary Nigro
Gary Nigro - Manager, Water Resources Commissioner

Date: 3/31/2025

OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE

Bloomfield Village CSO Drain

Assessment for the following year of expenses: July 1, 2025 through June 30, 2026

SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE OF THE BLOOMFIELD VILLAGE CSO DRAIN

Public Corporation	Percentage of Apportionment	Total Amount of Assessment
City of Birmingham	22.09500%	\$ 502,197.26
Charter Township of Bloomfield	54.83000%	\$ 1,246,231.06
City of Bloomfield Hills	6.78400%	\$ 154,193.54
County of Oakland	16.29100%	\$ 370,278.14
Total	100.00000%	\$ 2,272,900.00

Assessment Due Date: To be collected on the following quarters: 9/30/2025, 12/31/2025, 3/31/2026 and 6/30/2026

I hereby certify that I have prepared the Special Assessmnt Roll for the Maintenance of the Bloomfield Village CSO Drain for the period July 1, 2025 through June 30, 2026 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the Bloomfield Village CSO Drain

The foregoing Special Assessment Roll for the maintenance of the Bloomfield Village CSO Drain was approved by the Drainage Board on _____.

Jim Nash
Chairman of the Drainage Board for the Bloomfield Village CSO Drain

**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER**
MEMORANDUM

TO: Jim Nash, Chairperson of the Bloomfield Village CSO Drainage Board

FROM: George P. Nichols, P.E., Assistant Chief Engineer *GPN*

SUBJECT: Chesterfield Road Sewer Lining

DATE: April 22, 2025

On April 7, 2025, bids were received for the Chesterfield Road sewer lining project. This project consists of lining a 24-inch sewer in the City of Birmingham on Chesterfield Road between Redding and Raynale Streets. Bids were requested from our as-needed contractors who specialize in this type of work. Due to the sensitivity of working in a residential area, it was requested to use non-styrenated resin or UV lining operations to eliminate the odor that is caused by traditional lining operations.

The four contractor's bids below were received and reviewed by staff.

SAK (13.5 mm Non-styrenated CIPP liner).....	\$118,500.00
DVM Utilities (13.5 mm Envirocure CIPP liner).....	\$129,490.00
Pipeline Management (7 mm UV CIPP liner).....	\$132,327.52
DVM Utilities (7 mm UV CIPP liner).....	\$137,935.00
Insituform Technologies (16.5 mm Non-styrenated CIPP liner).....	\$175,743.10
DVM Utilities (15.0 mm Non-styrenated CIPP liner).....	\$234,771.00

The low bidder was SAK Construction, LLC headquartered in Romulus. The Water Resources Commissioner's office has previously worked with SAK on several projects and finds its work to be complete and thorough.

SAK has the necessary staff, experience and equipment to meet the qualifications to complete this project. The Bloomfield Village CSO Drainage District has the necessary financial resources available to participate in this project.

Requested Action: Award the construction contract to SAK Construction, LLC in the amount of \$118,500 and authorize the chairperson to execute the contract.



SAK™

Pipeline Infrastructure. Solved.™

636.385.1000 *tel*
636.385.1100 *fax*
864 Hoff Road
O'Fallon, MO 63366
www.sakcon.com

April 3, 2025

Oakland County Water Resources Commission
One Public Works Dr.
Waterford MI 48328

Attn: George Nichols
Re: Chesterfield Rd. Sewer Rehabilitation

As requested, we submit the following proposal to complete the installation of a CIPP manhole to manhole liner to rehabilitate the 24" dia. sewer located on Chesterfield Rd. in Bloomfield Village.

Price

Item	Description	Quantity	Total Price
1	Performance Bonds	1 LS	\$3,000.00
2	Pipe Preparation	1 LS	\$7,500.00
3	24" x 563ft CIPP Liner	1 LS	\$108,000.00
Total			\$118,500.00

INCLUSIONS

- Pipeline preparation, pre & post CCTV inspection including the identification of pipeline dia., length and lateral connections.
- CIPP Installation per ASTM F-1216 including lateral reinstatement
- **The use of Non-Styrenated resin and pre-liner as requested**
- Bypass Pumping as necessary
- Minor traffic Control
- One mobilization
- Performance Bonds

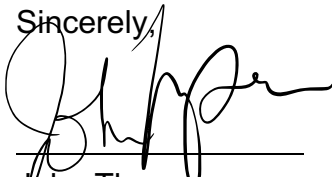
NOTE

Our proposal assumes that the pipeline is in sufficient condition to properly accept a CIPP liner. Our proposal is based on the provided information including diameter and length of pipe segments. Should if we find that actual field conditions differ from those

indicated in the drawings then we will notify you prior to our crews proceeding with the lining operations.

If you have any questions or wish to proceed, please feel free to contact me directly. We look forward to working with you in the near future.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Thompson', written over a horizontal line.

John Thompson
SAK Construction, LLC

Accepted By
Printed Name:
Title:

Date

**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER****MEMORANDUM**

TO: Jim Nash, Chairperson of the Bloomfield Village CSO Drainage Board

FROM: George P. Nichols, P.E., Assistant Chief Engineer *GPN*

SUBJECT: 2025 Bloomfield Village CSO Sewer Cleaning and Inspection Program

DATE: April 22, 2025

On April 7, 2025, bids were opened for the 2025 Bloomfield Village CSO Sewer Cleaning and Inspection Program. This project consists of cleaning and closed-circuit televising the sewers north of Maple Road. Because the Road Commission for Oakland County has an ongoing paving project in the area north of 15 Mile Road, it is appropriate to televise those sewers now in case there is any major rehabilitation that needs to take place before the roads are paved.

The four bids below were received and reviewed by Hubbell, Roth & Clark, Inc (HRC).

Pipeline Management.....	\$124,716.00
Advanced Underground Inspection.....	\$147,066.00
Duke's.....	\$175,365.50
Doetsch Environmental Services.....	\$281,287.10

The low bidder was Pipeline Management Company headquartered in Milford. The Water Resources Commissioner's office has previously worked with Pipeline Management on several projects and finds its work to be complete and thorough. As stated in the attached letter, HRC has worked with Pipeline Management as well on previous successful projects.

Pipeline Management has the necessary staff, experience and equipment to meet the qualifications to complete this project. The Drainage District has the necessary financial resources available to participate in this project.

Requested Action: Award the construction contract to Pipeline Management Company in the amount of \$124,716.00 and authorize the chairperson to execute the contract.



April 10, 2025

Oakland County Water Resources Commissioner
One Public Works Drive
Waterford, Michigan 48328

Attn: Mr. George Nichols, P.E.

Re: Bid Tabulation and Review of Bidding Documents
2025 Bloomfield Village CSO Sewer Cleaning and Inspection

HRC Project No. 20240839

Dear Mr. Nichols:

Pursuant to your request, Hubbell, Roth & Clark, Inc. (HRC) issued the subject project for bids on March 19, 2025, with bids received on April 7, 2025. This project was an invitation-only bid. Bids were received from four (4) contractors ranging from a high bid of \$281,287.10 to a low bid of \$124,716.00 which are summarized below. The majority of bidders submitted the required bid bonds, preliminary schedules, and Vendor Certifications. Bid documents submitted by Dukes were considered non-responsive as they did not include Preliminary Schedule or Vendor Certification "Iran Linked Business". The Engineers Estimate for this project is \$132,221.25

Bidder	Base Bid Amount
Doetsch Environmental.....	\$ 281,287.10
Dukes.....	\$ 175,365.50
Advanced Underground.....	\$ 147,066.00
Pipeline Management.....	\$ 124,716.00

The low bidder was Pipeline Management Company, LLC (PMC) out of Milford Michigan. Both the WRC and HRC have previously worked with PMC on several successful projects, and they are currently a blanket contractor for sewer maintenance services with WRC. PMC performs sewer cleaning services that are representative of the work included in the scope of the project. While it does not affect bid integrity, it shall be noted that PMC bids the same unit price for all pipelines included in the contract regardless of the size or diameter.

Overall, HRC has worked with all bidders successfully on recent construction projects. We are not aware of any negative references for recent projects from any firm for their work previously performed. We therefore have no concerns with the WRC awarding the project to any bidder.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Sally Duffy, P.E.
Manager

Attachment (1) Bid Tabulation

pc: HRC; D. Mitchell, K. Stickel, Z. Al-Aswar, File

WRC; G. Nigro, E. Bantios, J. Carley, J. Say, File



Christopher Ross, P.E.
Manager

Engineer's Estimate					Pipeline Management		Advanced Underground Inspection LLC		Duke's Root Control, Inc		Doetsch Environmental Services	
Hubbell Roth & Clark, Inc Bloomfield Hills, MI (248) 454-6300					2673 E. Maple Rd Milford, MI (248) 685-1500		39101 Webb Drive Westland, MI (734) 721-0081		400 E. Airport Rd, STE E Engin, IL (800) 447-6687		21221 Mullin Ave Warren, MI (586) 755-2090	
Item	Quantity	Unit	Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost	Unit Price	Total Cost
BASE BID												
<u>Item</u>												
1. Mobilization (5% Max)	1	LS	\$ 2,500.00	\$ 2,500.00	\$ 5,000.00	\$ 5,000.00	\$ 5,600.00	\$ 5,600.00	\$ 8,350.00	\$ 8,350.00	\$ 12,000.00	\$12,000.00
2. Project Management	1	LS	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1.00	\$ 1.00	\$ 1,000.00	\$ 1,000.00	\$ 10,000.00	\$10,000.00
3. Permit Allowance	2500	DLR	\$ 1.00	\$ 2,500.00	\$ 1.00	\$ 2,500.00	\$ 1.00	\$ 2,500.00	\$ 1.00	\$ 2,500.00	\$ 1.00	\$2,500.00
4. Clean and Televis, PACP Reporting, 24" Combined Sewer	5825	LFT	\$ 4.75	\$ 27,668.75	\$ 5.00	\$ 29,125.00	\$ 5.50	\$ 32,037.50	\$ 6.00	\$ 34,950.00	\$ 7.23	\$42,114.75 *
5. Clean and Televis, PACP Reporting, 27" Combined Sewer	2000	LFT	\$ 5.00	\$ 10,000.00	\$ 5.00	\$ 10,000.00	\$ 5.50	\$ 11,000.00	\$ 6.25	\$ 12,500.00	\$ 7.88	\$15,760.00
6. Clean and Televis, PACP Reporting, 30" Combined Sewer	2388	LFT	\$ 5.50	\$ 13,134.00	\$ 5.00	\$ 11,940.00	\$ 6.00	\$ 14,328.00	\$ 6.50	\$ 15,522.00	\$ 9.90	\$23,641.20
7. Clean and Televis, PACP Reporting, 33" Combined Sewer	1138	LFT	\$ 6.00	\$ 6,828.00	\$ 5.00	\$ 5,690.00	\$ 6.00	\$ 6,828.00	\$ 7.00	\$ 7,966.00	\$ 11.31	\$12,870.78 *
8. Clean and Televis, PACP Reporting, 36" Combined Sewer	5340	LFT	\$ 6.50	\$ 34,710.00	\$ 5.00	\$ 26,700.00	\$ 7.50	\$ 40,050.00	\$ 7.50	\$ 40,050.00	\$ 14.77	\$78,871.80
9. Clean and Televis, PACP Reporting, 48" Combined Sewer	589	LFT	\$ 7.50	\$ 4,417.50	\$ 5.00	\$ 2,945.00	\$ 7.50	\$ 4,417.50	\$ 10.00	\$ 5,890.00	\$ 16.99	\$10,007.11 *
10. Clean and Televis, PACP Reporting, 60" Combined Sewer	1803	LFT	\$ 8.50	\$ 15,325.50	\$ 5.00	\$ 9,015.00	\$ 8.00	\$ 14,424.00	\$ 12.50	\$ 22,537.50	\$ 19.01	\$34,275.03 *
11. Clean and Televis, PACP Reporting, 72" Combined Sewer	925	LFT	\$ 9.50	\$ 8,787.50	\$ 5.00	\$ 4,625.00	\$ 8.00	\$ 7,400.00	\$ 16.00	\$ 14,800.00	\$ 21.09	\$19,508.25 *
12. Clean and Televis, PACP Reporting, 78" Combined Sewer	35	LFT	\$ 10.00	\$ 350.00	\$ 5.00	\$ 175.00	\$ 8.00	\$ 280.00	\$ 30.00	\$ 1,050.00	\$ 21.09	\$738.15 *
13. Locate and Expose Manhole, As Required	1	EA	\$ 500.00	\$ 500.00	\$ 1.00	\$ 1.00	\$ 200.00	\$ 200.00	\$ 250.00	\$ 250.00	\$ 1,500.00	\$1,500.00
14. Maintaining Traffic	1	LS	\$ 3,500.00	\$ 3,500.00	\$ 15,000.00	\$ 15,000.00	\$ 3,000.00	\$ 3,000.00	\$ 7,500.00	\$ 7,500.00	\$ 15,000.00	\$15,000.00
15. Restoration	1	LS	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 1,000.00	\$ 5,000.00	\$ 5,000.00	\$ 500.00	\$ 500.00	\$ 2,500.00	\$2,500.00
TOTAL AMOUNT			\$	132,221.25	\$	124,716.00	\$	147,066.00	\$	175,365.50	\$	281,287.10 *
ENGINEER: Christopher N. Ross, P.E Hubbell, Roth & Clark, Inc. 555 Hulet Drive Bloomfield Hills, MI 48302												
<u>Other Bidders:</u> Invitation-Only Bid. Bid submitted by Dukes was non-responsive (did not include Preliminary Schedule or Vendor Certification "Iran Linked Business")												
* Corrected by Engineer												

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the BLOOMFIELD VILLAGE CSO DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services *HP for Shawn Phelps*
OCWRC Accounting

DATE: April 22, 2025

SUBJECT: Request for Reimbursement of Evergreen Farmington Fund

The following is a detail of charges paid from the Evergreen Farmington Fund
for the period ending April 15, 2025.

Date	Ref No.	For	Amount
01/31/25	JE# 035930	Jan 2025 Storm Water Flow Charges	\$46,596.25
02/28/25	JE# 036524	Feb 2025 Storm Water Flow Charges	46,596.25
03/31/25	JE# 037321	Mar 2025 Storm Water Flow Charges	46,596.25
		Total	<u>\$139,788.75</u>

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the BLOOMFIELD VILLAGE CSO DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Approval of Invoices

The following is a detail of Maintenance charges paid from the Drain Revolving Fund and Invoices
for the period ending April 15, 2025

G/L Date	Ref No.	Paid To	For	Amount
	V # SIN00332216	Hamlett Environmental Technologies	Invoice # 2025061 - Contracted Services	\$ 1,790.75
	V # SIN00333249	Haviland Products Company	Invoice # 534997 - Chlorination Supplies	5,593.72
			Total	<u>\$ 7,384.47</u>
	V # SIN00333198	Hubbell Roth & Clark Inc	Invoice # 0226019 - Contracted Services - 02/28/25 - Proj 1-7872	\$ 4,472.30
			Project # 1-7872 Total	<u>\$ 4,472.30</u>
	V # SIN00330899	ICS Integration Services LLC	Invoice # 3211 - Contracted Services - Proj 1-7796	\$ 16,987.79
			Project # 1-7796 Total	<u>\$ 16,987.79</u>
			Grand Total	<u>\$ 28,844.56</u>

7. George W. Kuhn Drain

AGENDA

DRAINAGE BOARD FOR THE GEORGE W. KUHN DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present the Capital Improvement Plan for 2026-2030
5. Present the Collection System Capital Improvement Plan for 2026-2030
6. Present Memorandum from Gary Nigro, P.E., Manager, dated April 22, 2025, requesting the Board approve the rates and charges for the rate year beginning July 1, 2025
7. Present Construction Estimate No. 10 for Rolls Mechanical for Construction of the HomeGuard Program in the amount of \$46,752.54
8. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$52,352.94
9. Other business
10. Approve pro rata payment to Drainage Board members
11. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE GEORGE W. KUHN DRAIN**

March 25, 2025

A meeting of the Drainage Board for the George W. Kuhn Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

A memorandum from Sara Rubino, Drainage District Legal Counsel, dated March 25, 2025, regarding a contract proposal with Compass Strategies was presented. It was moved by Markham, supported by Woodward for discussion purposes only, to approve the contract with Compass Strategies for a 6-month engagement cost of \$38,000. Woodward advised that he encourages staff to investigate other firms to ensure the best for district needs. Discussion ensued as to the importance of public relations in regard to the Drainage District. Following discussion, Markham withdrew the motion. No vote was taken.

A memorandum from Stephanie Petriello, Environmental Planner, dated March 25, 2025, requesting the Board receive and file the RainSmart Rebates Pilot Program Update was presented. It was moved by Markham, supported by Woodward, to receive and file the RainSmart Rebates Pilot Program Update as presented.

ADOPTED: Yeas - 3
Nays - 0

Present Construction Estimate No. 9 for Rolls Mechanical for Construction of the HomeGuard Program in the amount of \$37,831.33 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 9 for Rolls Mechanical for Construction of the HomeGuard Program in the amount of \$37,831.33 as presented.

ADOPTED: Yeas - 3
Nays - 0


A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$91,220.70 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$91,220.70.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.




Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the George W. Kuhn Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for George W. Kuhn Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

GEORGE W. KUHN DRAIN DRAINAGE DISTRICT
RETENTION TREATMENT BASIN

CAPITAL IMPROVEMENT PLAN

2026-2030

Capital and Major Maintenance Report

April 14, 2025



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Appendices

- Appendix A: Gravity Main and Manhole Condition and Risk Maps
- Appendix B: Detailed Asset Inventory
- Appendix C: Risk Matrix
- Appendix D: Project Summary
- Appendix E: Budget vs Actual Expense Comparison

Overview

This document presents the proposed five-year Capital Improvement Plan (CIP) for fiscal years 2026 through 2030 (October 1, 2025, through September 30, 2030) for the George W. Kuhn Drain Drainage District Retention Treatment Basin (GWK Drain RTB), also known as the Southeastern Oakland County Sewage Disposal System Pollution Control Facility. The CIP includes anticipated capital and major maintenance work for the period and provides recommendations for the revenue requirements of the major maintenance and capital rate components and system reserves. This forecast of the system's recommended investment is intended to establish long-term budget needs to support future rate stability. The goal is to utilize revenue-based financing where possible, however, forecasts include necessary bond financing. State Revolving Fund loan opportunities and possible state and federal grant options will be pursued to maintain the desired levels of service.

Asset Condition

The condition of the assets in this system is determined by either physical inspection or estimated by useful life where an inspection has not been performed. Strategies related to the future inspection, rehabilitation and replacement are based on the asset's expected performance. These produce intervention recommendations which are reviewed by engineers and field supervisors who select the appropriate action. In this way, capital investment and major maintenance activities address the highest risk assets and maintain the lowest lifecycle cost. The activities may include additional inspection, rehabilitation, repair or replacement.

One of the primary factors used in the system investment strategy is condition of the assets. The overall condition (measured as current Probability of Failure) for all assets in the system is summarized by Replacement Cost in Figure 1, with over 97% of the system categorized in good condition and less than 1% categorized in poor condition.

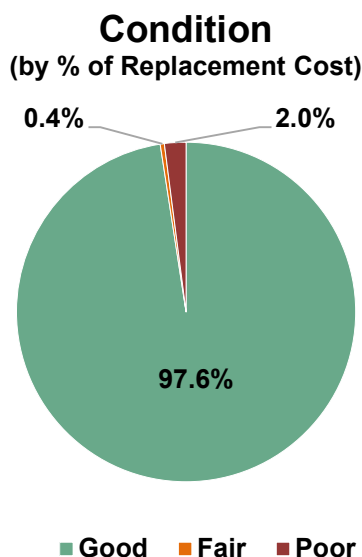


Figure 1: Overall System Condition, by Replacement Cost



To address the rehabilitation, repair, or replacement of the assets categorized in poor condition, a five-year plan has been developed for both capital improvement and major maintenance activities. In some cases, where inspection information is lacking, a re-inspection of the asset is indicated. Details of the investment needed to address these assets are presented in the “Recommendations” section of this report. Condition and risk maps of the gravity main and manhole assets can be found in Appendix A.

Work history is tracked at the asset level. Table 1 provides a summary of the previous year’s inspection, maintenance and corrective action activities. The goal of optimized maintenance is for an 80/20 balance between Predictive/Preventive work and Corrective work. The low number of Corrective work orders as compared to Predictive/Preventive work orders shown in Figure 2 does not reflect the actual repair/replace activities being performed by staff. We are currently in the process of evaluating how each department documents completed work. This process is ongoing, and we expect to have more representative data in the coming years.

Table 1: FY2024 Work Order Summary

GWK Drain RTB			
Work Order Type	Work Order Quantity	Work Distribution	Goal
Predictive Maintenance*	33	3.6%	80%
Preventive Maintenance	873	94.2%	
Corrective Maintenance	21	2.2%	20%

**Collection system inspections are included in Predictive Maintenance*

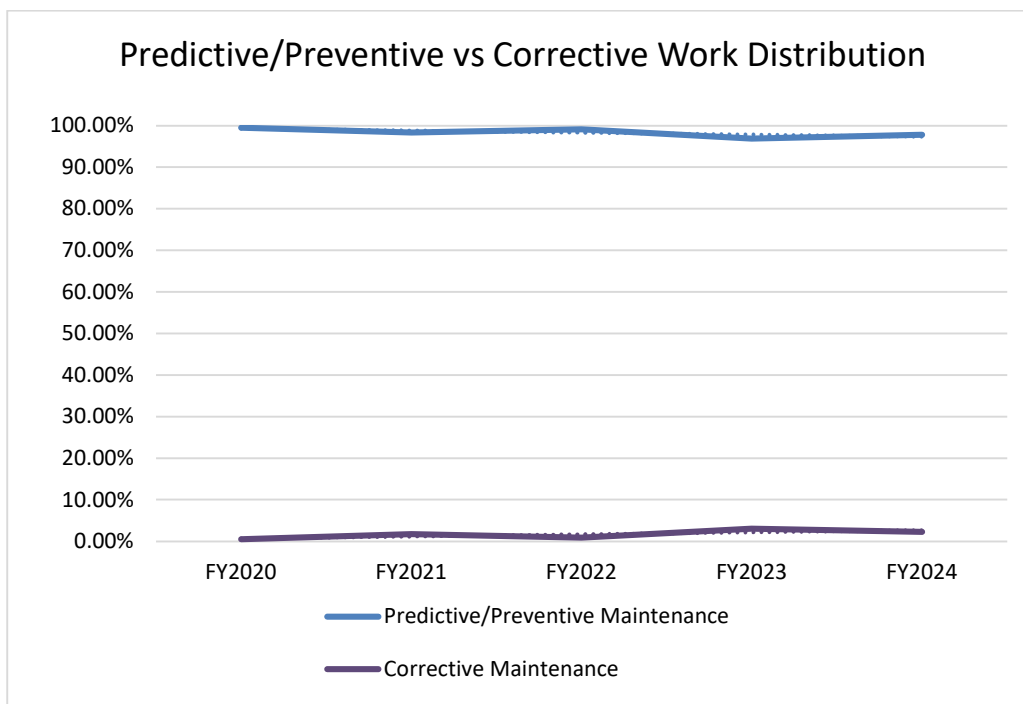


Figure 2: Work Distribution



Level of Service

Level of Service (LOS) is asset management terminology that refers to the quality of service provided to meet customer expectations. It defines the way in which a utility owner wants its system to perform over the long term and is a fundamental part of how the utility is operated and the planned investment is determined. In other words, level of service refers to the operation and investment in the system to provide customers and users the desired quality of service. There is a direct link between the LOS provided and the cost to the customer.

In determining the LOS for the GWK Drain RTB system, a risk-based approach is used. Inspections are based on strategies that consider age, condition and other factors to recommend an efficient and cost-effective cycle. This risk-based approach to condition assessment is applied to horizontal assets (pipe and manholes) and vertical assets (equipment within a facility such as pumps, electrical equipment, structures and buildings), and is performed on a frequency determined by asset type.

The frequency and type of capital and major maintenance activities are also based on a desired LOS. This involves performing asset rehabilitations and replacements to maintain acceptable risk and optimal lifecycle costs. Acceptable risk can vary by system based upon the resources available to operate and maintain a particular utility. Delaying capital and/or major maintenance activities increases the risk of service interruptions and reduces the quality of service to customers.

The financial health of a system is also a measurable component of LOS. Each system develops a long range plan (LRP) and an accompanying rate structure to ensure adequate revenues are collected for budgeted and anticipated future needs. The LRP includes multiple reserve accounts used to fund activities including an Emergency Repair Reserve, Capital Improvement Reserve, Major Maintenance Reserve and Operating Reserve.

Asset Inventory

A Geographic Information System (GIS) geodatabase is the primary means to inventory and map the assets in the system. The geodatabase captures key attributes associated with each asset, such as installation date (age), size and material. There are over 685 assets in the GWK Drain RTB system valued at or with a replacement value of over \$590.6 million as of 2025. A more detailed asset inventory can be found in Appendix B.

Assets include:

- 2 combined treatment facilities
- 2 combined lift stations
- 982 feet of sanitary gravity main
- 24,506 feet of combined gravity main
- 72 manholes/access points
- 591 vertical assets



High Risk Assets

Not all assets are equally important to a utility's operation. Some assets are highly critical to maintaining operations while others could be out of service for a period of time without a negative impact due to redundancy or efficiencies. Critical assets are assets that provide extremely important functions, especially those for which there is no available redundancy or substitution. The consequences of failure of critical assets are serious, having potential to significantly impact customer services. We have analyzed the system and determined which assets are critical.

The overall criticality is an asset prioritization measure and is determined by the consequence of failure. The Consequence of Failure estimates the impact of an assets failure and considers not only the financial impacts but also public safety, service interruption, regulatory requirements and impacts to the public. Generally, the Consequence of Failure does not change throughout the life of an asset. For example, static attributes such as depth and proximity to surface waters and large roadways will affect Consequence of Failure.

The Risk of failure for a critical asset is determined by the Probability of Failure multiplied by the Consequence of Failure. The Probability of Failure is determined by measures such as asset age, condition, failure history, maintenance records, etc. Probability of Failure typically increases as an asset ages or continues to operate. Risk is used to prioritize repairs, replacements and asset inspections. For a more detailed explanation of asset risk, see Appendix C.

At this time, the GWK Drain RTB system does not have any assets identified as high risk.



Major Maintenance Expense Budget

Major maintenance work occurs to support an asset in a variety of ways, allowing it to reach its intended useful life. For horizontal assets this includes pipe cleaning, televised inspection, pipe spot repair, joint grouting, and other activities. For vertical assets this includes rehabilitation or rebuilding of equipment. This table describes current and recommended work through FY2030. A summarized list of Projects can be found in Appendix D. A comparison of Budgeted and Actual Costs can be found in Appendix E.

Table 2: Major Maintenance Expense Budget

Expense Description	Funding	Program /Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
Dequindre PS Evaluate/Rebuild Dewatering Pumps 1 thru 7	Reserve	149662	\$0	\$0	\$0	\$0	\$0	\$100,000	\$100,000
Dequindre PS Site Fencing	Reserve	149662	\$0	\$0	\$13,000	\$0	\$0	\$0	\$13,000
GWK Dewatering PS Rebuild Dewatering Pump 6	Reserve	149662	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK Dewatering PS Rebuild Dewatering Pumps 3 & 4	Reserve	PRJ-17586	\$32,294	\$0	\$0	\$0	\$0	\$0	\$0
GWK RTB Facility Basin Concrete, Stephenson Chlorine Tanks and Flushing Piping Evaluate/Rehabilitate	Reserve	149662	\$125,000	\$500,000	\$0	\$0	\$0	\$0	\$500,000
GWK RTB Facility Evaluate Flushing System Valve Vaults	Reserve	PRJ-17690	\$35,215	\$0	\$0	\$0	\$0	\$0	\$0
GWK RTB Facility Local SCADA Ignition Upgrade	Reserve	PRJ-17797	\$55,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK RTB Facility MDOT I-75 Tunnel Project	Reserve	PRJ-12847	\$89,674	\$0	\$0	\$0	\$0	\$0	\$0
GWK RTB Facility MDOT PS First Flush Pilot Study	Reserve	PRJ-17757	\$25,000	\$25,000	\$0	\$0	\$0	\$0	\$25,000
GWK RTB Facility Unplanned Major Maintenance	Reserve	149097	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
GWK RTB PowerPlan Support Cost	Reserve	149669	\$221,743	\$213,592	\$220,000	\$226,600	\$233,398	\$240,400	\$1,133,990



Expense Description	Funding	Program /Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
GWK Treatment Building Disinfection System Investigation	Reserve	PRJ-17689	\$72,836	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Evaluate/Rehab Screen Room Roof	Reserve	149662	\$50,000	\$575,000	\$500,000	\$0	\$0	\$0	\$1,075,000
GWK Treatment Building Fire Shutter Rehab/Replace	Reserve	149667	\$15,000	\$185,000	\$0	\$0	\$0	\$0	\$185,000
GWK Treatment Building Rebuild M-1 through M-16 Hypochlorite Induction Units	Reserve	PRJ-13669	\$59,550	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Rehab Flushing Valves & Pipe Supports	Reserve	PRJ-17626	\$22,980	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Rehab Mechanical Bar Screens S-1 through S-16	Reserve	PRJ-17327	\$150,000	\$150,000	\$150,000	\$0	\$0	\$0	\$300,000
GWK Treatment Building Rehab Sluicing Trough Screen SC-1	Reserve	149662	\$0	\$0	\$0	\$0	\$32,000	\$0	\$32,000
GWK Treatment Building Reline Chlorine Tanks No. 3 & 7	Reserve	149662	\$0	\$0	\$0	\$0	\$0	\$56,000	\$56,000
GWK Treatment Building Screens Differential Enhancement	Reserve	PRJ-17627	\$150,000	\$0	\$0	\$0	\$0	\$0	\$0
Regional Stormwater Communication Coordination	Reserve	PRJ-13445	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
Stephenson Control Building Site Fencing	Reserve	149662	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0
Rate Funded			\$1,234,291	\$1,703,592	\$938,000	\$281,600	\$320,398	\$451,400	\$3,694,990
Bond/Grant Funded			\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total			\$1,234,291	\$1,703,592	\$938,000	\$281,600	\$320,398	\$451,400	\$3,694,990



Capital Improvement Expense Budget

Capital activities either add new assets, replace an existing asset or modify an existing asset in such a way as to extend its useful life beyond the original expectation. For horizontal assets, useful life can be extended by lining and other structural rehabilitations. For vertical assets, useful life is also extended by rehabilitation, rebuilding or modification of equipment. This table describes current and recommended work through FY2030. A summarized list of Projects can be found in Appendix D. A comparison of Budgeted and Actual Costs can be found in Appendix E.

Table 3: Capital Improvement Expense Budget

Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
Dequindre PS Rebuild Flushing Pumps 1 & 3	Reserve	PRJ-17027	\$58,513	\$0	\$0	\$0	\$0	\$0	\$0
Dequindre PS Replace Effluent Sampler	Reserve	149667	\$0	\$0	\$0	\$0	\$0	\$50,000	\$50,000
Dequindre PS Replace Flushing Main Supply, Drain & Relief Valves	Reserve	PRJ-17853	\$80,000	\$0	\$0	\$0	\$0	\$0	\$0
Dequindre PS Replace Flushing Pump Motors	Reserve	149667	\$0	\$0	\$0	\$48,000	\$30,000	\$0	\$78,000
Dequindre PS Replace Lighting Panel LP-B	Reserve	149667	\$0	\$0	\$0	\$0	\$0	\$18,000	\$18,000
Dequindre PS Replace Roller Gate Actuator	Reserve	149667	\$0	\$50,000	\$0	\$0	\$0	\$0	\$50,000
Dequindre PS Replace Sample Pumps	Reserve	149667	\$26,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK Dewatering PS Replace Dewatering Mag Meters	Reserve	149667	\$128,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK Dewatering PS Replace Dewatering Sump Pumps 9 & 10	Reserve	149667	\$0	\$0	\$0	\$30,000	\$30,000	\$0	\$60,000
GWK Dewatering PS Replace Motors for Pumps 1 thru 6	Reserve	149667	\$0	\$0	\$0	\$0	\$0	\$166,000	\$166,000
GWK Dewatering PS Replace VFDs for Motors on Pumps 1 thru 6	Reserve	PRJ-17541	\$177,690	\$177,690	\$0	\$0	\$0	\$0	\$177,690
GWK RTB Asset Mgmt Software Implementation	Reserve	149669	\$75,410	\$0	\$0	\$0	\$0	\$0	\$0
GWK RTB Facility Evaluate & Replace Fiber Optic Cable System	Reserve	149667	\$0	\$0	\$0	\$0	\$500,000	\$500,000	\$1,000,000



Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
GWK RTB Facility Remote Monitoring Cameras	Reserve	149667	\$0	\$100,000	\$0	\$0	\$0	\$0	\$100,000
GWK RTB Facility Repair Headwall Outfall @ Red Run Federal Drain	Reserve	PRJ-13167	\$4,000	\$400,000	\$0	\$0	\$0		\$400,000
GWK Treatment Building Control Room Improvements	Reserve	149667	\$0	\$100,000	\$0	\$0	\$0	\$0	\$100,000
GWK Treatment Building Dechlorination Study/Design/Construct	Reserve	149667	\$150,000	\$750,000	\$5,000,000	\$5,000,000	\$0	\$0	\$10,750,000
GWK Treatment Building Install TRC Metering for Intermediate Sampling	Reserve	149667	\$50,000	\$50,000	\$0	\$0	\$0	\$0	\$50,000
GWK Treatment Building Replace Basin & Weir Level Transmitters	Reserve	149662	\$12,000	\$36,000	\$0	\$0	\$0	\$0	\$36,000
GWK Treatment Building Replace Chlorine Room Supply & Exhaust Fans	Reserve	149667	\$0	\$0	\$0	\$60,000	\$0	\$0	\$60,000
GWK Treatment Building Replace Disinfection Valves & Piping	Reserve	PRJ-17587	\$150,000	\$146,128	\$0	\$0	\$0	\$0	\$146,128
GWK Treatment Building Replace Eight Hypochlorite Feed Pumps	Reserve	149667	\$0	\$0	\$0	\$0	\$0	\$400,000	\$400,000
GWK Treatment Building Replace Flushing System Relief Valve	Reserve	149667	\$0	\$0	\$250,000	\$0	\$0	\$0	\$250,000
GWK Treatment Building Replace Level Sensors for Chlorine Tanks 1, 2, 4 & 8	Reserve	PRJ-17854	\$25,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Replace Make Up Air Units 1-5	Reserve	149667	\$175,000	\$150,000	\$300,000	\$0	\$0	\$0	\$450,000
GWK Treatment Building Replace MGD Flow Meters	Reserve	PRJ-13409	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Replace Motorized Entry Gates & North Electrical Feed	Reserve	149667	\$120,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Replace Motors for Sodium Hypochlorite Feed Pumps 1-6 & 8	Reserve	149667	\$0	\$0	\$0	\$0	\$50,000	\$60,000	\$110,000



Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
GWK Treatment Building Replace Parking Lot	Reserve	PRJ-13484	\$127,211	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Replace Screen Room Exhaust Fans 20 through 42.	Reserve	149667	\$0	\$0	\$0	\$500,000	\$500,000	\$0	\$1,000,000
GWK Treatment Building Replace Screen Room Hatch	Reserve	PRJ-17664	\$74,370	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Replace Screening VFDs	Reserve	PRJ-13437	\$187,917	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Replace Service Water Mag Meter	Reserve	149667	\$0	\$15,000	\$0	\$0	\$0	\$0	\$15,000
GWK Treatment Building Replace Unit Heaters	Reserve	PRJ-17588	\$65,000	\$32,500	\$32,500	\$32,500	\$32,500	\$0	\$130,000
GWK Treatment Building Replace Wet Well Bubblers	Reserve	PRJ-13672	\$20,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK Treatment Building Screen Room Solids Handling Improvement Study	Reserve	149667	\$0	\$50,000	\$0	\$0	\$0	\$0	\$50,000
Stephenson Control Building Electrical Upgrades	Reserve	149667	\$25,000	\$100,000	\$0	\$0	\$0	\$0	\$100,000
Stephenson Control Building Replace Generator & ATS	Reserve	PRJ-17155	\$15,000	\$0	\$0	\$0	\$0	\$0	\$0
Stephenson Control Building Replace Level Transmitters	Reserve	PRJ-13673	\$24,000	\$0	\$0	\$0	\$0	\$0	\$0
Stephenson Control Building Replace Roof	Reserve	149667	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0
Stephenson Garage Replace Cranes 1, 2 & 3	Reserve	149667	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0
Stephenson Garage Replace Maintenance Equipment	Reserve	149667	\$25,000	\$150,000	\$50,000	\$0	\$0	\$0	\$200,000
Stephenson Garage Replace Roof	Reserve	PRJ-17855	\$80,000	\$0	\$0	\$0	\$0	\$0	\$0
Rate Funded			\$2,205,111	\$2,307,318	\$5,632,500	\$5,670,500	\$1,142,500	\$1,194,000	\$15,946,818
Bond/Grant Funded			\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total			\$2,205,111	\$2,307,318	\$5,632,500	\$5,670,500	\$1,142,500	\$1,194,000	\$15,946,818



Recommendations

Major Maintenance

The recommendation is for the system to increase major maintenance funding over the next few years to allow for rehabilitation and ongoing inspection of the horizontal and vertical assets in the system. For FY2026, the recommendation is to invest \$1.7 million in Major Maintenance work. Output from the asset management software indicates that over the next 20 years investment could be as high as \$5.5 million to maintain the desired level of service. This equates to an annual average major maintenance investment of \$277,000.

Capital Improvements

The latest condition assessments indicate the system is currently in good condition and has an estimated replacement value of over \$590.6 million. At this time, the system has utilized 86% of the useful life of its assets. The recommendation is for the system to invest \$2.3 million on capital improvements in FY 2026. The average projected capital investment over the five year planning window is \$3.2 million. Output from the asset management software indicates that over the next 20 years investment could be as high as \$83.5 million to maintain the desired level of service. This equates to an annual average capital investment of \$4.2 million. A large number of assets are approaching the end of their service life and will need to be replaced in the near future.

Summary

The Stormwater, Asset Management, and Wastewater (SAW) Program was established in 2013 to help agencies develop, update, and improve asset management plans for their wastewater and stormwater systems. This program provided grants and/or matching funds to assist with this work and move towards financial sustainability.

The majority of assets in the system were inspected between 2016 and 2018 through the SAW Grant program. These inspections identified numerous assets in need of improvement. Critical issues have been addressed while less serious issues have been prioritized and are being resolved. Budgets are based on an evaluation of overall risk and address assets with an unacceptable level of risk or require intervention to ensure risk does not become unacceptable in the near term. To maintain the existing level of service within the system, forecasts indicate that an average of \$4.2 million/year is invested in capital improvements and \$277,000/year is invested in major maintenance items for each of the next 20 years. This is a projected annual spend of \$4.5 million.

A general rule of thumb is to budget for 1% of a system's replacement value on an annual basis. This assumes all assets to have a 100 year useful life. Since this is not the case, the 1% number will underestimate the needs of vertical assets and overestimate the needs of some horizontal assets. However, this number is useful in guiding discussion on future budget needs during the rate setting process. 1% of the replacement value of the system is currently estimated at \$5.9 million.

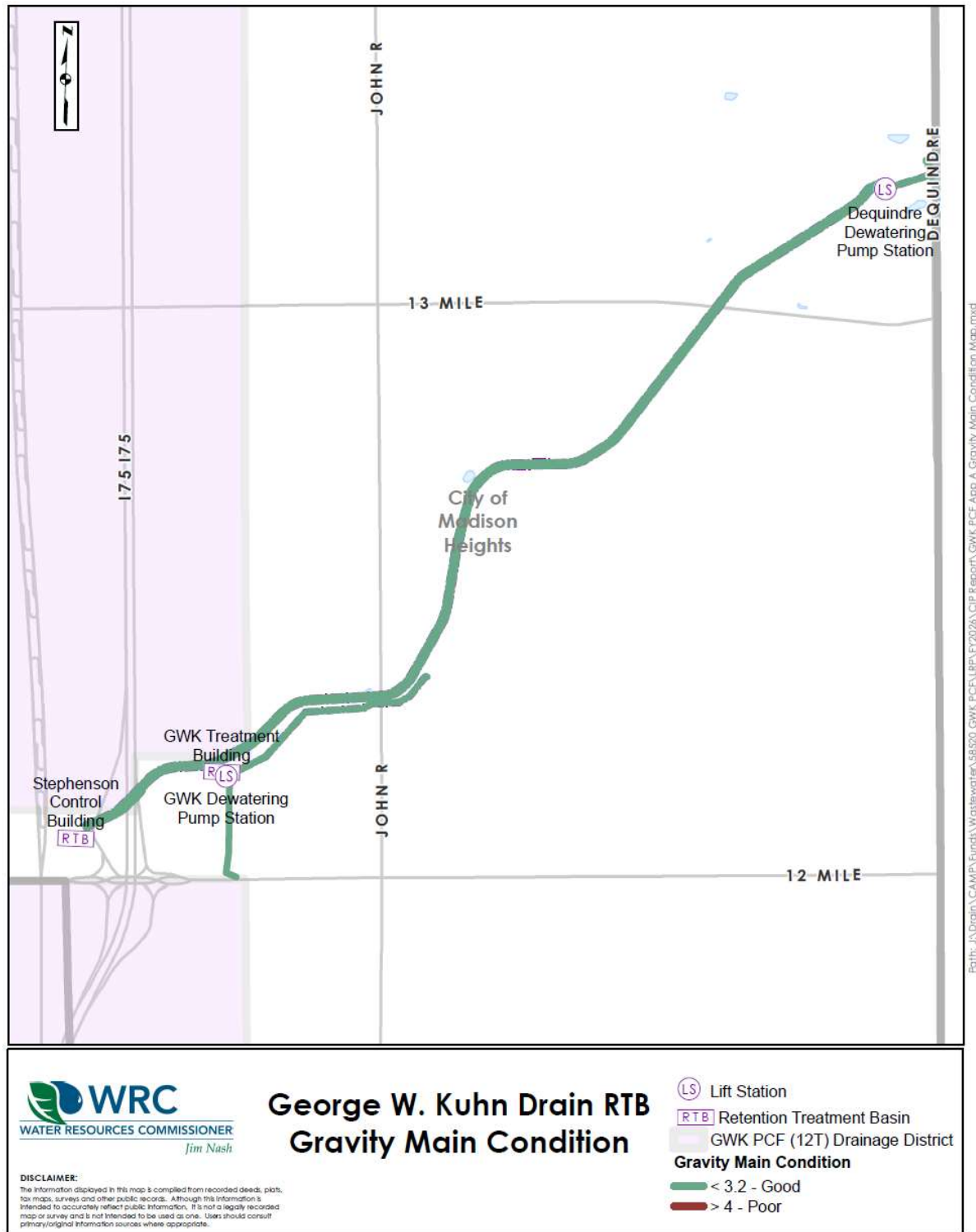
It is recommended the system approve the proposed \$1.7 million for Major Maintenance and \$2.3 million for rate-financed Capital for FY2026. The comprehensive workplan outlined for this five-year planning window, as detailed in Tables 2 and 3 above, is designed to support both ongoing projects and future initiatives, ensuring the system remains well-maintained and capable of meeting evolving needs.



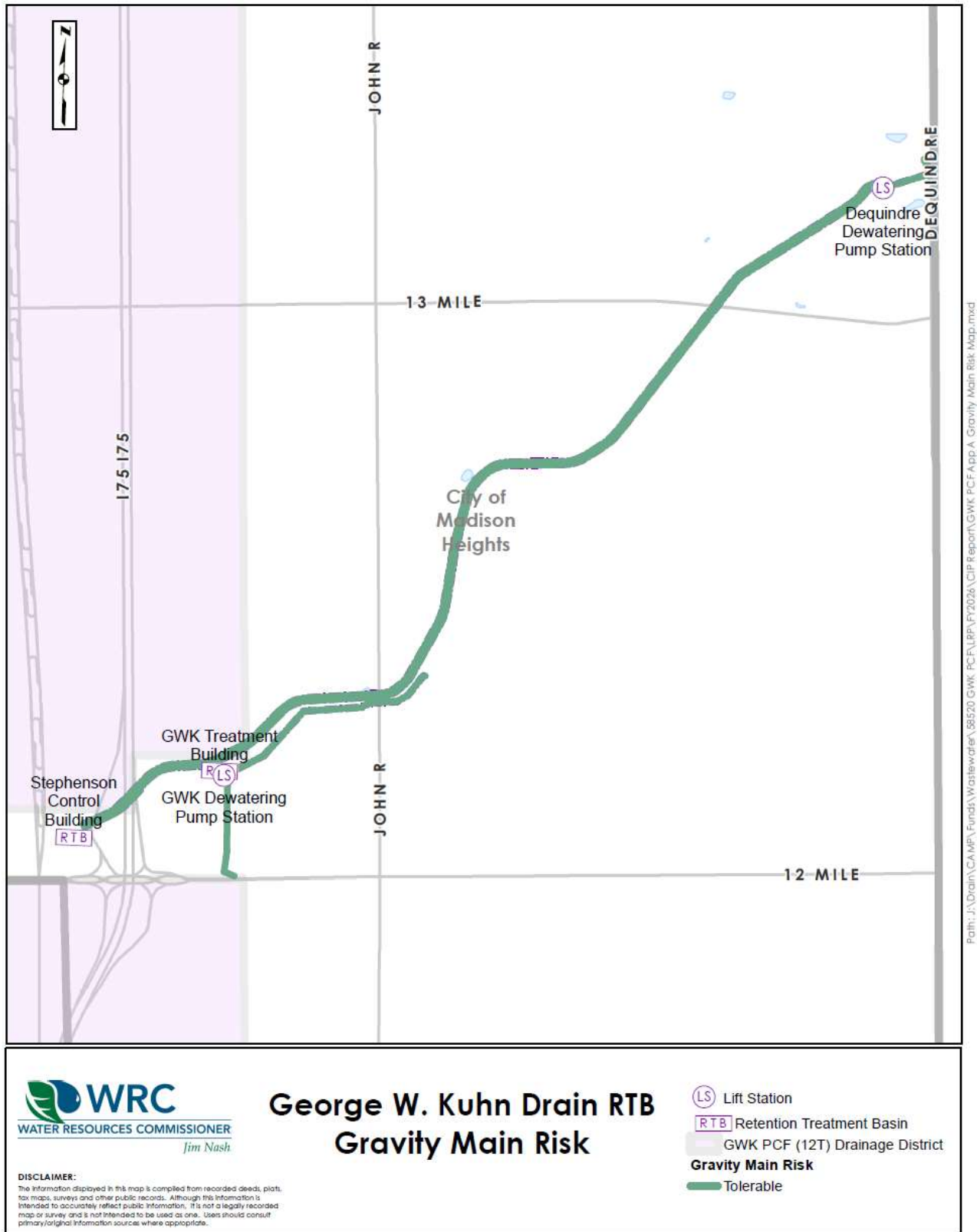
Appendix A

Gravity Main and Manhole Condition and Risk Maps

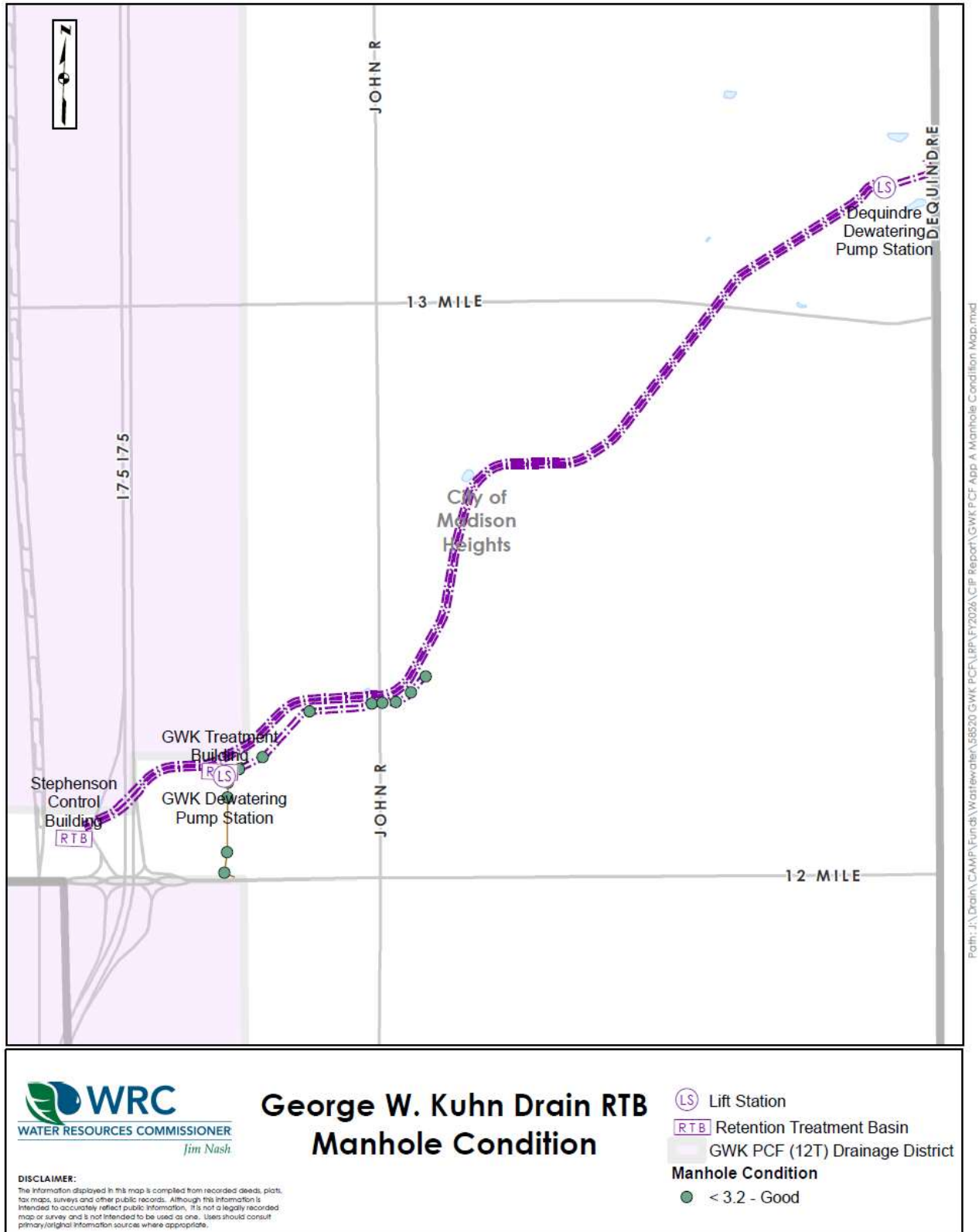
A. Gravity Main Condition Map



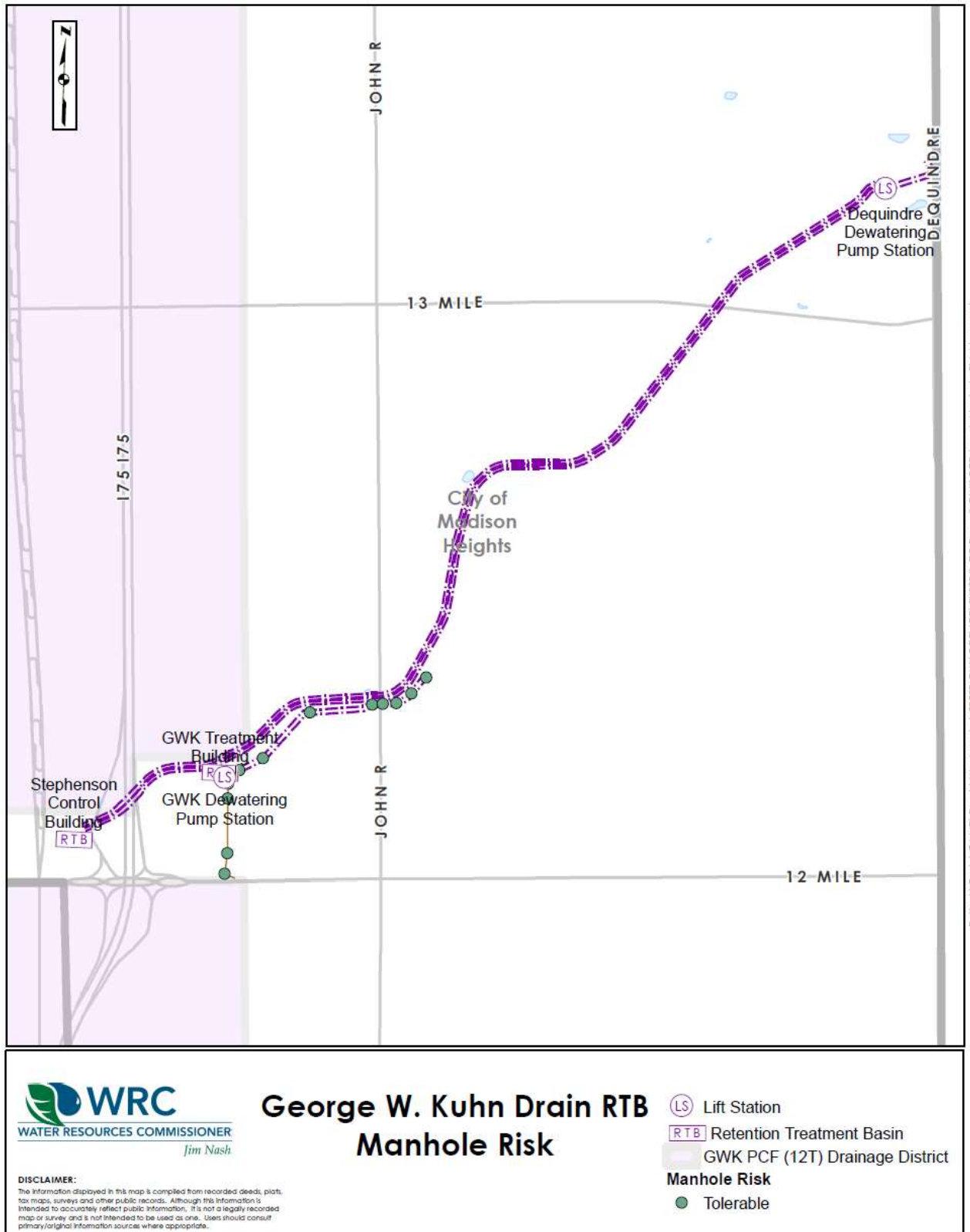
B. Gravity Main Risk Map



C. Manhole Condition Map



D. Manhole Risk Map



Appendix B

Detailed Asset Inventory



ASSET SUMMARY

Southeast Oakland SDS Pollution Control - 58520

Structures		Sites	
Type	Count	Type	Count
Combined Access Point	60	Combined Lift Station	2
Combined Manhole	8	Combined Treatment Facility	2
Sewer Manhole	4		

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	24,506	14
Gravity - Sanitary		
Sewer Gravity Main	982	4
Totals:	25,488	18

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	24,506	14
Gravity - Sanitary		
Concrete	875	3
Plastic	106	1

Report Date: 03/27/2025



ASSET SUMMARY

Southeast Oakland SDS Pollution Control - 58520

Vertical Assets Summary	
Type	Count
ActuatorNS	16
CommunicationEquipmentNS	1
CompressorNS	9
ElectricEquipmentNS	20
ElevatorHoistNS	10
FacilityMeterNS	2
FilterStrainerNS	1
FlowMeterNS	13
GeneratorNS	5
HeatingAndCoolingNS	45
InstrumentationNS	51
MixerNS	16
MotorNS	17
PipingNS	5
PlantValveNS	122
PlumbingNS	4
PumpNS	37
SafetySecurityNS	4
ScreenNS	23
StorageTankNS	8
StructureNS	112
VariableSpeedControlNS	6
VentilationNS	64
Total:	591

Report Date: 03/27/2025

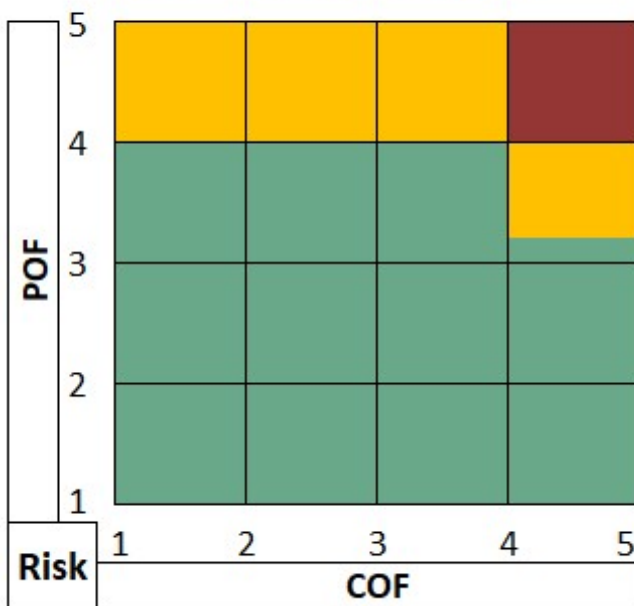
Appendix C

Risk Matrix

Risk can be assessed by identifying assets that do not meet the required Minimum Acceptable Condition (MAC), which is measured as the minimum acceptable Probability of Failure score. The MAC can be adjusted to reflect the determined Level of Service. Systems where financial hardships exist and/or there is a significant amount of previously deferred maintenance may set a higher MAC to better prioritize work within their current budgets, but also carry a higher level of risk. In this way, assets with higher criticality can be prioritized over those with lower criticality, which allows for the most cost-effective means to budget work.

The MAC varies depending on an individual asset's COF. The standard for this system is an MAC of 3.2 for assets that have a COF equal to or greater than 4.0 and an MAC of 4.0 for assets with a COF less than 4.0. The following graphic shows the relationship between POF, COF and Risk.

$$\text{Risk} = \text{COF Total} * \text{POF Total}$$



Scale	
Type	Color
High Risk	Critical assets requiring short-term action. Consider for Current thru Year 2 Projects. Consider use of Emergency Reserve funding.
Significant Risk	Assets requiring medium-term action. Consider for Year 1 -5 Projects.
Tolerable Risk	Assets to be managed using routine procedures. Increase frequency of inspection and/or rehabilitation with rising COF or POF.



Appendix D

Project Summary

Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK RTB Facility MDOT I-75 Tunnel Project	RTB	Lesli Maes, P.E.	Active	PRJ-12847	2018	2025	\$1,100,000
GWK RTB Facility Replace Local SCADA System	RTB	Lesli Maes, P.E.	Completed	PRJ-12776	2018	2024	\$530,200
GWK RTB Facility Repair Headwall Outfall @ Red Run Federal Drain	RTB	George Nichols, P.E.	Active	PRJ-13167	2020	2026	\$500,000
GWK Treatment Building Replace MGD Flow Meters	RTB	Lesli Maes, P.E.	Active	PRJ-13409	2021	2025	\$250,000
GWK Treatment Building Replace Parking Lot	RTB	Leslie Maes, P.E.	Active	PRJ-13484	2021	2025	\$665,000
GWK Treatment Building Replace Screening VFDs	RTB	Lesli Maes, P.E.	Active	PRJ-13437	2021	2025	\$200,000
Regional Stormwater Communication Coordination	Environmental	Stephanie Petriello	Active	PRJ-13445	2021	2030	\$160,000
Stephenson Garage Replace Office Furnace	RTB	Jason Say	Completed	PRJ-13480	2021	2025	\$15,000
Dequindre PS Replace Transducers	RTB	Lesli Maes, P.E.	Completed	PRJ-13442	2021	2024	\$66,000
GWK Treatment Building Reline Chlorine Tanks No. 2 & 6	RTB	Jason Say	Completed	PRJ-13483	2021	2024	\$56,000
GWK Treatment Building Replace PLC	RTB	Lesli Maes, P.E.	Completed	PRJ-13408	2021	2024	\$264,000
Stephenson Garage Replace Crane 1-3 Ton Rail Crane	RTB	Jason Say	Completed	PRJ-13481	2021	2024	\$12,000
Dequindre PS Rebuild Flushing Pumps 1 & 3	RTB	Lesli Maes, P.E.	Active	PRJ-17027	2022	2025	\$70,000
GWK Treatment Building Rebuild M-1 through M-16 Hypochlorite Induction Units	RTB	Lesli Maes, P.E.	Active	PRJ-13669	2022	2025	\$200,000
GWK Treatment Building Replace Wet Well Bubblers	RTB	Lesli Maes, P.E.	Active	PRJ-13672	2022	2025	\$20,000
Stephenson Control Building Replace Generator & ATS	RTB	Lesli Maes, P.E.	Active	PRJ-17155	2022	2025	\$310,000
Stephenson Control Building Replace Level Transmitters	RTB	Lesli Maes, P.E.	Active	PRJ-13673	2022	2025	\$24,000
Dequindre PS Replace Sump Pumps 1 and 2	RTB	Lesli Maes, P.E.	Completed	PRJ-17026	2022	2024	\$12,000
GWK Treatment Building Rebuild Eight Hypochlorite Feed Pumps	RTB	Lesli Maes, P.E.	Completed	PRJ-13668	2022	2024	\$50,000
GWK Treatment Building Rehab Mechanical Bar Screens S-1 through S-16	RTB	Lesli Maes, P.E.	Active	PRJ-17327	2023	2027	\$120,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK Treatment Building Rebuild Dewatering Pump 1	RTB	Lesli Maes, P.E.	Completed	PRJ-17324	2023	2024	\$30,000
GWK Treatment Building Replace Level Sensors for Chlorine Tanks 1 thru 4	RTB	Lesli Maes, P.E.	Completed	PRJ-17326	2023	2024	\$20,000
GWK Dewatering PS Rebuild Dewatering Pumps 3 & 4	RTB	Lesli Maes, P.E.	Active	PRJ-17586	2024	2025	\$50,000
GWK Dewatering PS Replace VFDs for Motors on Pumps 1 thru 6	RTB	Lesli Maes, P.E.	Active	PRJ-17541	2024	2026	\$360,000
GWK RTB Facility Evaluate Flushing System Valve Vaults	RTB	Lesli Maes, P.E.	Active	PRJ-17690	2024	2031	\$75,000
GWK Treatment Building Disinfection System Investigation	RTB	Lesli Maes, P.E.	Active	PRJ-17689	2024	2025	\$90,000
GWK Treatment Building Rehab Flushing Valves & Pipe Supports	RTB	Lesli Maes, P.E.	Active	PRJ-17626	2024	2025	\$50,000
GWK Treatment Building Reline Chlorine Tanks No. 4 & 8	RTB	Lesli Maes, P.E.	Completed	PRJ-17540	2024	2025	\$70,000
GWK Treatment Building Replace Disinfection Valves & Piping	RTB	Lesli Maes, P.E.	Active	PRJ-17587	2024	2026	\$300,000
GWK Treatment Building Replace Screen Room Hatch	RTB	Lesli Maes, P.E.	Active	PRJ-17664	2024	2025	\$80,000
GWK Treatment Building Replace Unit Heaters	RTB	Lesli Maes, P.E.	Active	PRJ-17588	2024	2029	\$195,000
GWK Treatment Building Screens Differential Enhancement	RTB	Lesli Maes, P.E.	Active	PRJ-17627	2024	2025	\$150,000
GWK RTB Asset Mgmt Software Implementation	Asset Mgmt	Jenny Shaw	Budgeted		2024	2025	\$107,730
GWK RTB 2024 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Completed		2024	2024	\$165,844
GWK RTB Facility 2024 Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Completed		2024	2024	\$50,000
GWK RTB 2025 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Active		2025	2025	\$221,743
GWK RTB Facility 2025 Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Active		2025	2025	\$50,000
GWK RTB Facility Local SCADA Ignition Upgrade	RTB	Lesli Maes, P.E.	Active	PRJ-17797	2025	2025	\$55,000
GWK RTB Facility MDOT PS First Flush Pilot Study	RTB	Lesli Maes, P.E.	Active	PRJ-17757	2025	2026	\$50,000
Dequindre PS Replace Flushing Main Supply, Drain & Relief Valves	RTB	Lesli Maes, P.E.	Active	PRJ-17853	2025	2025	\$80,000
Dequindre PS Replace Sample Pumps	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$26,000
GWK Dewatering PS Rebuild Dewatering Pump 6	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$25,000
GWK Dewatering PS Replace Dewatering Mag Meters	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$128,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK RTB Facility Basin Concrete, Stephenson Chlorine Tanks and Flushing Piping Evaluate/Rehabilitate	RTB	Lesli Maes, P.E.	Budgeted		2025	2026	\$725,000
GWK Treatment Building Dechlorination Study/Design/Construct	RTB	Lesli Maes, P.E.	Planning		2025	2028	\$150,000
GWK Treatment Building Fire Shutter Rehab/Replace	RTB	Lesli Maes, P.E.	Planning		2025	2026	\$200,000
GWK Treatment Building Install TRC Metering for Intermediate Sampling	RTB	Lesli Maes, P.E.	Budgeted		2025	2026	\$100,000
GWK Treatment Building Replace Basin & Weir Level Transmitters	RTB	Lesli Maes, P.E.	Budgeted		2025	2026	\$48,000
GWK Treatment Building Replace Level Sensors for Chlorine Tanks 1, 2, 4 & 8	RTB	Lesli Maes, P.E.	Active		2025	2025	\$25,000
GWK Treatment Building Replace Make Up Air Units 1-5	RTB	Lesli Maes, P.E.	Budgeted		2025	2027	\$625,000
GWK Treatment Building Replace Motorized Entry Gates & North Electrical Feed	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$120,000
Stephenson Control Building Electrical Upgrades	RTB	Lesli Maes, P.E.	Budgeted		2025	2026	\$125,000
Stephenson Control Building Replace Roof	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$50,000
Stephenson Garage Replace Cranes 1, 2 & 3	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$30,000
Stephenson Garage Replace Roof	RTB	Lesli Maes, P.E.	Active	PRJ-17855	2025	2025	\$80,000
Stephenson Control Building Site Fencing	RTB	Lesli Maes, P.E.	Planning		2025	2025	\$50,000
Stephenson Garage Replace Maintenance Equipment	RTB	Lesli Maes, P.E.	Planning		2025	2027	\$225,000
Dequindre PS Replace Roller Gate Actuator	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$50,000
GWK RTB 2026 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2026	2026	\$213,592
GWK RTB Facility 2026 Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$50,000
GWK RTB Facility Remote Monitoring Cameras	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$100,000
GWK Treatment Building Control Room Improvements	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$100,000
GWK Treatment Building Replace Service Water Mag Meter	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$15,000
GWK Treatment Building Screen Room Solids Handling Improvement Study	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$50,000
Dequindre PS Site Fencing	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$13,000
GWK RTB 2027 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2027	2027	\$220,000



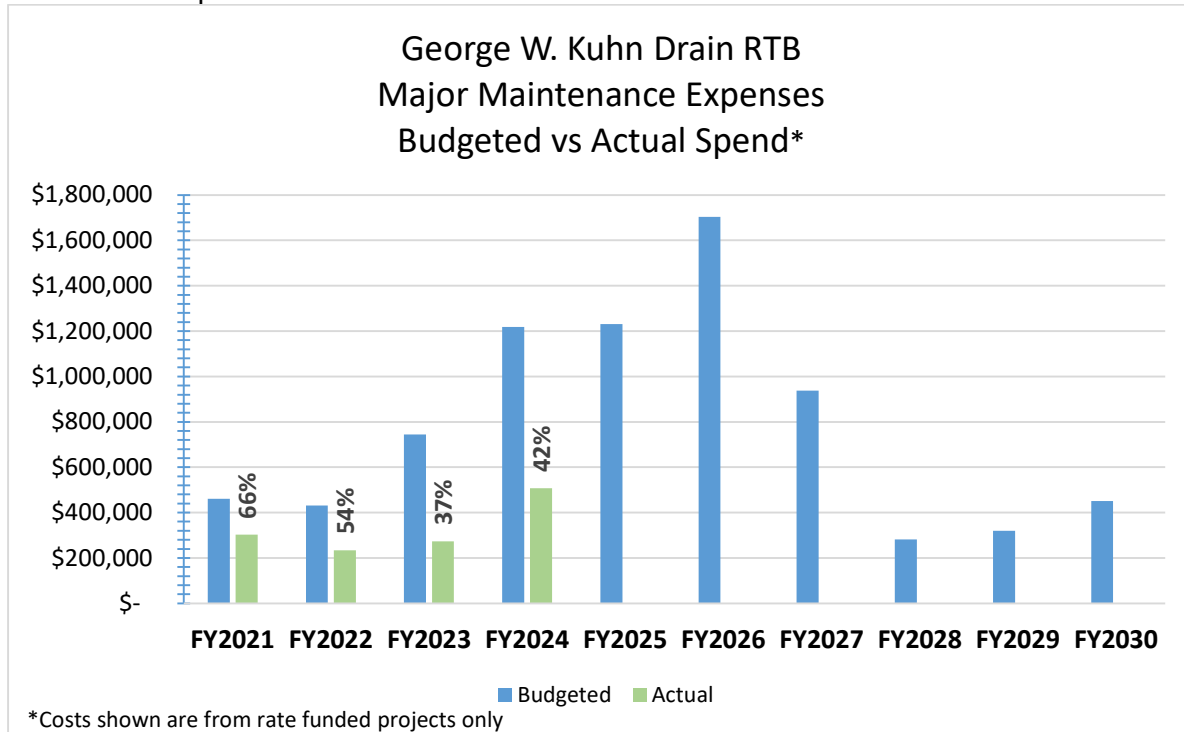
Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK RTB Facility 2027 Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$50,000
GWK Treatment Building Replace Flushing System Valve	RTB	Lesli Maes, P.E.	Planning		2027	2027	\$250,000
Dequindre PS Replace Flushing Pump Motors	RTB	Lesli Maes, P.E.	Planning		2028	2029	\$78,000
GWK Dewatering PS Replace Dewatering Sump Pumps 9 & 10	RTB	Lesli Maes, P.E.	Planning		2028	2029	\$60,000
GWK RTB 2028 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2028	2028	\$226,600
GWK RTB Facility 2028 Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2028	2028	\$50,000
GWK Treatment Building Replace Chlorine Room Supply & Exhaust Fans	RTB	Lesli Maes, P.E.	Planning		2028	2028	\$60,000
GWK Treatment Building Replace Screen Room Exhaust Fans 20 through 42.	RTB	Lesli Maes, P.E.	Planning		2028	2029	\$1,000,000
GWK RTB 2029 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2029	2029	\$233,398
GWK RTB Facility 2029 Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2029	2029	\$50,000
GWK RTB Facility Evaluate & Replace Fiber Optic Cable System	RTB	Lesli Maes, P.E.	Planning		2029	2031	\$1,500,000
GWK Treatment Building Rehab Sluicing Trough Screen SC-1	RTB	Lesli Maes, P.E.	Planning		2029	2029	\$32,000
GWK Treatment Building Replace Motors for Sodium Hypochlorite Feed Pumps 1-6 & 8	RTB	Lesli Maes, P.E.	Planning		2029	2030	\$110,000
Dequindre PS Evaluate/Rebuild Dewatering Pumps 1 thru 7	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$100,000
Dequindre PS Replace Effluent Sampler	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$50,000
Dequindre PS Replace Lighting Panel LP-B	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$18,000
GWK Dewatering PS Replace Motors for Pumps 1 thru 6	RTB	Lesli Maes, P.E.	Planning		2030	2032	\$500,000
GWK RTB 2030 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2030	2030	\$240,400
GWK RTB Facility 2030 Unplanned Major Maintenance	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$50,000
GWK Treatment Building Feasibility Study for On-Site Chlorine Generation	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$50,000
GWK Treatment Building Reline Chlorine Tanks No. 3 & 7	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$56,000
GWK Treatment Building Replace Eight Hypochlorite Feed Pumps	RTB	Lesli Maes, P.E.	Planning		2030	2030	\$400,000



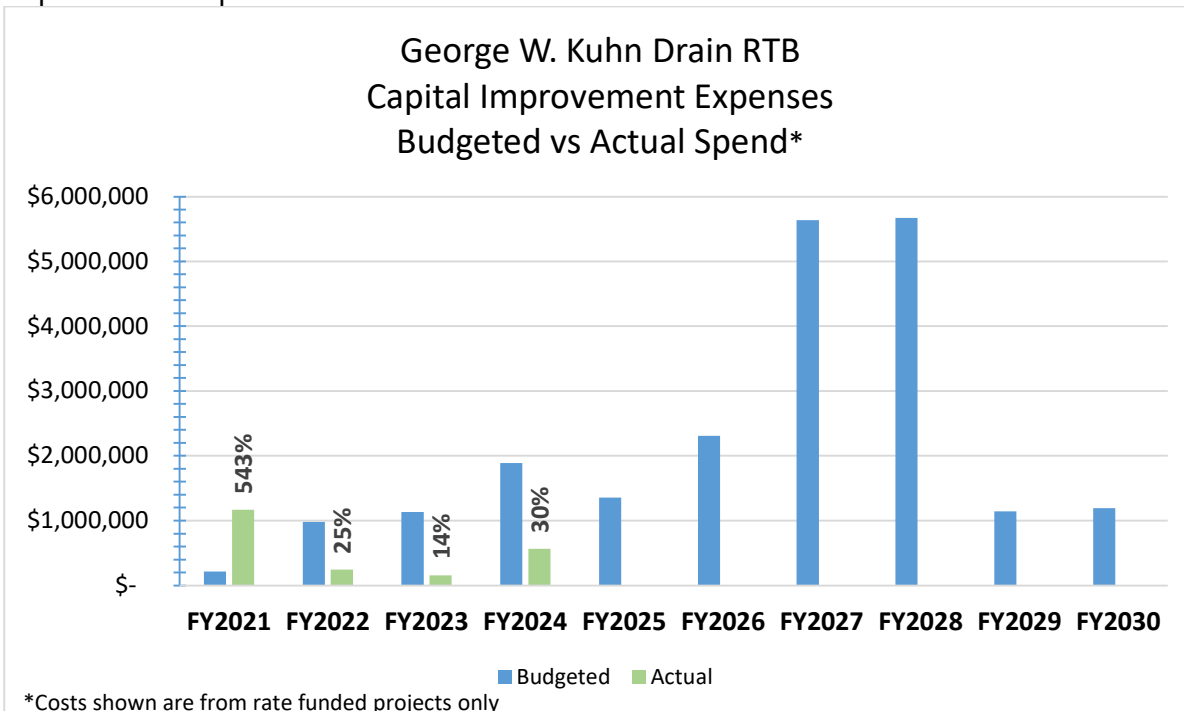
Appendix E

Budgeted vs Actual Expense Comparison

Major Maintenance Expenses



Capital Improvement Expenses



GEORGE W. KUHN DRAIN DRAINAGE DISTRICT
COLLECTION SYSTEM

CAPITAL IMPROVEMENT PLAN

2026-2030

Capital and Major Maintenance Report

April 10, 2025



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Overview

This document presents the proposed five-year Capital Improvement Plan (CIP) for fiscal years 2026 through 2030 (October 1, 2025, through September 30, 2030) for the George W. Kuhn Drain Drainage District Collection System (Southeastern Oakland County Sewage Disposal System). The CIP includes anticipated capital and major maintenance work for the period and provides recommendations for the revenue requirements of the major maintenance and capital rate components and system reserves. This forecast of the system's recommended investment is intended to establish long-term budget needs to support future rate stability. The goal is to utilize revenue-based financing where possible, however, forecasts include necessary bond financing. State Revolving Fund loan opportunities and possible state and federal grant options will be pursued to maintain the desired levels of service.

Asset Condition

The condition of the assets in this system is determined by either physical inspection or estimated by useful life where an inspection has not been performed. Strategies related to the future inspection, rehabilitation and replacement are based on the asset's expected performance. These produce intervention recommendations which are reviewed by engineers and field supervisors who select the appropriate action. In this way, capital investment and major maintenance activities address the highest risk assets and maintain the lowest lifecycle cost. The activities may include additional inspection, rehabilitation, repair or replacement.

One of the primary factors used in the system investment strategy is condition of the assets. The overall condition (measured as current Probability of Failure) for all assets in the system is summarized by Replacement Cost in Figure 1, with over 72% of the system categorized in good condition and approximately 16% categorized in poor condition.

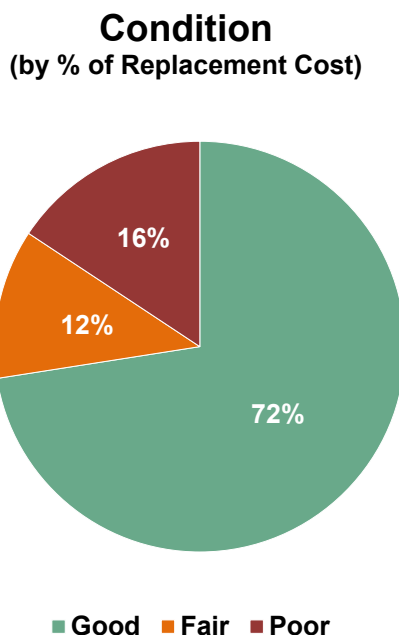


Figure 1: Overall System Condition, by Replacement Cost



To address the rehabilitation, repair, or replacement of the assets categorized in poor condition, a five-year plan has been developed for both capital improvement and major maintenance activities. In some cases, where inspection information is lacking, a re-inspection of the asset is indicated. Details of the investment needed to address these assets are presented in the “Recommendations” section of this report. Condition and risk maps of the gravity main and manhole assets can be found in Appendix A.

Work history is tracked at the asset level. Table 1 provides a summary of the previous year’s inspection, maintenance and corrective action activities. The goal of optimized maintenance is for an 80/20 balance between Predictive/Preventive work and Corrective work. The low number of Corrective work orders as compared to Predictive/Preventive work orders shown in Figure 2 does not reflect the actual repair/replace activities being performed by staff. We are currently in the process of evaluating how each department documents completed work. This process is ongoing, and we expect to have more representative data in the coming years.

Table 1: FY2024 Work Order Summary

George W. Kuhn Drain Drainage District Collection System			
Work Order Type	Work Order Quantity	Work Distribution	Goal
Predictive Maintenance*	1,049	85.3%	80%
Preventive Maintenance	92	7.5%	
Corrective Maintenance	89	7.2%	20%

**Collection system inspections are included in Predictive Maintenance*

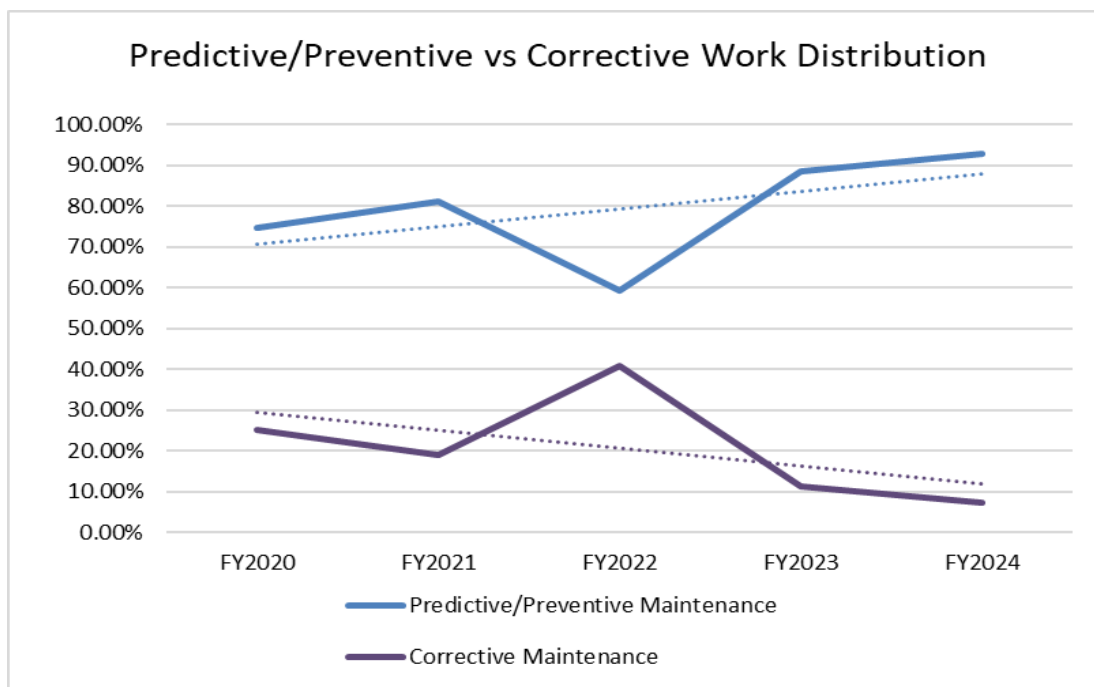


Figure 2: Work Distribution



Level of Service

Level of Service (LOS) is asset management terminology that refers to the quality of service provided to meet customer expectations. It defines the way in which a utility owner wants its system to perform over the long term and is a fundamental part of how the utility is operated and the planned investment is determined. In other words, level of service refers to the operation and investment in the system to provide customers and users the desired quality of service. There is a direct link between the LOS provided and the cost to the customer.

In determining the LOS for the George W. Kuhn Drain Drainage District Collection System, a risk-based approach is used. Inspections are based on strategies that consider age, condition and other factors to recommend an efficient and cost-effective cycle. This risk-based approach to condition assessment is applied to horizontal assets (pipe and manholes) and vertical assets (equipment within a facility such as pumps, electrical equipment, structures and buildings), and is performed on a frequency determined by asset type.

The frequency and type of capital and major maintenance activities are also based on a desired LOS. This involves performing asset rehabilitations and replacements to maintain acceptable risk and optimal lifecycle costs. Acceptable risk can vary by system based upon the resources available to operate and maintain a particular utility. Delaying capital and/or major maintenance activities increases the risk of service interruptions and reduces the quality of service to customers.

The financial health of a system is also a measurable component of LOS. Each system develops a long range plan (LRP) and an accompanying rate structure to ensure adequate revenues are collected for budgeted and anticipated future needs. The LRP includes multiple reserve accounts used to fund activities including an Emergency Repair Reserve, Capital Improvement Reserve, Major Maintenance Reserve and Operating Reserve.

Asset Inventory

A Geographic Information System (GIS) geodatabase is the primary means to inventory and map the assets in the system. The geodatabase captures key attributes associated with each asset, such as installation date (age), size and material. There are over 3,990 assets in the George W. Kuhn Drain Drainage District Collection System valued at or with a replacement value of over \$1.73 billion as of 2025. A more detailed asset inventory can be found in Appendix B.

Assets include:

- 665,415 feet of gravity main
- 4,769 feet of siphon
- 1,433 manholes
- 14 sewer flow meters; all for system information
- 6 level sensors
- 3 flow regulators
- 1 pump station
- 78 vertical assets



High Risk Assets

Not all assets are equally important to a utility's operation. Some assets are highly critical to maintaining operations while others could be out of service for a period of time without a negative impact due to redundancy or efficiencies. Critical assets are assets that provide extremely important functions, especially those for which there is no available redundancy or substitution. The consequences of failure of critical assets are serious, having potential to significantly impact customer services. We have analyzed the system and determined which assets are critical.

The overall criticality is an asset prioritization measure and is determined by the consequence of failure. The Consequence of Failure estimates the impact of an assets failure and considers not only the financial impacts but also public safety, service interruption, regulatory requirements and impacts to the public. Generally, the Consequence of Failure does not change throughout the life of an asset. For example, static attributes such as depth and proximity to surface waters and large roadways will affect Consequence of Failure.

The Risk of failure for a critical asset is determined by the Probability of Failure multiplied by the Consequence of Failure. The Probability of Failure is determined by measures such as asset age, condition, failure history, maintenance records, etc. Probability of Failure typically increases as an asset ages or continues to operate. Risk is used to prioritize repairs, replacements and asset inspections. For a more detailed explanation of asset risk, see Appendix C.

At this time, there are 205 assets falling into the high risk category in the George W. Kuhn Drain Drainage District Collection System and are therefore prioritized for attention in the 2025-2030 window. These assets are listed in Appendix D. The plan to address these assets is part of planned improvements presented below in the Capital Improvement and Major Maintenance Expense Budget tables. To summarize the action plan for these assets:

- 34 are in a planned project
- 171 to be inspected in the 2025-2030 window



Major Maintenance Expense Budget

Major maintenance work occurs to support an asset in a variety of ways, allowing it to reach its intended useful life. For horizontal assets this includes pipe cleaning, televised inspection, pipe spot repair, joint grouting, and other activities. For vertical assets this includes rehabilitation or rebuilding of equipment. This table describes current and recommended work through FY2030. A summarized list of Projects can be found in Appendix E. A comparison of Budgeted and Actual Costs can be found in Appendix F.

Table 2: Major Maintenance Expense Budget

Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
GWK DD CCTV Program	Reserve	149127	\$0	\$900,000	\$900,000	\$900,000	\$900,000	\$900,000	\$4,500,000
GWK DD Consultant Project Planning	Reserve	149662	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
GWK DD Evaluate Sewage Flow Meters	Reserve	149664	\$50,000	\$50,000	\$0	\$0	\$0	\$103,500	\$153,500
GWK DD GI Implementation Program	Reserve	149662	\$0	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
GWK DD Heavy Cleaning	Reserve	149127	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$200,000
GWK DD Manhole Inspection Program	Reserve	155020	\$27,000	\$59,000	\$39,000	\$39,000	\$39,000	\$39,000	\$215,000
GWK DD Manhole Repair Program	Reserve	149131	\$12,000	\$14,000	\$14,000	\$14,000	\$14,000	\$14,000	\$70,000
GKW DD Pipe Grouting	Reserve	149124	\$300,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$15,000,000
GWK DD PowerPlan Support Cost	Reserve	149669	\$210,491	\$216,806	\$223,310	\$230,009	\$236,909	\$244,016	\$1,151,050
GWK DD Rehab Siphon Project	Reserve	149662	\$320,000	\$320,000	\$320,000	\$320,000	\$320,000	\$320,000	\$1,600,000
GWK DD Root Treatment	Reserve	149137	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$32,000	\$160,000
GWK DD Spot Repair – Excavation	Reserve	149126	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
GWK DD Spot Repair – Trenchless	Reserve	149126	\$95,000	\$95,000	\$95,000	\$95,000	\$95,000	\$95,000	\$475,000
GWK DD 2023 CCTV	Reserve	PRJ-17334	\$111,282	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD 2023 Consultant Project Planning	Reserve	PRJ-17089	\$31,892	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD 2024 CCTV	Reserve	PRJ-17409	\$149,478	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD 2024 Consultant Project Planning	Reserve	PRJ-17495	\$80,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD 2025 CCTV	Reserve	PRJ-17834	\$550,000	\$350,000	\$0	\$0	\$0	\$0	\$350,000
GWK DD Catalpa Oaks GSI Research Project	Reserve	PRJ-17413	\$62,219	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD Clean Allen Branch Siphon	Reserve	PRJ-17544	\$313,683	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD Detroit Zoo Manhole Investigation	Reserve	PRJ-17496	\$1,200,000	\$800,000	\$0	\$0	\$0	\$0	\$800,000



Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
GWK DD EPA Community Change Grant	Reserve	PRJ-17620	\$5,044	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD Inventory/Map College Avenue & Ferndale Drains	Reserve	PRJ-17298	\$6,874	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD RainSmart Rebates Program	Reserve	PRJ-17467	\$100,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000
GWK DD Regional Sampling	Reserve	PRJ-17301	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
GWK DD Rehab 14 Mile Road Manhole	Reserve	PRJ-17695	\$19,023	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD Residential GSI Pilot Program	Reserve	PRJ-17235	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
GWK DD Tributary System Enhancements	Reserve	PRJ-17120	\$922,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD Update Stormwater Standards	Reserve	PRJ-17398	\$24,021	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD Collection System Improvements	Reserve	149662	\$0	\$400,000	\$400,000	\$400,000	\$200,000	\$50,000	\$1,450,000
GWK Various Regulator Improvements	Reserve	149662	\$0	\$200,000	\$0	\$0	\$0	\$0	\$200,000
Rate Funded			\$4,912,007	\$6,976,806	\$5,563,310	\$5,570,009	\$5,376,909	\$5,337,516	\$28,824,550
Bond/Grant Funded			\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total			\$4,912,007	\$6,976,806	\$5,563,310	\$5,570,009	\$5,376,909	\$5,337,516	\$28,824,550



Capital Improvement Expense Budget

Capital activities either add new assets, replace an existing asset or modify an existing asset in such a way as to extend its useful life beyond the original expectation. For horizontal assets, useful life can be extended by lining and other structural rehabilitations. For vertical assets, useful life is also extended by rehabilitation, rebuilding or modification of equipment. This table describes current and recommended work through FY2030. A summarized list of Projects can be found in Appendix E. A comparison of Budgeted and Actual Costs can be found in Appendix F.

Table 3: Capital Improvement Expense Budget

Expense Description	Funding	Program/ Project	FY2025 In Progress	FY2026	FY2027	FY2028	FY2029	FY2030	5 Year Total
GWK DD Pipe Lining/Replacement	Reserve	149125	\$1,009,400	\$1,100,000	\$1,100,000	\$1,100,000	\$1,100,000	\$1,100,000	\$5,500,000
GWK DD Sewage Meter Replacements	Reserve	149664	\$0	\$0	\$0	\$50,000	\$50,000	\$50,000	\$150,000
GWK DD Collection System Improvements	Reserve	149669	\$36,090	\$36,090	\$0	\$0	\$0	\$0	\$36,090
GWK DD Metering Improvements	Reserve	149664	\$162,515	\$500,000	\$500,000	\$0	\$0	\$0	\$1,000,000
GWK DD Eight Mile Meter Chamber Improvements	Reserve	149667	\$205,000	\$0	\$0	\$0	\$0	\$0	\$0
GWK DD Various Site Improvements	Reserve	149667	\$0	\$0	\$0	\$0	\$28,500	\$0	\$28,500
GWK Flow Regulators Replace Gate Actuators	Reserve	PRJ-17758	\$50,000	\$50,000	\$0	\$0	\$0	\$0	\$50,000
GWK Flow Regulator No. 1 Improvements	Reserve	149667	\$0	\$0	\$0	\$20,000	\$0	\$0	\$20,000
GWK Flow Regulator No. 5 Improvements	Reserve	149667	\$0	\$0	\$0	\$0	\$10,000	\$0	\$10,000
GWK Flow Regulator No. 6 Improvements	Reserve	149667	\$0	\$0	\$0	\$0	\$10,000	\$0	\$10,000
Rate Funded			\$1,463,005	\$1,686,090	\$1,600,000	\$1,170,000	\$1,198,500	\$1,150,000	\$6,804,590
Bond/Grant Funded			\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total			\$1,463,005	\$1,686,090	\$1,600,000	\$1,170,000	\$1,198,500	\$1,150,000	\$6,804,590



Recommendations

Major Maintenance

The recommendation is for the system to increase major maintenance funding over the next few years to allow for rehabilitation and ongoing inspection of the horizontal and vertical assets in the system. For FY2026, the recommendation is to invest \$7.0 million in Major Maintenance work. Output from the asset management software indicates that over the next 20 years investment could be as high as \$74.1 million to maintain the desired level of service. This equates to an annual average major maintenance investment of \$3.7 million. At this time there is a backlog of horizontal assets requiring re-inspection, which is anticipated to be addressed over the next five years.

Capital Improvements

While the latest condition assessment indicates the overall system is in good condition, it is important to recognize the assets of the George W. Kuhn Drain Drainage District Collection System have utilized 97% of their useful life. The system is estimated to have a replacement value exceeding \$1.73 billion. The recommendation is for the system to invest \$1.7 million on capital improvements in FY2026. The average projected capital investment over the five year planning window is \$1.4 million. Output from the asset management software indicates that over the next 20 years investment could be as high as \$119.6 million to maintain the desired level of service. This equates to an annual average capital investment of \$6.0 million.

Summary

The Stormwater, Asset Management, and Wastewater (SAW) Program was established in 2013 to help agencies develop, update, and improve asset management plans for their wastewater and stormwater systems. This program provided grants and/or matching funds to assist with this work and move towards financial sustainability.

The majority of assets in the system were inspected between 2016 and 2018 through the SAW Grant program. These inspections identified numerous assets in need of improvement. Critical issues have been addressed while less serious issues have been prioritized and are being resolved. Budgets are based on an evaluation of overall risk and address assets with an unacceptable level of risk or require intervention to ensure risk does not become unacceptable in the near term. To maintain the existing level of service within the system, forecasts indicate that an average of \$6.0 million/year is invested in capital improvements and \$3.7 million/year is invested in major maintenance items for each of the next 20 years. This is a projected annual spend of \$9.7 million.

A general rule of thumb is to budget for 1% of a system's replacement value on an annual basis. This assumes all assets to have a 100 year useful life. Since this is not the case, the 1% number will underestimate the needs of vertical assets and overestimate the needs of some horizontal assets. However, this number is useful in guiding discussion on future budget needs during the rate setting process. 1% of the replacement value of the system is currently estimated at \$17.3 million.

It is recommended the system approve the proposed \$7.0 million for Major Maintenance and \$1.7 million for rate-financed Capital for FY2026. The comprehensive workplan outlined for this five-year planning window, as detailed in Tables 2 and 3 above, is designed to support both ongoing projects and future initiatives, ensuring the system remains well-maintained and capable of meeting evolving needs.

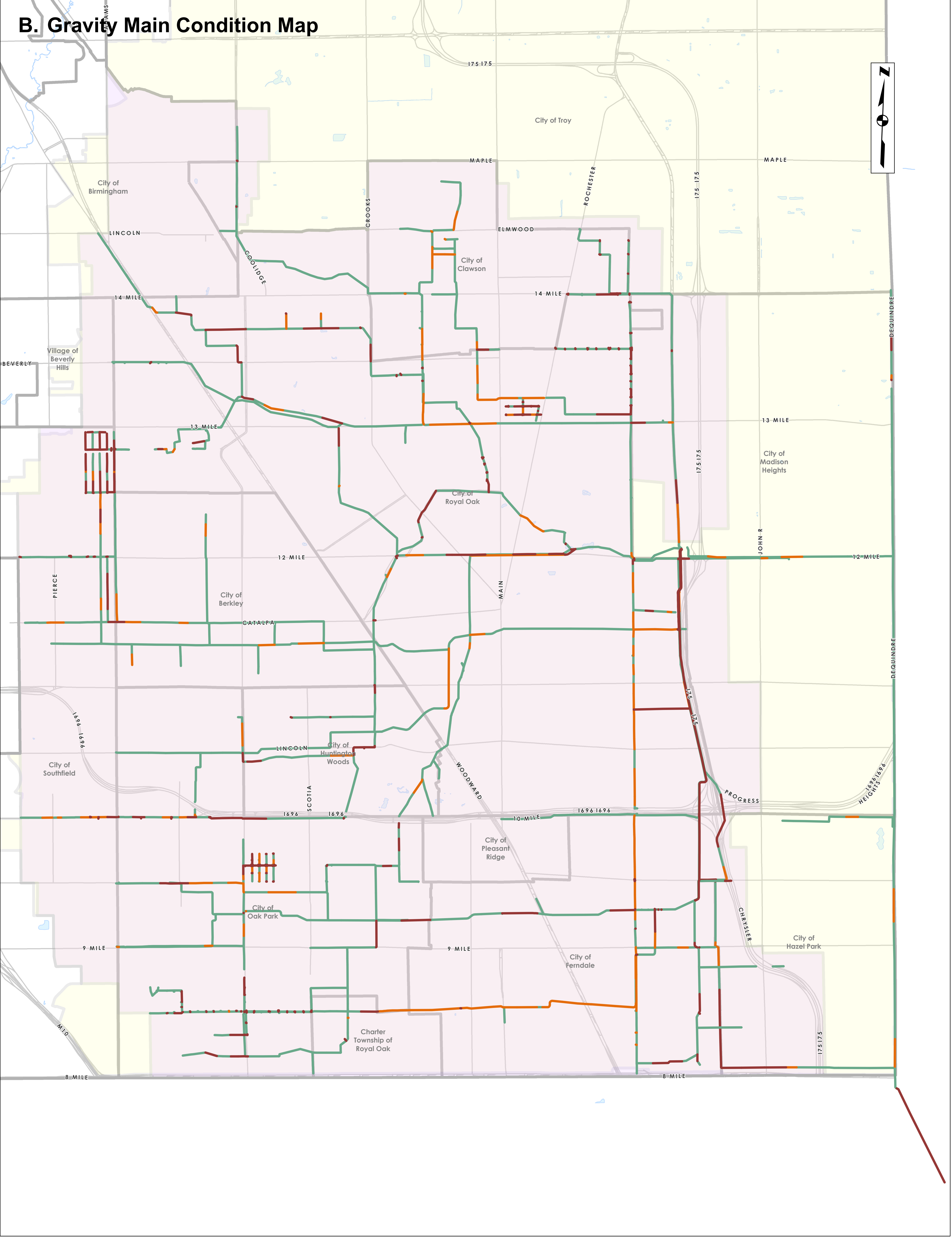


Appendix A

Gravity Main and Manhole Condition and Risk Maps



B. Gravity Main Condition Map

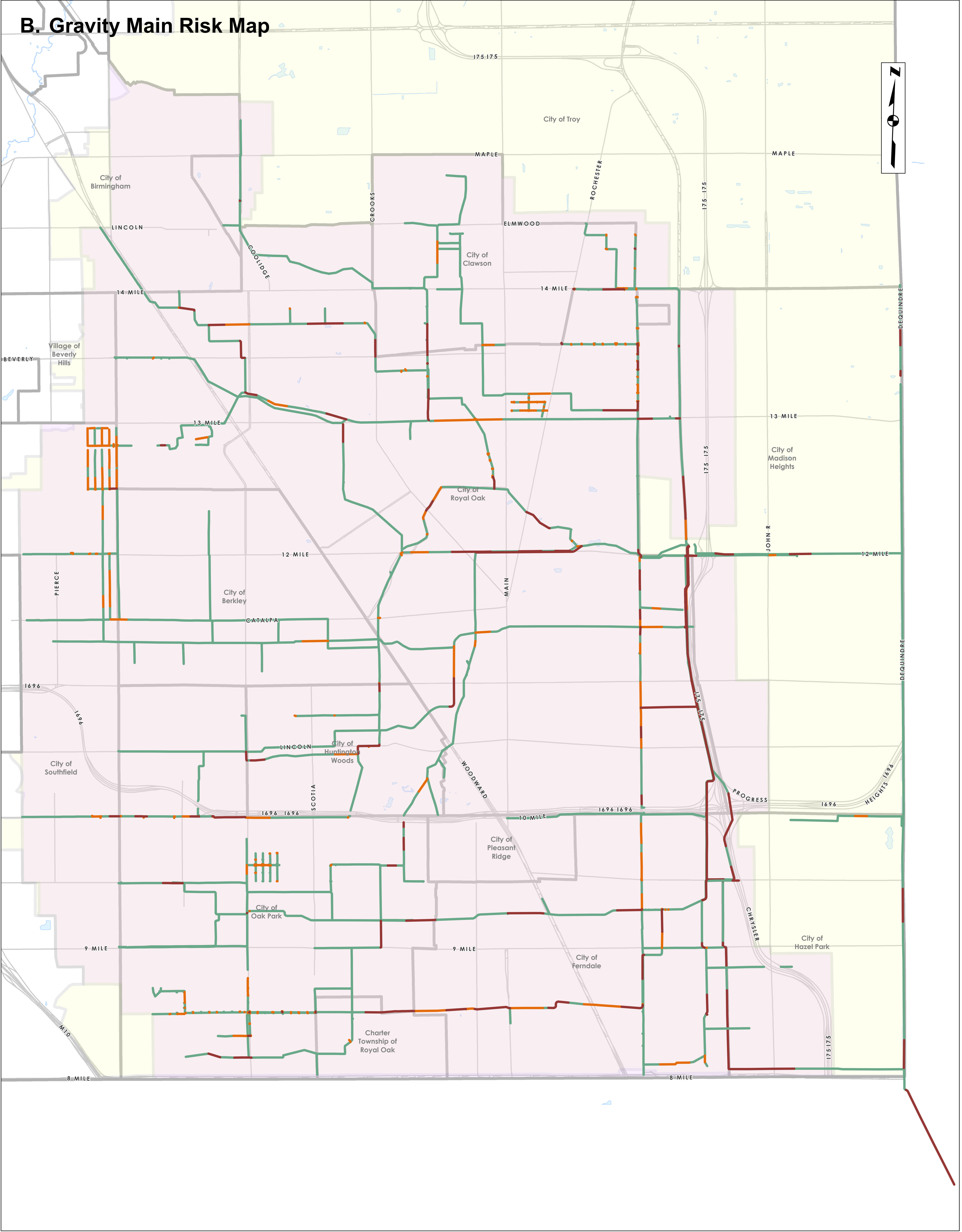


George W. Kuhn Drain
Drainage District
Collection System
Gravity Main Condition

- GWK Collection System
- GWK Drain RTB
- Gravity Main Condition**
 - < 3.2 - Good
 - 3.2 to 4 - Fair
 - > 4 - Poor

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

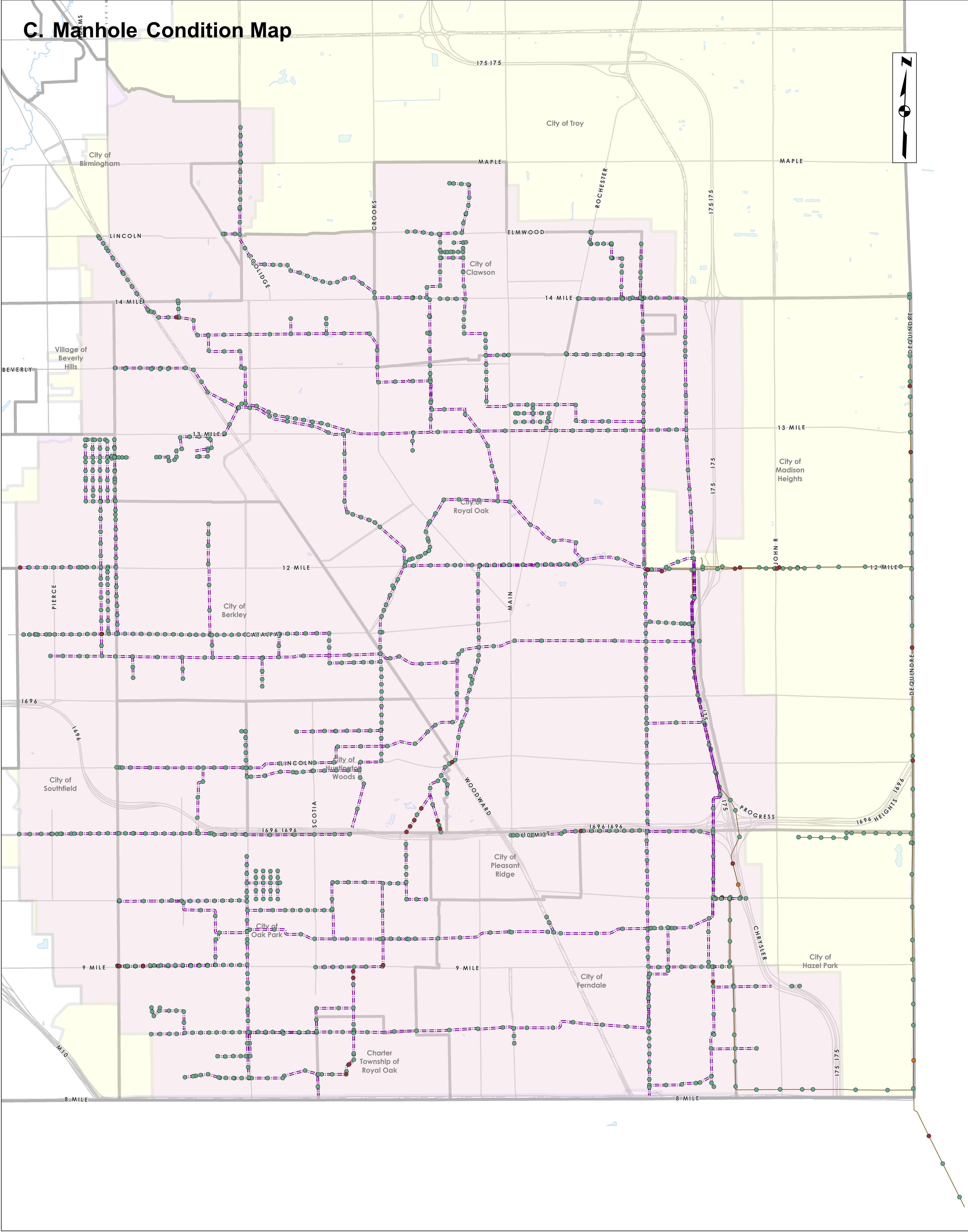
B. Gravity Main Risk Map




DISCLAIMER:
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George W. Kuhn Drain
Drainage District
Collection System
Gravity Main Risk






- GWK Collection System
- GWK Drain RTB
- Gravity Main Risk**
- Tolerable
- Significant
- High





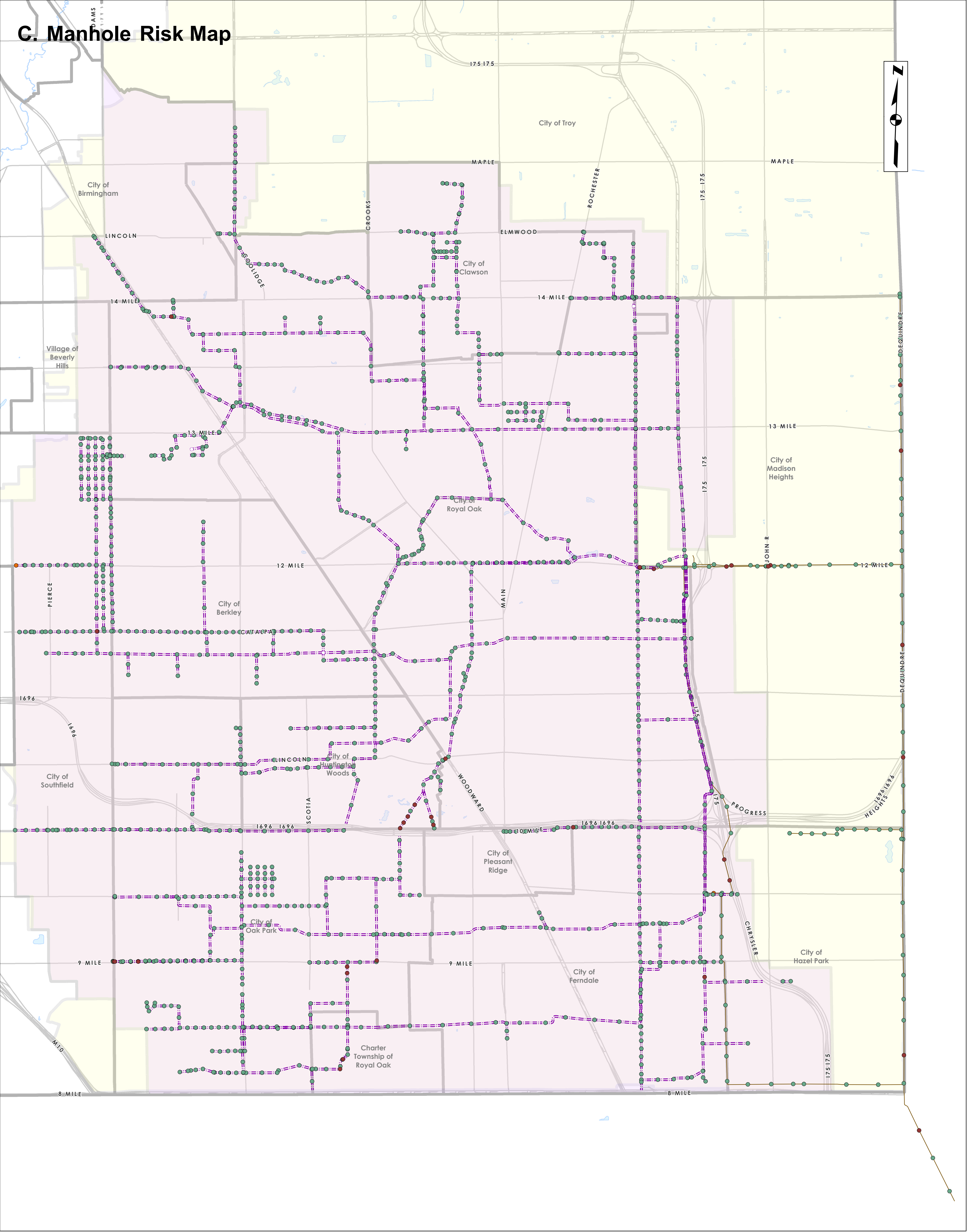
WRC
WATER RESOURCES COMMISSIONER
Jim Nash

George W. Kuhn Drain Drainage District Collection System Manhole Condition

	GWK Collection System	Manhole Condition
	GWK Drain RTB	 < 3.2 - Good
		 3.2 to 4 - Fair
		 > 4 - Poor

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C. Manhole Risk Map



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George W. Kuhn Drain
Drainage District
Collection System
Manhole Risk

GWK Collection System

GWK Drain RTB

Manhole Risk

Tolerable

Significant

High

Appendix B

Detailed Asset Inventory



ASSET SUMMARY

Southeast Oakland SDS – 58510

GWK Collection System Funds

Allen Branch of the Royal Oak Drain	90157
Baldwin Branch of the Royal Oak Drain	90165
Berkley Branch of the Royal Oak Drain	90028
Campbell Road and Red Run Imp	90164
College Drain	90064 (asset inventory in progress)
Coolidge Drain	90167
Dequindre Interceptor	90031
East Clawson Drain	90034
Ferndale - Nine Mile Drain	90035
Ferndale Drain	90106 (asset inventory in progress)
George W. Kuhn Drain - Segment 1	84759
Glendale Drain	25122
Graham Branch of the Royal Oak Drain	90038
Hubbard Branch of the Royal Oak Drain	90158
Lawson Drain	90041
Main Branch of the Royal Oak Drain	90042
Marshall Drain	90043
McClain Drain	90045
Murray Drain	90049
Red Run Branch of the Royal Oak Drain	90159
Red Run Project #2 Drainage	82904
Royal Oak No. 3 Drain	90171
Schubiner Drain	90051
Shaberman Drain	90052
Southeast Oakland SDS Sewage Disposal	58510
Southfield No. 6 Drain	90166
Triple Drain	25293
Twelve Towns Drainage Dist	58530
Twelve Towns Relief - Middle Section	90174
Twelve Towns Relief - North Section	90173
Twelve Towns Relief - South Section	90175
Vickers Drain	90057

Report Date: 04/10/2025



ASSET SUMMARY

Allen Branch of the Royal Oak Drain - 90157

Structures	
Type	Count
Combined Cleanout	2
Combined Inlet	9
Combined Manhole	88
Combined Siphon Structure	6

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	35,994	107
Siphon - Combined		
Combined Siphon	917	6
Totals:	36,911	113

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	122	7
Concrete	35,778	99
Unknown	94	1
Siphon - Combined		
Concrete	674	3
Metal	243	3

ASSET SUMMARY

Baldwin Branch of the Royal Oak Drain - 90165

Structures	
Type	Count
Combined Inlet	1
Combined Manhole	47

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	20,181	61
Totals:	20,181	61

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	433	3
Concrete	18,168	50
Unknown	1,581	8

ASSET SUMMARY

Berkley Branch of the Royal Oak Drain - 90028

Structures	
Type	Count
Combined Inlet	6
Combined Manhole	80

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	24,750	92
Totals:	24,750	92

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	17,309	64
Masonry	6,461	19
Unknown	980	9

ASSET SUMMARY

Campbell Road and Red Run Imp - 90164

Structures	
Type	Count
Combined Inlet	5
Combined Manhole	73
Combined Siphon Structure	5

Sites	
Type	Count
Sewer Flow Meter	1

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	27,834	94
Siphon - Combined		
Combined Siphon	449	2
Totals:	28,283	96

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	27,248	92
Masonry	586	2
Siphon - Combined		
Metal	449	2

Vertical Assets Summary	
Type	Count
FlowMeterNS	1
Total:	1

ASSET SUMMARY

Coolidge Drain - 90167

Structures

Type	Count
Combined Manhole	6

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	1,615	6
Totals:	1,615	6

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	1,615	6

ASSET SUMMARY

Dequindre Interceptor - 90031

Structures

Type	Count
Sewer Manhole	70
Sewer Siphon Structure	2

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Sanitary		
Sewer Gravity Main	54,286	76
Siphon - Sanitary		
Sewer Siphon	1,107	3
Totals:	55,392	79

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Sanitary		
Concrete	49,973	71
Unknown	4,312	5
Siphon - Sanitary		
Concrete	1,107	3

ASSET SUMMARY

East Clawson Drain - 90034

Structures

Type	Count
Combined Inlet	40
Combined Manhole	32

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	13,978	77
Totals:	13,978	77

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	13,918	75
Masonry	60	2

ASSET SUMMARY

Ferndale - Nine Mile Drain - 90035

Structures	
Type	Count
Combined Manhole	8

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	1,897	10
Totals:	1,897	10

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	1,897	10

ASSET SUMMARY

George W. Kuhn Drain - Segment 1 - 84759

Structures	
Type	Count
Drain Catch Basin	100
Drain Manhole	104
Drain No Structure Inlet	3

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Storm		
Drain Gravity Main	30,675	285
Totals:	30,675	285

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Storm		
Concrete	26,720	246
Plastic	3,955	39

ASSET SUMMARY

Glendale Drain - 25122

Structures

Type	Count
Combined Inlet	21
Combined Manhole	14

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	4,543	37
Totals:	4,543	37

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	2,131	9
Concrete	1,617	5
Unknown	795	23

ASSET SUMMARY

Graham Branch of the Royal Oak Drain - 90038

Structures

Type	Count
Combined Inlet	14
Combined Manhole	32

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	21,596	58
Totals:	21,596	58

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	1,218	3
Concrete	16,668	32
Metal	17	1
Unknown	3,694	22

ASSET SUMMARY

Hubbard Branch of the Royal Oak Drain - 90158

Structures

Type	Count
Combined Cleanout	2
Combined Manhole	57
Combined Siphon Structure	5

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	24,456	68
Siphon - Combined		
Combined Siphon	404	2
Totals:	24,859	70

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	24,180	62
Unknown	276	6
Siphon - Combined		
Concrete	404	2

ASSET SUMMARY

Lawson Drain - 90041

Structures		Sites	
Type	Count	Type	Count
Combined Inlet	5	Sewer Flow Meter	1
Combined Manhole	57		

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	24,545	65
Totals:	24,545	65

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	897	3
Concrete	23,648	62

Vertical Assets Summary	
Type	Count
FlowMeterNS	1
Total:	1

ASSET SUMMARY

Main Branch of the Royal Oak Drain - 90042

Structures		Sites	
Type	Count	Type	Count
Combined Manhole	21	Sewer Flow Meter	1

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	9,808	22
Totals:	9,808	22

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	9,808	22

Vertical Assets Summary	
Type	Count
FlowMeterNS	1
Total:	1

ASSET SUMMARY

Marshall Drain - 90043

Structures

Type	Count
Combined Inlet	59
Combined Manhole	43

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	15,157	118
Totals:	15,157	118

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	14,406	97
Metal	352	2
Plastic	72	3
Unknown	327	16

ASSET SUMMARY

McClain Drain - 90045

Structures

Type	Count
Combined Manhole	28

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	8,297	32
Totals:	8,297	32

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	8,297	32

ASSET SUMMARY

Murray Drain - 90049

Structures	
Type	Count
Combined Inlet	8
Combined Manhole	31

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	9,389	47
Totals:	9,389	47

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	9,389	47

ASSET SUMMARY

Red Run Branch of the Royal Oak Drain - 90159

Structures	
Type	Count
Combined Inlet	2
Combined Manhole	22

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	10,085	27
Totals:	10,085	27

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	1,036	6
Concrete	8,532	16
Unknown	516	5

ASSET SUMMARY

Red Run Project #2 Drainage - 82904

Structures	
Type	Count
Combined Manhole	6

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	2,056	8
Totals:	2,056	8

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	1,949	5
Unknown	107	3

ASSET SUMMARY

Royal Oak No. 3 Drain - 90171

Structures

Type	Count
Combined Manhole	7

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	1,715	7
Totals:	1,715	7

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	1,715	7

ASSET SUMMARY

Schubiner Drain - 90051

Structures

Type	Count
Combined Inlet	36
Combined Manhole	39

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	11,972	76
Totals:	11,972	76

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	11,906	72
Plastic	66	4

ASSET SUMMARY

Shaberman Drain - 90052

Structures

Type	Count
Combined Inlet	5
Combined Manhole	11

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	4,819	19
Totals:	4,819	19

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	4,747	17
Plastic	27	1
Unknown	44	1

ASSET SUMMARY

Southeast Oakland SDS Sewage Disposal - 58510

Structures		Sites	
Type	Count	Type	Count
Combined Access Point	3	Combined Flow Regulator - Active	3
Combined Flow Regulator - Passive	2	Combined Level Monitoring Site	1
Sewer Manhole	45	Sewer Flow Meter	7
Sewer Siphon Structure	4	Sewer Level Monitoring Site	9

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Sanitary		
Sewer Gravity Main	31,587	52
Siphon - Sanitary		
Sewer Siphon	259	2
Totals:	31,847	54

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Sanitary		
Concrete	27,612	39
Masonry	3,228	8
Unknown	747	5
Siphon - Sanitary		
Concrete	259	2

ASSET SUMMARY

Southeast Oakland SDS Sewage Disposal - 58510

Vertical Assets Summary	
Type	Count
ActuatorNS	4
CommunicationEquipmentNS	7
ElectricEquipmentNS	10
FlowMeterNS	6
HeatingAndCoolingNS	1
InstrumentationNS	21
PlantValveNS	15
PumpNS	1
StructureNS	4
VentilationNS	1
Total:	70

ASSET SUMMARY

Southfield No. 6 Drain - 90166

Structures

Type	Count
Combined Inlet	9
Combined Manhole	64

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	17,425	74
Totals:	17,425	74

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	16,233	69
Concrete	744	3
Plastic	448	2

ASSET SUMMARY

Triple Drain - 25293

Structures

Type	Count
Combined Manhole	18

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	3,796	21
Totals:	3,796	21

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	3,796	21

ASSET SUMMARY

Twelve Towns Relief - Middle Section - 90174

Structures	
Type	Count
Combined Cleanout	3
Combined Manhole	94
Combined Siphon Structure	4

Sites	
Type	Count
Combined Level Monitoring Site	1
Sewer Flow Meter	1

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	60,899	102
Siphon - Combined		
Combined Siphon	936	5
Totals:	61,835	107

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	60,899	102
Siphon - Combined		
Concrete	636	2
Metal	300	3

Vertical Assets Summary	
Type	Count
FlowMeterNS	1
Total:	1

ASSET SUMMARY

Twelve Towns Relief - North Section - 90173

Structures		Sites	
Type	Count	Type	Count
Combined Inlet	3	Sewer Flow Meter	1
Combined Manhole	180		

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	77,196	206
Totals:	77,196	206

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Clay	30	2
Concrete	77,166	204

Vertical Assets Summary	
Type	Count
FlowMeterNS	1
Total:	1



ASSET SUMMARY

Twelve Towns Relief - South Section - 90175

Structures		Sites	
Type	Count	Type	Count
Combined Access Point	1	Sewer Flow Meter	2
Combined Inlet	1		
Combined Manhole	139		
Combined Siphon Structure	3		

Line Assets Summary		
	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	109,426	199
Siphon - Combined		
Combined Siphon	698	2
Totals:	110,124	201

Line Assets by Type		
Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	109,294	197
Metal	132	2
Siphon - Combined		
Metal	698	2

Vertical Assets Summary	
Type	Count
FlowMeterNS	2
StructureNS	1
Total:	3

ASSET SUMMARY

Vickers Drain - 90057

Structures

Type	Count
Combined Manhole	17

Line Assets Summary

	Total Length (FT)	Total Segments
Gravity - Combined		
Combined Gravity Main	5,437	17
Totals:	5,437	17

Line Assets by Type

Material	Length (FT)	Segment Count
Gravity - Combined		
Concrete	5,437	17

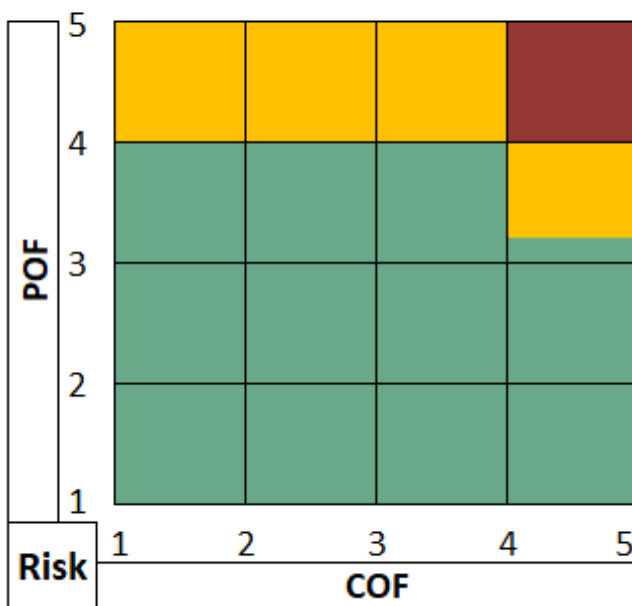
Appendix C

Risk Matrix

Risk can be assessed by identifying assets that do not meet the required Minimum Acceptable Condition (MAC), which is measured as the minimum acceptable Probability of Failure score. The MAC can be adjusted to reflect the determined Level of Service. Systems where financial hardships exist and/or there is a significant amount of previously deferred maintenance may set a higher MAC to better prioritize work within their current budgets, but also carry a higher level of risk. In this way, assets with higher criticality can be prioritized over those with lower criticality, which allows for the most cost-effective means to budget work.

The MAC varies depending on an individual asset's COF. The standard for this system is an MAC of 3.2 for assets that have a COF equal to or greater than 4.0 and an MAC of 4.0 for assets with a COF less than 4.0. The following graphic shows the relationship between POF, COF and Risk.

$$\text{Risk} = \text{COF Total} * \text{POF Total}$$



Scale	
Type	Color
High Risk	Critical assets requiring short-term action. Consider for Current thru Year 2 Projects. Consider use of Emergency Reserve funding.
Significant Risk	Assets requiring medium-term action. Consider for Year 1 -5 Projects.
Tolerable Risk	Assets to be managed using routine procedures. Increase frequency of inspection and/or rehabilitation with rising COF or POF.



Appendix D

High Risk Assets Prioritized for Repair/Replacement or Inspection

Risk	Description	Site	AssetID	Action/Recommendation
25.0	36" Area Velocity/Cont Wave Flow Meter (MeterID 7336, Maintained by ADS)	GWK Flow Regulator No. 1	1664639	2025 GWK DD Replace 13 ADS Sewage Meters
23.0	Sanitary Gravity Main	N/A	613612	GWK DD 2026 CCTV Program
22.3	Combined Gravity Main	N/A	30026	GWK DD 2029 CCTV Program
22.3	Combined Gravity Main	N/A	30129	GWK DD 2029 CCTV Program
22.3	Combined Gravity Main	N/A	30130	GWK DD 2029 CCTV Program
21.9	Combined Gravity Main	N/A	950778	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	951659	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	951660	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	951669	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	951670	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	951672	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	951674	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	951676	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	1062516	GWK DD 2025 CCTV
21.9	Combined Gravity Main	N/A	1080345	GWK DD 2025 CCTV
21.8	Combined Gravity Main	N/A	30025	GWK DD 2029 CCTV Program
21.4	Combined Gravity Main	N/A	30113	GWK DD 2027 CCTV Program
21.3	Sanitary - Manholes	N/A	26178	GWK DD 2027 Manhole Repair Program
21.3	Sanitary - Manholes	N/A	1326265	GWK DD 2026 Manhole Inspection Program
21.3	Combined - Manholes	N/A	1690495	GWK DD 2027 Manhole Inspection Program
21.3	Combined Gravity Main	N/A	1078926	GWK DD 2029 CCTV Program
21.2	Sanitary Gravity Main	N/A	30689	GWK DD 2027 Pipe Grouting
21.2	Combined Gravity Main	N/A	30089	GWK DD 2029 CCTV Program
21.2	Sanitary Gravity Main	N/A	30419	GWK DD 2026 CCTV Program
21.2	Combined Gravity Main	N/A	403227	GWK DD 2029 CCTV Program
21.2	Combined Gravity Main	N/A	950781	GWK DD 2025 CCTV
21.0	Combined Gravity Main	N/A	30288	GWK DD 2027 CCTV Program
20.9	Combined Gravity Main	N/A	29930	GWK DD 2027 CCTV Program
20.9	Combined Gravity Main	N/A	35784	GWK DD 2025 CCTV
20.8	Combined Gravity Main	N/A	30090	GWK DD 2029 CCTV Program
20.8	Combined Gravity Main	N/A	30091	GWK DD 2029 CCTV Program
20.8	Combined Gravity Main	N/A	30092	GWK DD 2029 CCTV Program
20.6	Sanitary Gravity Main	N/A	1297089	GWK DD 2026 CCTV Program
20.5	Sanitary - Manholes	N/A	25944	GWK DD 2027 Manhole Repair Program
20.5	Sanitary - Manholes	N/A	25953	GWK DD 2027 Manhole Repair Program



Risk	Description	Site	AssetID	Action/Recommendation
20.5	Sanitary - Manholes	N/A	25961	GWK DD 2027 Manhole Repair Program
20.5	Combined - Manholes	N/A	1055293	GWK DD 2027 Manhole Inspection Program
20.5	Sanitary - Manholes	N/A	1297087	GWK DD 2026 Manhole Inspection Program
20.5	Combined - Manholes	N/A	1675584	GWK DD 2027 Manhole Inspection Program
20.5	Combined - Manholes	N/A	1689000	GWK DD 2026 Manhole Inspection Program
20.5	Sanitary - Siphon	N/A	24	2029 GWK DD Clean/Inspect Stephenson Siphon
20.5	Combined Gravity Main	N/A	27824	GWK DD 2027 CCTV Program
20.5	Combined Gravity Main	N/A	29135	GWK DD 2026 CCTV Program
20.5	Combined Gravity Main	N/A	29913	GWK DD 2026 CCTV Program
20.5	Combined Gravity Main	N/A	30010	GWK DD 2028 CCTV Program
20.5	Combined Gravity Main	N/A	30281	GWK DD 2029 CCTV Program
20.5	Combined Gravity Main	N/A	30337	GWK DD 2025 CCTV
20.5	Combined Gravity Main	N/A	30340	GWK DD 2025 CCTV
20.5	Combined Gravity Main	N/A	30355	GWK DD 2025 CCTV
20.5	Combined Gravity Main	N/A	30923	GWK DD 2025 CCTV
20.5	Combined Gravity Main	N/A	30928	GWK DD 2025 CCTV
20.5	Combined Gravity Main	N/A	30992	GWK DD 2029 CCTV Program
20.5	Combined Gravity Main	N/A	31088	GWK DD 2025 CCTV
20.5	Combined Gravity Main	N/A	33656	GWK DD 2029 CCTV Program
20.5	Sanitary Gravity Main	N/A	954042	GWK DD 2026 CCTV Program
20.5	Sanitary Gravity Main	N/A	954214	GWK DD 2026 CCTV Program
20.5	Sanitary Gravity Main	N/A	954215	GWK DD 2026 CCTV Program
20.5	Sanitary Gravity Main	N/A	954216	GWK DD 2026 CCTV Program
20.5	Sanitary Gravity Main	N/A	954217	GWK DD 2026 CCTV Program
20.4	Sanitary Gravity Main	N/A	30245	GWK DD 2026 CCTV Program
20.0	Sanitary Gravity Main	N/A	30913	GWK DD 2027 Pipe Grouting
19.9	Combined Gravity Main	N/A	30840	GWK DD 2029 CCTV Program
19.9	Combined Gravity Main	N/A	593030	GWK DD 2025 CCTV
19.9	Combined Gravity Main	N/A	593965	GWK DD 2025 CCTV
19.9	Combined Gravity Main	N/A	1690460	GWK DD 2029 CCTV Program
19.8	Sanitary Gravity Main	N/A	30687	GWK DD 2027 Pipe Grouting
19.8	Combined Gravity Main	N/A	30981	GWK DD 2029 CCTV Program
19.8	Combined Gravity Main	N/A	30676	GWK DD 2025 CCTV
19.8	Combined Gravity Main	N/A	30784	GWK DD 2025 CCTV
19.8	Combined Gravity Main	N/A	30828	GWK DD 2025 CCTV
19.8	Combined Gravity Main	N/A	797237	GWK DD 2027 CCTV Program
19.8	Combined Gravity Main	N/A	951655	GWK DD 2025 CCTV
19.8	Combined - Manholes	N/A	1690462	GWK DD 2027 Manhole Inspection Program
19.3	Combined Gravity Main	N/A	30553	GWK DD 2029 CCTV Program



Risk	Description	Site	AssetID	Action/Recommendation
19.3	Combined Gravity Main	N/A	30974	GWK DD 2029 CCTV Program
19.3	Combined - Manholes	N/A	1678394	GWK DD 2029 Manhole Inspection Program
19.3	Combined - Manholes	N/A	1678396	GWK DD 2029 Manhole Inspection Program
19.2	Combined Gravity Main	N/A	29904	GWK DD 2026 CCTV Program
19.2	Combined Gravity Main	N/A	30330	GWK DD 2025 CCTV
19.2	Combined Gravity Main	N/A	30809	GWK DD 2027 Pipe Grouting
19.1	Combined Gravity Main	N/A	29912	GWK DD 2026 CCTV Program
19.1	Combined Gravity Main	N/A	29941	GWK DD 2027 CCTV Program
19.1	Sanitary Gravity Main	N/A	31420	GWK DD 2026 CCTV Program
19.1	Sanitary Gravity Main	N/A	31421	GWK DD 2026 CCTV Program
19.1	Sanitary Gravity Main	N/A	31422	GWK DD 2026 CCTV Program
19.1	Sanitary Gravity Main	N/A	31423	GWK DD 2026 CCTV Program
19.0	Combined - Manholes	N/A	1690464	GWK DD 2027 Manhole Inspection Program
19.0	Combined - Manholes	N/A	1690465	GWK DD 2027 Manhole Inspection Program
18.7	Combined Gravity Main	N/A	30543	GWK DD 2029 CCTV Program
18.7	Combined Gravity Main	N/A	28776	GWK DD 2027 CCTV Program
18.6	Combined Gravity Main	N/A	30817	GWK DD 2027 Pipe Grouting
18.6	Combined Gravity Main	N/A	30963	GWK DD 2026 CCTV Program
18.6	Combined Gravity Main	N/A	38878	GWK DD 2025 CCTV
18.6	Combined Gravity Main	N/A	32880	GWK DD 2026 CCTV Program
18.6	Combined Gravity Main	N/A	32881	GWK DD 2026 CCTV Program
18.5	Sanitary Gravity Main	N/A	30915	GWK DD 2027 Pipe Grouting
18.5	Sanitary Gravity Main	N/A	30916	GWK DD 2027 Pipe Grouting
18.5	Sanitary - Manholes	N/A	26022	GWK DD 2027 Manhole Repair Program
18.5	Combined - Manholes	N/A	1080331	GWK DD 2027 Manhole Inspection Program
18.5	Combined Gravity Main	N/A	31122	GWK DD 2029 CCTV Program
18.5	Sanitary Gravity Main	N/A	30270	GWK DD 2027 Pipe Grouting
18.5	Sanitary Gravity Main	N/A	30690	GWK DD 2026 CCTV Program
18.4	Sanitary Gravity Main	N/A	30914	GWK DD 2027 Pipe Grouting
18.4	Combined Gravity Main	N/A	30134	GWK DD 2027 CCTV Program
18.4	Combined Gravity Main	N/A	30675	GWK DD 2025 CCTV
18.4	Combined Gravity Main	N/A	1079891	GWK DD 2025 CCTV
18.2	Combined Gravity Main	N/A	30345	GWK DD 2025 CCTV
18.2	Sanitary - Manholes	N/A	26725	GWK DD 2027 Manhole Inspection Program
18.2	Sanitary - Manholes	N/A	1353873	GWK DD 2026 Manhole Inspection Program
18.2	Combined - Manholes	N/A	1493019	GWK DD 2027 Manhole Inspection Program
18.2	Combined - Manholes	N/A	1675578	GWK DD 2027 Manhole Inspection Program
18.2	Combined - Manholes	N/A	1675580	GWK DD 2027 Manhole Inspection Program
18.2	Combined - Manholes	N/A	1675582	GWK DD 2027 Manhole Inspection Program



Risk	Description	Site	AssetID	Action/Recommendation
18.1	Sanitary Gravity Main	N/A	30912	GWK DD 2027 Pipe Grouting
18.1	Combined Gravity Main	N/A	30958	GWK DD 2026 CCTV Program
18.1	Combined Gravity Main	N/A	30583	GWK DD 2025 CCTV
18.1	Combined Gravity Main	N/A	30584	GWK DD 2025 CCTV
17.9	Combined Gravity Main	N/A	28559	GWK DD 2026 CCTV Program
17.9	Combined Gravity Main	N/A	28560	GWK DD 2026 CCTV Program
17.9	Combined Gravity Main	N/A	28563	GWK DD 2026 CCTV Program
17.9	Combined Gravity Main	N/A	30082	GWK DD 2029 CCTV Program
17.9	Combined Gravity Main	N/A	30083	GWK DD 2029 CCTV Program
17.9	Combined Gravity Main	N/A	1064221	GWK DD 2026 CCTV Program
17.9	Combined Gravity Main	N/A	29844	GWK DD 2027 CCTV Program
17.8	Combined Gravity Main	N/A	31292	GWK DD 2026 CCTV Program
17.8	Combined Gravity Main	N/A	38936	GWK DD 2029 CCTV Program
17.8	Combined Gravity Main	N/A	29921	GWK DD 2027 CCTV Program
17.7	Combined - Manholes	N/A	25073	GWK DD 2027 Manhole Inspection Program
17.6	Sanitary Gravity Main	N/A	30909	GWK DD 2027 Pipe Grouting
17.5	Sanitary Gravity Main	N/A	30695	GWK DD 2027 Pipe Grouting
17.4	Sanitary Gravity Main	N/A	30248	GWK DD 2026 CCTV Program
17.4	Combined Gravity Main	N/A	30855	GWK DD 2025 CCTV
17.4	Combined Gravity Main	N/A	30857	GWK DD 2025 CCTV
17.4	Sanitary - Manholes	N/A	25996	GWK DD 2027 Manhole Repair Program
17.4	Combined Gravity Main	N/A	29483	GWK DD 2026 CCTV Program
17.4	Combined Gravity Main	N/A	30063	GWK DD 2029 CCTV Program
17.3	Combined Gravity Main	N/A	31127	GWK DD 2029 CCTV Program
17.3	Combined Gravity Main	N/A	30024	GWK DD 2027 CCTV Program
17.3	Combined - Manholes	N/A	1427936	GWK DD 2027 Manhole Inspection Program
17.2	Combined Gravity Main	N/A	27783	GWK DD 2029 CCTV Program
17.2	Combined Gravity Main	N/A	29846	GWK DD 2027 CCTV Program
17.2	Combined Gravity Main	N/A	30787	GWK DD 2025 CCTV
17.2	Combined Gravity Main	N/A	31075	GWK DD 2029 CCTV Program
17.2	Combined Gravity Main	N/A	31091	GWK DD 2025 CCTV
17.2	Combined Gravity Main	N/A	31129	GWK DD 2029 CCTV Program
17.2	Combined Gravity Main	N/A	31133	GWK DD 2029 CCTV Program
17.2	Combined Gravity Main	N/A	31134	GWK DD 2029 CCTV Program
17.2	Combined Gravity Main	N/A	31277	GWK DD 2026 CCTV Program
17.2	Combined Gravity Main	N/A	31291	GWK DD 2026 CCTV Program
17.2	Combined Gravity Main	N/A	31347	GWK DD 2026 CCTV Program
17.2	Combined Gravity Main	N/A	37915	GWK DD 2026 CCTV Program
17.2	Combined Gravity Main	N/A	403578	GWK DD 2026 CCTV Program



Risk	Description	Site	AssetID	Action/Recommendation
17.2	Combined Gravity Main	N/A	403579	GWK DD 2026 CCTV Program
17.2	Combined Gravity Main	N/A	30957	GWK DD 2026 CCTV Program
17.2	Combined Gravity Main	N/A	30086	GWK DD 2029 CCTV Program
17.1	Combined Gravity Main	N/A	30509	GWK DD 2027 Pipe Grouting
17.1	Combined Gravity Main	N/A	30108	GWK DD 2027 CCTV Program
17.1	Combined Gravity Main	N/A	33291	GWK DD 2027 CCTV Program
17.1	Combined Gravity Main	N/A	33292	GWK DD 2027 CCTV Program
17.0	Combined Gravity Main	N/A	30845	GWK DD 2025 CCTV
17.0	Combined Gravity Main	N/A	30860	GWK DD 2025 CCTV
16.9	Combined Gravity Main	N/A	29939	GWK DD 2027 CCTV Program
16.9	Combined Gravity Main	N/A	30520	GWK DD 2027 Pipe Grouting
16.9	Combined Gravity Main	N/A	29111	GWK DD 2026 CCTV Program
16.8	Combined Gravity Main	N/A	30133	GWK DD 2027 CCTV Program
16.8	Combined Gravity Main	N/A	30929	GWK DD 2025 CCTV
16.8	Combined Gravity Main	N/A	30435	GWK DD 2027 Pipe Grouting
16.7	Combined Gravity Main	N/A	30779	GWK DD 2025 CCTV
16.7	Combined Gravity Main	N/A	30850	GWK DD 2025 CCTV
16.7	Combined Gravity Main	N/A	29833	GWK DD 2026 CCTV Program
16.7	Combined Gravity Main	N/A	35785	GWK DD 2025 CCTV
16.7	Combined Gravity Main	N/A	30956	GWK DD 2026 CCTV Program
16.7	Combined Gravity Main	N/A	29836	GWK DD 2026 CCTV Program
16.7	Combined Gravity Main	N/A	29838	GWK DD 2027 CCTV Program
16.7	Combined Gravity Main	N/A	30183	GWK DD 2029 CCTV Program
16.7	Combined Gravity Main	N/A	30551	GWK DD 2029 CCTV Program
16.7	Combined Gravity Main	N/A	33269	GWK DD 2028 CCTV Program
16.7	Combined Gravity Main	N/A	39377	GWK DD 2026 CCTV Program
16.6	Sanitary - Manholes	N/A	26179	GWK DD 2027 Manhole Repair Program
16.6	Combined Gravity Main	N/A	30322	GWK DD 2027 Pipe Grouting
16.5	Combined Gravity Main	N/A	30581	GWK DD 2028 CCTV Program
16.5	Combined Gravity Main	N/A	35105	GWK DD 2026 CCTV Program
16.5	Combined Gravity Main	N/A	398892	GWK DD 2026 CCTV Program
16.5	Sanitary Gravity Main	N/A	30267	GWK DD 2027 Pipe Grouting
16.5	Sanitary Gravity Main	N/A	30717	GWK DD 2027 Pipe Grouting
16.5	Sanitary - Manholes	N/A	26305	GWK DD 2027 Manhole Repair Program
16.5	Sanitary - Manholes	N/A	1337654	GWK DD 2026 Manhole Inspection Program
16.4	Combined Gravity Main	N/A	30476	GWK DD 2025 CCTV
16.4	Combined Gravity Main	N/A	30446	GWK DD 2027 Pipe Grouting
16.4	Combined Gravity Main	N/A	31348	GWK DD 2026 CCTV Program
16.4	Combined Gravity Main	N/A	400340	GWK DD 2026 CCTV Program



Risk	Description	Site	AssetID	Action/Recommendation
16.3	Combined Gravity Main	N/A	30434	GWK DD 2027 Pipe Grouting
16.3	Combined Gravity Main	N/A	27913	GWK DD 2027 Pipe Grouting
16.3	Combined Gravity Main	N/A	33497	GWK DD 2027 CCTV Program
16.3	Combined Gravity Main	N/A	30847	GWK DD 2025 CCTV
16.3	Sanitary Gravity Main	N/A	30903	GWK DD 2027 Pipe Grouting
16.2	Combined Gravity Main	N/A	30671	GWK DD 2027 Pipe Grouting
16.2	Combined Gravity Main	N/A	30707	GWK DD 2026 CCTV Program
16.2	Combined Gravity Main	N/A	30639	GWK DD 2027 Pipe Grouting
16.1	Combined - Manholes	N/A	1675574	GWK DD 2027 Manhole Inspection Program
16.1	Combined - Manholes	N/A	1675576	GWK DD 2027 Manhole Inspection Program
16.1	Combined - Manholes	N/A	1690497	GWK DD 2027 Manhole Inspection Program
16.1	Combined Gravity Main	N/A	30978	GWK DD 2029 CCTV Program
16.0	Combined Gravity Main	N/A	30462	GWK DD 2027 Pipe Grouting
16.0	Combined - Siphon	N/A	226960	2026 GWK DD Clean/Inspect 12 Towns South Siphon



Appendix E

Project Summary

Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK Flow Regulator No. 1 Rehab Valves	RTB	Jason Say	Active	PRJ-13472	2021	2025	\$192,500
GWK Flow Regulator No. 5 Rehab Valves	RTB	Lesli Maes, P.E.	Active	PRJ-13438	2021	2025	\$115,000
GWK Flow Regulator No. 6 Rehab Valves	RTB	Lesli Maes, P.E.	Active	PRJ-13444	2021	2025	\$55,000
12 Mile Interceptor LM Replace Electrical and Transducers	RTB	Jason Say	Completed	PRJ-13474	2021	2024	\$59,000
GWK DD 2023 Consultant Project Planning	RTB	George Nichols, P.E.	Active	PRJ-17089	2022	2025	\$79,000
GWK DD Inventory/Map College Avenue & Ferndale Drains	Construction Drain Maint	George Nichols, P.E.	Active	PRJ-17298	2022	2025	\$8,000
GWK DD Tributary System Enhancements (HomeGuard)	Project Mgmt	Jen Cook, P.E.	Active	PRJ-17120	2022	2025	\$1,256,000
GWK DD 2023 CCTV	RTB	George Nichols, P.E.	Active	PRJ-17334	2023	2025	\$976,000
GWK DD 2024 CCTV	RTB	George Nichols, P.E.	Active	PRJ-17409	2023	2025	\$788,000
GWK DD 2024 Consultant Project Planning	RTB	George Nichols, P.E.	Active	PRJ-17495	2023	2025	\$80,000
GWK DD Catalpa Oaks GSI Research Project	Environmental	Sarah Stoolmiller	Active	PRJ-17413	2023	2025	\$80,000
GWK DD Regional Sampling	Environmental	Joel Kohn	Active	PRJ-17301	2023	2030	\$50,000
GWK DD Residential GSI Pilot Program	Environmental	Stephanie Petriello	Active	PRJ-17235	2023	2030	\$250,000
GWK DD Update Stormwater Standards	Environmental	Sarah Stoolmiller	Active	PRJ-17398	2023	2025	\$100,000
GWK DD Clean Allen Branch Siphon	RTB	George Nichols, P.E.	Active	PRJ-17544	2024	2025	\$320,000
GWK DD Detroit Zoo Manhole Investigation	RTB	George Nichols, P.E.	Active	PRJ-17496	2024	2026	\$150,000
GWK DD EPA Community Change Grant	Environmental	Stephanie Petriello	Active	PRJ-17620	2024	2025	\$55,500
GWK DD Evaluate Sewage Flow Meters	Systems Control	Tess Reynolds	Active		2024	2026	\$103,500
GWK DD RainSmart Rebates Program	Environmental	Stephanie Petriello	Active	PRJ-17467	2024	2030	\$200,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK DD Rehab 14 Mile Road Manhole	RTB	George Nichols, P.E.	Active	PRJ-17695	2024	2025	\$35,000
GWK DD Asset Mgmt Software Implementation	Asset Mgmt	Jenny Shaw	Budgeted		2024	2026	\$103,120
GWK DD 2024 GI Implementation Program	Environmental	Stephanie Petriello	Completed		2024	2024	\$100,000
GWK DD 2025 CCTV	RTB	George Nichols, P.E.	Active	PRJ-17834	2025	2026	\$75,000
GWK DD 2025 Consultant Project Planning	RTB	George Nichols, P.E.	Active		2025	2025	\$100,000
GWK DD 2025 Heavy Cleaning	RTB	George Nichols, P.E.	Active		2025	2025	\$40,000
GWK DD 2025 Manhole Inspection Program	Construction Drain Maint	George Nichols, P.E.	Active		2025	2025	\$27,000
GWK DD 2025 Manhole Repair Program	Construction Drain Maint	George Nichols, P.E.	Active		2025	2025	\$12,000
GWK DD 2025 Pipe Grouting	RTB	George Nichols, P.E.	Active		2025	2025	\$300,000
GWK DD 2025 Pipe Lining/Replacement	RTB	George Nichols, P.E.	Active		2025	2025	\$1,009,400
GWK DD 2025 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Active		2025	2025	\$210,491
GWK DD 2025 Rehab Siphon Project	RTB	George Nichols, P.E.	Active		2025	2025	\$320,000
GWK DD 2025 Root Treatment	RTB	George Nichols, P.E.	Active		2025	2025	\$32,000
GWK DD 2025 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Active		2025	2025	\$0
GWK DD 2025 Spot Repair - Excavation	RTB	George Nichols, P.E.	Active		2025	2025	\$50,000
GWK DD 2025 Spot Repair - Trenchless	RTB	George Nichols, P.E.	Active		2025	2025	\$95,000
GWK Flow Regulators Replace Gate Actuators	RTB	Lesli Maes, P.E.	Active	PRJ-17758	2025	2026	\$100,000
Eight Mile Meter Chamber Replace Electrical Service Equipment & Distribution Panel	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$45,000
Eight Mile Meter Chamber Replace N & S Isolation Gate Actuators & Hatch	RTB	Lesli Maes, P.E.	Budgeted		2025	2025	\$160,000
GWK DD 2025 GI Implementation Program	Environmental	Stephanie Petriello	Completed		2025	2025	\$100,000
GWK DD Replace 13 ADS Sewage Meters	Systems Control	Larry Young, E.I.T.	Planning		2025	2025	\$112,515
GWK DD Update Metering Master Plan	Systems Control	Larry Young, E.I.T.	Planning		2025	2027	\$1,050,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK DD 2026 CCTV Program	RTB	George Nichols, P.E.	Planning		2026	2026	\$900,000
GWK DD 2026 Consultant Project Planning	RTB	George Nichols, P.E.	Planning		2026	2026	\$100,000
GWK DD 2026 GI Implementation Program	Environmental	Stephanie Petriello	Planning		2026	2026	\$100,000
GWK DD 2026 Heavy Cleaning	RTB	George Nichols, P.E.	Planning		2026	2026	\$40,000
GWK DD 2026 Manhole Inspection Program	Construction Drain Maint	George Nichols, P.E.	Planning		2026	2026	\$59,000
GWK DD 2026 Manhole Repair Program	Construction Drain Maint	George Nichols, P.E.	Planning		2026	2026	\$14,000
GWK DD 2026 Pipe Grouting	RTB	George Nichols, P.E.	Planning		2026	2026	\$3,000,000
GWK DD 2026 Pipe Lining/Replacement	RTB	George Nichols, P.E.	Planning		2026	2026	\$1,100,000
GWK DD 2026 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2026	2026	\$176,675
GWK DD 2026 Rehab Siphon Project	RTB	George Nichols, P.E.	Planning		2026	2026	\$320,000
GWK DD 2026 Root Treatment	RTB	George Nichols, P.E.	Planning		2026	2026	\$32,000
GWK DD 2026 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2026	2026	\$0
GWK DD 2026 Spot Repair - Excavation	RTB	George Nichols, P.E.	Planning		2026	2026	\$50,000
GWK DD 2026 Spot Repair - Trenchless	RTB	George Nichols, P.E.	Planning		2026	2026	\$95,000
GWK DD Clean/Inspect 12 Towns South Siphon	RTB	George Nichols, P.E.	Planning		2026	2026	\$200,000
GWK DD Tributary Grey Infrastructure Study	RTB	Lesli Maes, P.E.	Planning		2026	2028	\$600,000
GWK Flow Regulators Condition Assessment & Replace Manual Stems	RTB	Lesli Maes, P.E.	Planning		2026	2026	\$200,000
GWK DD 2027 CCTV Program	RTB	George Nichols, P.E.	Planning		2027	2027	\$900,000
GWK DD 2027 Consultant Project Planning	RTB	George Nichols, P.E.	Planning		2027	2027	\$100,000
GWK DD 2027 GI Implementation Program	Environmental	Stephanie Petriello	Planning		2027	2027	\$100,000
GWK DD 2027 Manhole Inspection Program	Construction Drain Maint	George Nichols, P.E.	Planning		2027	2027	\$39,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK DD 2027 Manhole Repair Program	Construction Drain Maint	George Nichols, P.E.	Planning		2027	2027	\$14,000
GWK DD 2027 Pipe Grouting	RTB	George Nichols, P.E.	Planning		2027	2027	\$3,000,000
GWK DD 2027 Pipe Lining/Replacement	RTB	George Nichols, P.E.	Planning		2027	2027	\$1,100,000
GWK DD 2027 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2027	2027	\$181,976
GWK DD 2027 Rehab Siphon Project	RTB	George Nichols, P.E.	Planning		2027	2027	\$320,000
GWK DD 2027 Root Treatment	RTB	George Nichols, P.E.	Planning		2027	2027	\$32,000
GWK DD 2027 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2027	2027	\$0
GWK DD 2027 Spot Repair - Excavation	RTB	George Nichols, P.E.	Planning		2027	2027	\$50,000
GWK DD 2027 Spot Repair - Trenchless	RTB	George Nichols, P.E.	Planning		2027	2027	\$95,000
GWK DD Clean/Inspect Barry Siphon	RTB	George Nichols, P.E.	Planning		2027	2027	\$200,000
GWK DD 2028 CCTV Program	RTB	George Nichols, P.E.	Planning		2028	2028	\$900,000
GWK DD 2028 Consultant Project Planning	RTB	George Nichols, P.E.	Planning		2028	2028	\$100,000
GWK DD 2028 GI Implementation Program	Environmental	Stephanie Petriello	Planning		2028	2028	\$100,000
GWK DD 2028 Heavy Cleaning	RTB	George Nichols, P.E.	Planning		2028	2028	\$40,000
GWK DD 2028 Manhole Inspection Program	Construction Drain Maint	George Nichols, P.E.	Planning		2028	2028	\$39,000
GWK DD 2028 Manhole Repair Program	Construction Drain Maint	George Nichols, P.E.	Planning		2028	2028	\$14,000
GWK DD 2028 Pipe Grouting	RTB	George Nichols, P.E.	Planning		2028	2028	\$3,000,000
GWK DD 2028 Pipe Lining/Replacement	RTB	George Nichols, P.E.	Planning		2028	2028	\$1,100,000
GWK DD 2028 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2028	2028	\$187,435
GWK DD 2028 Rehab Siphon Project	RTB	George Nichols, P.E.	Planning		2028	2028	\$320,000
GWK DD 2028 Root Treatment	RTB	George Nichols, P.E.	Planning		2028	2028	\$32,000



Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK DD 2028 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2028	2028	\$50,000
GWK DD 2028 Spot Repair - Excavation	RTB	George Nichols, P.E.	Planning		2028	2028	\$50,000
GWK DD 2028 Spot Repair - Trenchless	RTB	George Nichols, P.E.	Planning		2028	2028	\$95,000
GWK DD Clean/Inspect Clarkson Siphon	RTB	George Nichols, P.E.	Planning		2028	2028	\$200,000
GWK Flow Regulator No. 1 Replace Four Level Sensors	RTB	Lesli Maes, P.E.	Planning		2028	2028	\$20,000
GWK DD 2029 CCTV Program	RTB	George Nichols, P.E.	Planning		2029	2029	\$900,000
GWK DD 2029 Consultant Project Planning	RTB	George Nichols, P.E.	Planning		2029	2029	\$100,000
GWK DD 2029 GI Implementation Program	Environmental	Stephanie Petriello	Planning		2029	2029	\$100,000
GWK DD 2029 Heavy Cleaning	RTB	George Nichols, P.E.	Planning		2029	2029	\$40,000
GWK DD 2029 Manhole Inspection Program	Construction Drain Maint	George Nichols, P.E.	Planning		2029	2029	\$39,000
GWK DD 2029 Manhole Repair Program	Construction Drain Maint	George Nichols, P.E.	Planning		2029	2029	\$14,000
GWK DD 2029 Pipe Grouting	RTB	George Nichols, P.E.	Planning		2029	2029	\$3,000,000
GWK DD 2029 Pipe Lining/Replacement	RTB	George Nichols, P.E.	Planning		2029	2029	\$1,100,000
GWK DD 2029 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2029	2029	\$193,058
GWK DD 2029 Rehab Siphon Project	RTB	George Nichols, P.E.	Planning		2029	2029	\$320,000
GWK DD 2029 Root Treatment	RTB	George Nichols, P.E.	Planning		2029	2029	\$32,000
GWK DD 2029 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2029	2029	\$50,000
GWK DD 2029 Spot Repair - Trenchless	RTB	George Nichols, P.E.	Planning		2029	2029	\$95,000
GWK DD 2029 Spot Repair - Excavation	RTB	George Nichols, P.E.	Planning		2029	2029	\$50,000
GWK DD Clean/Inspect 12 Mile Siphon	RTB	George Nichols, P.E.	Planning		2029	2029	\$100,000
GWK DD Clean/Inspect Stephenson Siphon	RTB	George Nichols, P.E.	Planning		2029	2029	\$100,000
GWK DD Replace Cell Modems at 5 Sites	Systems Control	Lesli Maes, P.E.	Planning		2029	2029	\$28,500



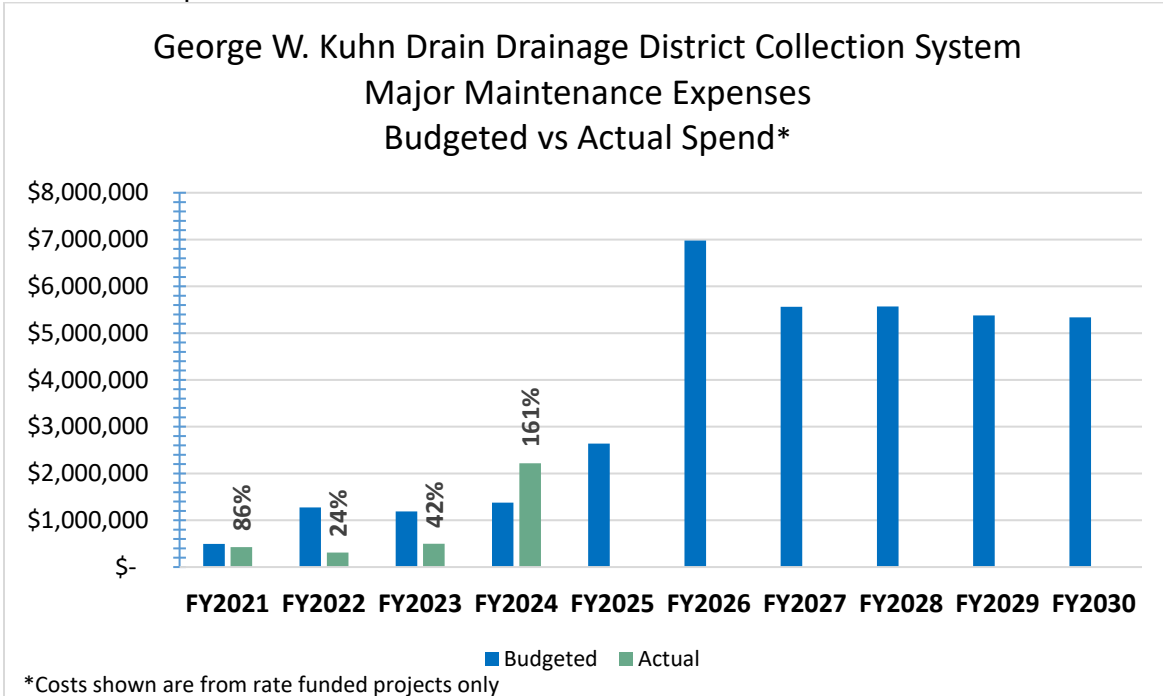
Name	Unit	Project Manager	Status	Project Number	Project Start Year	Project End Year	Cost (Estimated)
GWK Flow Regulator No. 5 Replace Two Level Sensors	RTB	Lesli Maes, P.E.	Planning		2029	2029	\$10,000
GWK Flow Regulator No. 6 Replace Two Level Sensors	RTB	Lesli Maes, P.E.	Planning		2029	2029	\$10,000
GWK DD 2030 CCTV Program	RTB	George Nichols, P.E.	Planning		2030	2030	\$900,000
GWK DD 2030 Consultant Project Planning	RTB	George Nichols, P.E.	Planning		2030	2030	\$100,000
GWK DD 2030 GI Implementation Program	Environmental	Stephanie Petriello	Planning		2030	2030	\$100,000
GWK DD 2030 Heavy Cleaning	RTB	George Nichols, P.E.	Planning		2030	2030	\$40,000
GWK DD 2030 Manhole Inspection Program	Construction Drain Maint	George Nichols, P.E.	Planning		2030	2030	\$39,000
GWK DD 2030 Manhole Repair Program	Construction Drain Maint	George Nichols, P.E.	Planning		2030	2030	\$14,000
GWK DD 2030 Pipe Grouting	RTB	George Nichols, P.E.	Planning		2030	2030	\$3,000,000
GWK DD 2030 Pipe Lining/Replacement	RTB	George Nichols, P.E.	Planning		2030	2030	\$1,100,000
GWK DD 2030 PowerPlan Support Cost	Asset Mgmt	Jenny Shaw	Planning		2030	2030	\$198,850
GWK DD 2030 Rehab Siphon Project	RTB	George Nichols, P.E.	Planning		2030	2030	\$320,000
GWK DD 2030 Root Treatment	RTB	George Nichols, P.E.	Planning		2030	2030	\$32,000
GWK DD 2030 Sewage Meter Replacements	Systems Control	Carrie Cox, P.E.	Planning		2030	2030	\$50,000
GWK DD 2030 Spot Repair - Excavation	RTB	George Nichols, P.E.	Planning		2030	2030	\$50,000
GWK DD 2030 Spot Repair - Trenchless	RTB	George Nichols, P.E.	Planning		2030	2030	\$95,000
GWK DD Clean/Inspect Dequindre Road Siphon	RTB	George Nichols, P.E.	Planning		2030	2030	\$50,000
GWK DD Evaluate Sewage Flow Meters	Systems Control	Tess Reynolds	Planning		2030	2030	\$103,500



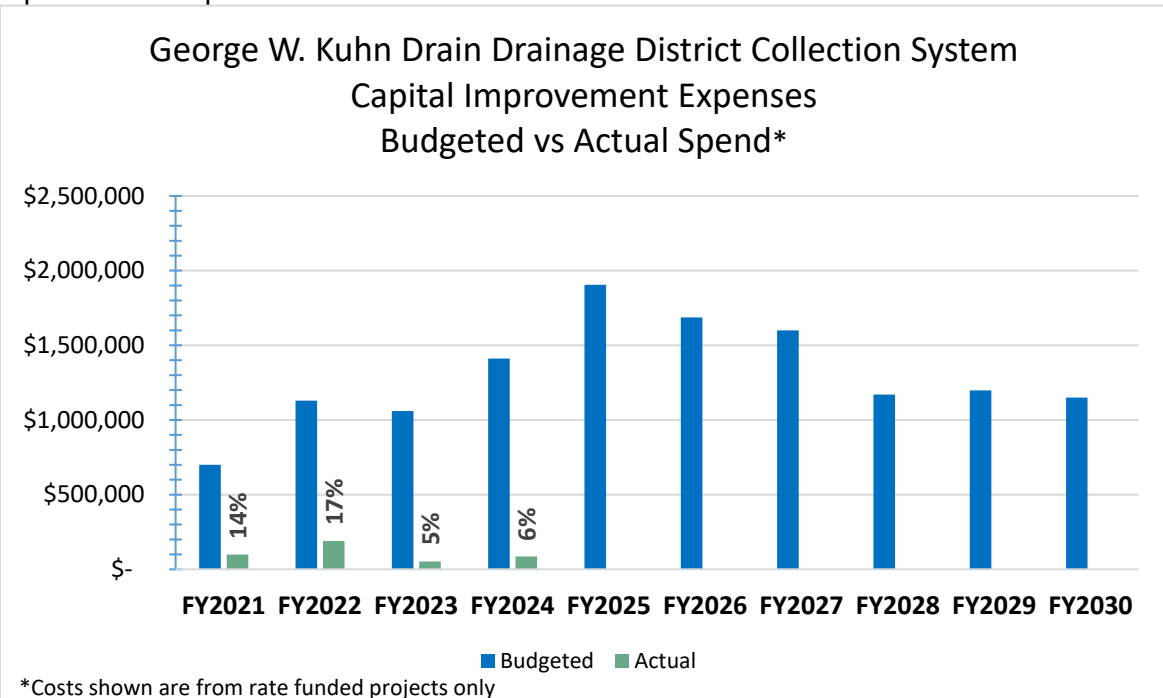
Appendix F

Budgeted vs Actual Expense Comparison

Major Maintenance Expenses



Capital Improvement Expenses



**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER**

MEMORANDUM

TO: Jim Nash, Chairperson
George W. Kuhn Drain Drainage District

FROM: Gary Nigro, P.E., Manager

SUBJECT: FY 2025-2026 Rate Recommendation

DATE: April 22, 2025

The purpose of this memorandum is to communicate a recommendation to the Board of the George W. Kuhn Drain Drainage District (GWK) detailing the proposed monthly charges to our customer communities based on approved Great Lakes Water Authority (GLWA) monthly charges for its fiscal 2025-26 rate year.

The attached monthly charges were presented to the GWK customer communities on April 22, 2025. Community representatives were advised that we would continue to follow the rate share calculation based on a five-year average of water volume to determine each community's monthly sewage charge. These percentages are reviewed annually during the rate-setting process. The stormwater charge continues to be based on the apportionment percentages previously adopted by the Board. The revised monthly charges for services will be billed effective July 2025.

Increases in operating, major maintenance, and capital improvement expenses result in an overall 6.9% increase from the previous year for combined sewage and stormwater charges. Please refer to the attached Schedule of Rates and Charges for a list of charges for each community. Detailed worksheets, including a Financial Summary, Monthly Charge Schedule, and Share and Monthly Charge Comparison, are also attached.

Recommended Action: Approve the rates and charges for the rate year beginning July 1, 2025, as presented.

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL SYSTEM

Schedule updated by GLWA Staff Pending Review by
Willdan Financial Services

Service Charges and Allocated Revenues Requirements

ADOPTED - EFFECTIVE JULY 1, 2025 FOR ALL BILLS ISSUED ON OR AFTER AUGUST 1, 2025

Line No.	Member Partner	Contract	Fixed Monthly Charge (a)	Projected Revenue From Charges
			\$/mo	\$
1	OMID Common	Model	\$ 6,539,900	\$ 78,478,800
2	Rouge Valley	Older	\$ 5,030,200	\$ 60,362,400
3	Oakland GWK	Older	\$ 4,200,700	\$ 50,408,400
4	Evergreen Farmington	Model	\$ 3,296,700	\$ 39,560,400
5	SE Macomb San Dist	Model	\$ 2,269,500	\$ 27,234,000
6	Dearborn	Model	\$ 1,869,200	\$ 22,430,400
7	Grosse Pointe Farms	Older	\$ 242,600	\$ 2,911,200
8	Grosse Pointe Park	Model	\$ 173,100	\$ 2,077,200
9	Melvindale	Model	\$ 143,000	\$ 1,716,000
10	Farmington	Model	\$ 109,000	\$ 1,308,000
11	Center Line	Model	\$ 95,400	\$ 1,144,800
12	Allen Park	Model	\$ 76,900	\$ 922,800
13	Grosse Pointe	Model	\$ 106,600	\$ 1,279,200
14	Highland Park	Model	\$ 433,000	\$ 5,196,000
15	Hamtramck	Model	\$ 390,900	\$ 4,690,800
16	Harper Woods	Model	\$ 14,800	\$ 177,600
17	Redford Township	Model	\$ 30,600	\$ 367,200
18	Wayne County #3	Older	\$ 4,300	\$ 51,600
19	Total Wholesale Contract Member Partners (c)			\$ 300,316,800
Other Sewer System Charges				
20	Industrial Waste Control (c)			\$ 9,150,300
21	Pollutant Surcharges (c)			\$ 5,112,700
22	Subtotal Regional Wholesale Revenues			\$ 314,579,800
Detroit Customer Class - \$				
23	Wholesale Revenue Requirement (d)			\$ 220,840,400
24	less: Ownership Benefit per Lease			\$ (5,516,000)
25	Net Local System Wholesale Revenue Requirement (c)			\$ 215,324,400
26	Total Revenue from Wholesale Charges (22) + (25) (c)			\$ 529,904,200

**GREAT LAKES WATER AUTHORITY
SEWAGE DISPOSAL SYSTEM**

Schedule updated by GLWA Staff Pending Review by
Willdan Financial Services

Service Charges and Allocated Revenues Requirements

ADOPTED - EFFECTIVE JULY 1, 2025 FOR ALL BILLS ISSUED ON OR AFTER AUGUST 1, 2025

<u>Detroit Customer Class -Other</u>		
27	Indirect Retail Revenue Requirements (e)	\$ 38,434,100
28	less: Use of Lease Payment for Debt Service	\$ -
29	Net Indirect Retail Revenue Requirements (e)	\$ 38,434,100
30	Subtotal Subject to GLWA Board Approval (25) + (29)	\$ 253,758,500
31	Direct Retail Revenue Requirements (f)	\$ 60,104,400
32	Total Local System Revenue Requirement (29) + (31)	\$ 98,538,500
33	Total Requirement from Detroit Customer Class (25) + (32) (agrees with GLWA Budget Schedule 3)	\$ 313,862,900

- (a) Proposed effective date of July 1, 2025. Effective on all bills issued on or after August 1, 2025.
 - (b) Reserved
 - (c) Agrees with GLWA Budget Schedule
 - (d) Wholesale revenue requirements for the Detroit Customer Class.
 - (e) Local System revenue requirements related to Master Bond Ordinance and related agreements
 - (f) Local System operating expenses (net of shared services reimbursement) and I&E deposit. Not Subject to GLWA Board approval.
- (e) & (f) Local System information provided from Detroit Water & Sewerage Department as of February 1, 2025

GREAT LAKES WATER AUTHORITY SEWAGE DISPOSAL SYSTEM

Industrial Specific Retail Charges

ADOPTED - EFFECTIVE JULY 1, 2025 FOR ALL BILLS ISSUED ON OR AFTER AUGUST 1, 2025

Schedule updated by
GLWA Staff Pending
Review by Willdan
Financial Services

Industrial Waste Control Charges			
Meter Size		Full Charge	Admin Only Charge
inches		\$/mo	\$/mo
5/8	\$	3.89	\$ 0.97
3/4	\$	5.84	\$ 1.46
1	\$	9.73	\$ 2.43
1-1/2	\$	21.40	\$ 5.34
2	\$	31.12	\$ 7.76
3	\$	56.41	\$ 14.07
4	\$	77.80	\$ 19.40
6	\$	116.70	\$ 29.10
8	\$	194.50	\$ 48.50
10	\$	272.30	\$ 67.90
12	\$	311.20	\$ 77.60
14	\$	389.00	\$ 97.00
16	\$	466.80	\$ 116.40
18	\$	544.60	\$ 135.80
20	\$	622.40	\$ 155.20
24	\$	700.20	\$ 174.60
30	\$	778.00	\$ 194.00
36	\$	855.80	\$ 213.40
48	\$	933.60	\$ 232.80

Pollutant Surcharges		
Pollutant		Charge
		\$/lb
BIOCHEMICAL OXYGEN DEMAND (BOD)		
for concentrations > 275 mg/l	\$	0.409
TOTAL SUSPENDED SOLIDS (TSS)		
for concentrations > 350 mg/l	\$	0.548
PHOSPHORUS (P)		
for concentrations > 12 mg/l	\$	7.907
FATS, OIL AND GREASE (FOG)		
for concentrations > 100 mg/l	\$	0.131
SEPTAGE DISPOSAL FEE		
Per 500 gallons of disposal	\$	40.00

George W. Kuhn Sewage and Twelve Towns
58510 and 58530
Financial Summary

Page 5 of 14

	2024 Actual	2025 Budget	2026 Forecast	Inc / (Dec)	% Variance
<u>Operating Revenues</u>					
Operating Rate Revenue	\$ 22,808,897.05	\$ 25,030,420.00	\$ 26,474,490.00	\$ 1,444,070.00	5.8%
Operating Non-Rate Revenue	885,618.68	299,040.00	454,390.00	155,350.00	51.9%
Operating Revenues	<u>\$ 23,694,515.73</u>	<u>\$ 25,329,460.00</u>	<u>\$ 26,928,880.00</u>	<u>\$ 1,599,420.00</u>	<u>6.3%</u>
<u>Operating Expenses</u>					
Sewage Treatment	\$ 20,827,692.60	\$ 22,705,510.00	\$ 23,641,540.00	\$ 936,030.00	4.1%
Sewer System Maintenance	306,933.98	347,090.00	340,170.00	(6,920.00)	-2.0%
Sewer System Engineering	107,414.03	68,520.00	84,620.00	16,100.00	23.5%
Water Purchases	-	-	-	-	
Water Maintenance Unit	-	-	-	-	
Water Systems Engineering	-	-	-	-	
Septage Unloading Facility	-	-	-	-	
Pump Maintenance Unit	12,672.52	22,550.00	18,040.00	(4,510.00)	-20.0%
Systems Control Unit	204,717.13	188,480.00	197,690.00	9,210.00	4.9%
Plan Review and Permitting	213,994.09	136,300.00	172,160.00	35,860.00	26.3%
Inspection	4,974.65	5,290.00	4,740.00	(550.00)	-10.4%
IPP	22,657.60	11,510.00	11,960.00	450.00	3.9%
Laboratory	-	-	-	-	
Mapping Unit	17,780.71	15,330.00	16,150.00	820.00	5.3%
Miss Dig	-	590.00	-	(590.00)	-100.0%
Billing Services Unit	-	-	-	-	
General and Administrative	2,517,673.88	1,828,290.00	2,441,810.00	613,520.00	33.6%
Total Operating Expenses	<u>24,236,511.19</u>	<u>25,329,460.00</u>	<u>26,928,880.00</u>	<u>1,599,420.00</u>	<u>6.3%</u>
Net Income	<u>\$ (541,995.46)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	
Depreciation	-	-	-	-	
<u>Reserves</u>					
Non-Operating Revenue	\$ 257,499.96	\$ 130,000.00	\$ 60,000.00	\$ (70,000.00)	-53.8%
Non-Operating Expense	-	-	-	-	
Major Maintenance Reserve Revenue	1,200,000.05	1,179,000.00	1,679,000.00	500,000.00	42.4%
Major Maintenance Reserve Expense	(2,219,645.91)	(2,638,990.00)	(6,936,680.00)	(4,297,690.00)	162.9%
Emergency Reserve Revenue	100,000.05	100,000.00	100,000.00	-	0.0%
Emergency Reserve Expense	-	-	-	-	
Capital Reserve Revenue	1,446,179.01	1,600,000.00	1,600,000.00	-	0.0%
Capital Reserve Expense	(86,146.04)	(1,905,460.00)	(1,686,090.00)	219,370.00	-11.5%
Change in Net Assets	<u>\$ 155,891.66</u>	<u>\$ (1,535,450.00)</u>	<u>\$ (5,183,770.00)</u>	<u>\$ (3,648,320.00)</u>	<u>237.6%</u>
<u>Rate Revenue</u>					
Revenue Requirements:					
Operating Expense	\$ 24,236,511.19	\$ 25,329,460.00	\$ 26,928,880.00	\$ 1,599,420.00	6.3%
Non-Operating	257,499.96	130,000.00	60,000.00	(70,000.00)	-53.8%
Major Maintenance	1,200,000.05	1,179,000.00	1,679,000.00	500,000.00	42.4%
Emergency Maintenance	100,000.05	100,000.00	100,000.00	-	0.0%
Capital	1,446,179.01	1,600,000.00	1,600,000.00	-	0.0%
Total Revenue Requirements	<u>\$ 27,240,190.26</u>	<u>\$ 28,338,460.00</u>	<u>\$ 30,367,880.00</u>	<u>\$ 2,029,420.00</u>	<u>7.2%</u>
Non-Rate Revenue	<u>\$ (1,088,922.70)</u>	<u>\$ (478,040.00)</u>	<u>\$ (633,390.00)</u>	<u>\$ (155,350.00)</u>	<u>32.5%</u>
Rate Required Revenue	<u>\$ 26,151,267.56</u>	<u>\$ 27,860,420.00</u>	<u>\$ 29,734,490.00</u>	<u>\$ 1,874,070.00</u>	<u>6.7%</u>

George W. Kuhn Pollution Control

58520

Financial Summary

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	2024 Actual	2025 Budget	2026 Forecast	Inc / (Dec)	% Variance
<u>Operating Revenues</u>					
Operating Rate Revenue	\$ 28,032,197.70	\$ 29,265,870.00	\$ 31,014,880.00	\$ 1,749,010.00	6.0%
Operating Non-Rate Revenue	698,573.79	285,080.00	291,290.00	6,210.00	2.2%
Operating Revenues	<u>\$ 28,730,771.49</u>	<u>\$ 29,550,950.00</u>	<u>\$ 31,306,170.00</u>	<u>\$ 1,755,220.00</u>	<u>5.9%</u>
<u>Operating Expenses</u>					
Sewage Treatment	\$ 24,359,384.15	\$ 25,710,110.00	\$ 26,877,340.00	\$ 1,167,230.00	4.5%
Sewer System Maintenance	281,446.39	363,620.00	316,340.00	(47,280.00)	-13.0%
Sewer System Engineering	482,878.45	583,030.00	554,380.00	(28,650.00)	-4.9%
Water Purchases	-	-	-	-	
Water Maintenance Unit	-	-	-	-	
Water Systems Engineering	-	-	-	-	
Septage Unloading Facility	508.50	-	510.00	510.00	
Pump Maintenance Unit	1,712,141.32	1,620,640.00	1,873,580.00	252,940.00	15.6%
Systems Control Unit	63,542.94	67,870.00	65,860.00	(2,010.00)	-3.0%
Plan Review and Permitting	-	-	-	-	
Inspection	-	350.00	350.00	-	0.0%
IPP	-	-	-	-	
Laboratory	5,176.76	9,560.00	7,740.00	(1,820.00)	-19.0%
Mapping Unit	1,665.11	2,250.00	1,480.00	(770.00)	-34.2%
Miss Dig	-	-	-	-	
Billing Services Unit	-	-	-	-	
General and Administrative	1,439,308.15	1,193,520.00	1,608,590.00	415,070.00	34.8%
Total Operating Expenses	<u>28,346,051.77</u>	<u>29,550,950.00</u>	<u>31,306,170.00</u>	<u>1,755,220.00</u>	<u>5.9%</u>
Net Income	<u>\$ 384,719.72</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	
Depreciation	-	-	-	-	
<u>Reserves</u>					
Non-Operating Revenue	\$ -	\$ -	\$ -	\$ -	
Non-Operating Expense	(89,064.43)	-	-	-	
Major Maintenance Reserve Revenue	824,999.91	1,200,000.00	1,200,000.00	-	0.0%
Major Maintenance Reserve Expense	(506,736.86)	(1,231,740.00)	(1,703,590.00)	(471,850.00)	38.3%
Emergency Reserve Revenue	50,000.01	50,000.00	50,000.00	-	0.0%
Emergency Reserve Expense	-	-	-	-	
Capital Reserve Revenue	999,999.96	1,000,000.00	1,500,000.00	500,000.00	50.0%
Capital Reserve Expense	(564,964.40)	(1,354,910.00)	(2,307,320.00)	(952,410.00)	70.3%
Change in Net Assets	<u>\$ 1,098,953.91</u>	<u>\$ (336,650.00)</u>	<u>\$ (1,260,910.00)</u>	<u>\$ (924,260.00)</u>	<u>274.5%</u>
<u>Rate Revenue</u>					
Revenue Requirements:					
Operating Expense	\$ 28,346,051.77	\$ 29,550,950.00	\$ 31,306,170.00	\$ 1,755,220.00	5.9%
Non-Operating	-	-	-	-	
Major Maintenance	824,999.91	1,200,000.00	1,200,000.00	-	0.0%
Emergency Maintenance	50,000.01	50,000.00	50,000.00	-	0.0%
Capital	999,999.96	1,000,000.00	1,500,000.00	500,000.00	50.0%
Total Revenue Requirements	<u>\$ 30,221,051.65</u>	<u>\$ 31,800,950.00</u>	<u>\$ 34,056,170.00</u>	<u>\$ 2,255,220.00</u>	<u>7.1%</u>
Non-Rate Revenue	<u>\$ (698,573.79)</u>	<u>\$ (285,080.00)</u>	<u>\$ (291,290.00)</u>	<u>\$ (6,210.00)</u>	<u>2.2%</u>
Rate Required Revenue	<u>\$ 29,522,477.86</u>	<u>\$ 31,515,870.00</u>	<u>\$ 33,764,880.00</u>	<u>\$ 2,249,010.00</u>	<u>7.1%</u>

Monthly Charge Breakdown

SEWAGE CHARGE

Flat Rate Sewage Charge	Effective July 1, 2025
	<u>Annual Charge</u>
GLWA Purchased Expense	\$ 23,641,540.00
OCWRC Operating Expense	3,287,340.00
Non-Operating	60,000.00
Major Maintenance Reserve	1,500,000.00
Emergency Maintenance Reserve	100,000.00
Capital Improvement Reserve	1,600,000.00
Less: Misc. Revenue	<u>(454,390.00)</u>
Total:	\$ 29,734,490.00

	Effective July 1, 2025	Effective July 1, 2025
	<u>Annual Charge</u>	<u>Monthly Charge</u>
City of Berkley	\$ 1,184,325	\$ 98,693.76
Village of Beverly Hills	86,528	7,210.66
City of Birmingham	1,015,135	84,594.59
City of Clawson	889,656	74,137.99
City of Ferndale	1,670,781	139,231.75
City of Hazel Park	1,187,596	98,966.33
City of Huntington Woods	545,033	45,419.42
City of Madison Heights	2,971,070	247,589.17
City of Oak Park	2,262,497	188,541.41
City of Pleasant Ridge	259,284	21,607.00
City of Royal Oak	5,889,808	490,817.34
Royal Oak Twp	250,959	20,913.25
City of Southfield	1,834,618	152,884.84
City of Troy	9,325,034	777,086.17
Detroit Zoological Park	326,782	27,231.83
County of Oakland	-	-
Rackham Golf Course	35,384	2,948.68
State Of Michigan	-	-
Total	\$ 29,734,490	\$ 2,477,874.19

Monthly Charge Breakdown

STORM CHARGE

Flat Rate Storm Charge	Effective July 1, 2025
	<u>Annual Charge</u>
GLWA Purchased Expense	\$ 26,877,340.00
OCWRC Operating Expense	4,428,830.00
Non-Operating	0.00
Major Maintenance	1,200,000.00
Emergency Maintenance	50,000.00
Capital Improvement	1,500,000.00
Less: Interest Income	(291,290.00)
Total:	\$ 33,764,880.00

	Effective July, 1 2025	Effective July 1, 2025
	<u>Annual Charge</u>	<u>Monthly Charge</u>
City of Berkley	\$ 2,191,171	\$ 182,597.58
Village of Beverly Hills	282,578	23,548.17
City of Birmingham	1,648,975	137,414.58
City of Clawson	2,000,974	166,747.84
City of Ferndale	3,473,899	289,491.58
City of Hazel Park	761,534	63,461.17
City of Huntington Woods	833,014	69,417.83
City of Madison Heights	2,208,561	184,046.75
City of Oak Park	4,604,955	383,746.25
City of Pleasant Ridge	452,113	37,676.08
City of Royal Oak	10,029,114	835,759.50
Royal Oak Twp	431,347	35,945.59
City of Southfield	2,605,162	217,096.83
City of Troy	837,335	69,777.91
Detroit Zoological Park	113,585	9,465.42
County of Oakland	515,725	42,977.09
Rackham Golf Course	64,593	5,382.75
State Of Michigan	710,245	59,187.09
Total	\$ 33,764,880	\$ 2,813,740.01

Share & Monthly Charge Comparison

SEWAGE CHARGE

	FY 2024-25 (July - June)		FY 2025-26 (July - June)		% Change Mthly Charge
	Share % of System	Monthly Charge	Share % of System	Monthly Charge	
City of Berkley	4.051%	\$ 94,052.07	3.983%	\$ 98,693.76	4.9%
Village of Beverly Hills	0.282%	6,547.24	0.291%	7,210.66	10.1%
City of Birmingham	3.192%	74,108.75	3.414%	84,594.59	14.1%
City of Clawson	3.058%	70,997.58	2.992%	74,137.99	4.4%
City of Ferndale	5.582%	129,597.43	5.619%	139,231.75	7.4%
City of Hazel Park	3.992%	92,682.35	3.994%	98,966.33	6.8%
City of Huntington Woods	1.885%	43,764.15	1.833%	45,419.42	3.8%
City of Madison Heights	9.808%	227,712.41	9.992%	247,589.17	8.7%
City of Oak Park	7.568%	175,706.34	7.609%	188,541.41	7.3%
City of Pleasant Ridge	0.869%	20,175.59	0.872%	21,607.00	7.1%
City of Royal Oak	19.771%	459,023.57	19.808%	490,817.34	6.9%
Royal Oak Twp	0.850%	19,734.48	0.844%	20,913.25	6.0%
City of Southfield	6.287%	145,965.34	6.170%	152,884.84	4.7%
City of Troy	31.586%	733,332.76	31.361%	777,086.17	6.0%
Detroit Zoological Park	1.086%	25,213.75	1.099%	27,231.83	8.0%
County of Oakland	-	-	-	-	-
Rackham Golf Course	0.133%	3,087.83	0.119%	2,948.68	-4.5%
State Of Michigan	-	-	-	-	-
Total	100.000%	\$ 2,321,701.64	100.000%	\$ 2,477,874.19	6.7%

Charges have been rounded

STORM CHARGE

	FY 2024-25 (July - June)		FY 2025-26 (July - June)		% Change Mthly Charge
	Share % of System	Monthly Charge	Share % of System	Monthly Charge	
City of Berkley	6.4895%	\$ 170,435.17	6.4895%	\$ 182,597.58	7.1%
Village of Beverly Hills	0.8369%	21,979.67	0.8369%	23,548.17	7.1%
City of Birmingham	4.8837%	128,261.75	4.8837%	137,414.58	7.1%
City of Clawson	5.9262%	155,641.09	5.9262%	166,747.84	7.1%
City of Ferndale	10.2885%	270,209.17	10.2885%	289,491.58	7.1%
City of Hazel Park	2.2554%	59,234.17	2.2554%	63,461.17	7.1%
City of Huntington Woods	2.4671%	64,793.99	2.4671%	69,417.83	7.1%
City of Madison Heights	6.5410%	171,787.74	6.5410%	184,046.75	7.1%
City of Oak Park	13.6383%	358,185.74	13.6383%	383,746.25	7.1%
City of Pleasant Ridge	1.3390%	35,166.50	1.3390%	37,676.08	7.1%
City of Royal Oak	29.7028%	780,091.16	29.7028%	835,759.50	7.1%
Royal Oak Twp	1.2775%	33,551.33	1.2775%	35,945.59	7.1%
City of Southfield	7.7156%	202,636.51	7.7156%	217,096.83	7.1%
City of Troy	2.4799%	65,130.16	2.4799%	69,777.91	7.1%
Detroit Zoological Park	0.3364%	8,835.00	0.3364%	9,465.42	7.1%
County of Oakland	1.5274%	40,114.51	1.5274%	42,977.09	7.1%
Rackham Golf Course	0.1913%	5,024.16	0.1913%	5,382.75	7.1%
State Of Michigan	2.1035%	55,244.68	2.1035%	59,187.09	7.1%
Total	100.0000%	\$ 2,626,322.50	100.0000%	\$ 2,813,740.01	7.1%

Charges have been rounded

**OAKLAND COUNTY WATER RESOURCES COMMISSIONER
GEORGE W. KUHN DRAINAGE DISTRICT
SCHEDULE OF RATES AND CHARGES, EFFECTIVE JULY 1, 2025**

1. Sewage Disposal Charge

<u>Municipality</u>	Effective July 1, 2025 <u>Monthly</u>
City of Berkley	\$ 98,693.76
Village of Beverly Hills	7,210.66
City of Birmingham	84,594.59
City of Clawson	74,137.99
City of Ferndale	139,231.75
City of Hazel Park	98,966.33
City of Huntington Woods	45,419.42
City of Madison Heights	247,589.17
City of Oak Park	188,541.41
City of Pleasant Ridge	21,607.00
City of Royal Oak	490,817.34
Royal Oak Twp	20,913.25
City of Southfield	152,884.84
City of Troy	777,086.17
Detroit Zoological Park	27,231.83
County of Oakland	-
Rackham Golf Course	2,948.68
State Of Michigan	-
Toal:	<u><u>\$ 2,477,874.19</u></u>

Where communities have individual sewer customers with metered sewage, permitted and approved by the Oakland County Water Resources Commissioner (WRC), then each community shall also report, within ten days following the end of each month, the total metered sewage within the community, in lieu of water consumption.

2. Pollutant Surcharge - APPROVED BY GLWA

A Pollutant Surcharge shall be levied against industrial and commercial customers contributing sewage to the system with concentrations of pollutants exceeding the levels described as follows:

- A. 275 milligrams per liter (mg/l) of Biochemical Oxygen Demand (BOD)
- B. 350 milligrams per liter (mg/l) of Total Suspended Solids (TSS)
- C. 12 milligrams per liter (mg/l) of Phosphorus (P)
- D. 100 milligrams per liter (mg/l) of Fats, Oils & Grease (FOG)

<u>Pollutant</u>	Effective July 1, 2025	
	Total Charge Per lb. of Excess Pollutants	
Biochemical Oxygen Demand (BOD)	\$	0.409
Total Suspended Solids (TSS)		0.548
Phosphorus (PHOS)		7.907
Fats, Oils & Grease (FOG)		0.131

It is assumed that normal residential customers do not contribute sewage with concentration of pollutants exceeding the above levels, therefore, the Pollutant Surcharge shall not apply to residential customers. Further, restaurants shall also be exempt from Pollutant Surcharge per the federal court "Second Interim Order", dated July 10, 1981.

3. Industrial Waste Control Charge - APPROVED BY GLWA

Based on the reported number of water meter sizes for non-residential users of the System, each community shall pay a monthly Industrial Waste Control Charge (IWC) in accordance with the following schedule:

Non-Residential Meter Size in Inches	Effective July 1, 2025	
	<u>\$/Month</u>	
5/8	\$	3.89
3/4		5.84
1		9.73
1 1/2		21.40
2		31.12
3		56.41
4		77.80
6		116.70
8		194.50
10		272.30
12		311.20
14		389.00
16		466.80
18		544.60
20		622.40
24		700.20
30		778.00
36		855.80
48		933.60

Non-residential users shall be defined as all users other than those in single family houses, apartment buildings, condominiums, town houses, mobile homes, schools, churches and municipal buildings.

4. **Flat Rate Storm Charge**

<u>Municipality</u>	Effective July 1, 2025
	<u>Monthly</u>
City of Berkley	\$ 182,597.58
Village of Beverly Hills	23,548.17
City of Birmingham	137,414.58
City of Clawson	166,747.84
City of Ferndale	289,491.58
City of Hazel Park	63,461.17
City of Huntington Woods	69,417.83
City of Madison Heights	184,046.75
City of Oak Park	383,746.25
City of Pleasant Ridge	37,676.08
City of Royal Oak	835,759.50
Royal Oak Twp	35,945.59
City of Southfield	217,096.83
City of Troy	69,777.91
Detroit Zoological Park	9,465.42
County of Oakland	42,977.09
Rackham Golf Course	5,382.75
State Of Michigan	59,187.09
Total:	<u><u>\$ 2,813,740.01</u></u>

5. Total Sewer and Storm Water Charge

The following schedule identifies the total of the sewer charge and the storm water charge. The combined amount will be billed monthly to each customer:

Combined Monthly Sewer and Storm Charges

<u>Municipality</u>	Effective July 1, 2025 <u>Monthly</u>
City of Berkley	\$ 281,291.34
Village of Beverly Hills	30,758.83
City of Birmingham	222,009.17
City of Clawson	240,885.83
City of Ferndale	428,723.33
City of Hazel Park	162,427.50
City of Huntington Woods	114,837.25
City of Madison Heights	431,635.92
City of Oak Park	572,287.66
City of Pleasant Ridge	59,283.08
City of Royal Oak	1,326,576.84
Royal Oak Twp	56,858.84
City of Southfield	369,981.67
City of Troy	846,864.08
Detroit Zoological Park	36,697.25
County of Oakland	42,977.09
Rackham Golf Course	8,331.43
State Of Michigan	59,187.09
Total:	<u><u>\$ 5,291,614.20</u></u>

**Jim Nash, Oakland County Water Resources Commissioner
GWK Drain Drainage District
For Construction of the HomeGuard Program
City of Berkley
Oakland County, Michigan**

Construction Estimate No. 10

March 1, 2025 to March 31, 2025

Department No. : 6010101
Fund No. : 58510
Project No. : 1-7840

Account No. : 730373
Program No. : 149662
Activity : STD
Vendor No. : 30038
Contract No. : CON00010963
Date of Contract : 6/13/2024
Completion Date : NA

Contractor :
Rolls Mechanical
1490 Torrey Road
Fenton, MI 48430

Original Contract Amount: \$750,000.00

Previous Change Order Numbers (none): \$0.00

Change Orders This Estimate Numbers (none): \$0.00

Total Net Change Orders: \$0.00

Adjusted Contract Amount: \$750,000.00

Subtotal To Date: (Sheet 2 of 2 Column 7) \$416,514.69

Less Deductions to Date: (Sheet 2 of 2 Column 7) \$4,100.00

Gross Estimate: (Work in Place) \$412,414.69

Less Previous Estimates: \$365,662.15

Net Payment Request To Be Paid To Contractor: \$46,752.54

Balance of Contract To Date ✓ \$333,485.31

Accounting Auditor: *BCR* 4/10/2025

Prepared by: *Jen Cook*
Jen Cook, P.E. - Project Engineer

Date: 4/10/2025

Recommended by: *James F. Burton*
James Burton, P.E. - Consulting Engineer

Date: 04/10/2025

Approved by: *Joel Brown*
Joel Brown, P.E. - Chief Engineer

Date: 4/11/2025

Approved by Board on: _____

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the GEORGE W. KUHN DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Board approval of payment of the following invoice(s):

Payable To	Ref No.	For	Amount
Applied Science Inc	SINV00330707	Invoice # 9009 - Contracted Services	1,661.30
Applied Science Inc	SINV00332113	Invoice # 9081 - Contracted Services	1,044.19
Dickinson Wright PLLC	TBP	Invoice # 2025054 - Legal Services - 03/31/25	\$ 3,069.00
Dickinson Wright PLLC	TBP	Invoice # 2025060 - Legal Services - 03/31/25	484.00
Dickinson Wright PLLC	TBP	Invoice # 2025061 - Legal Services - 03/31/25	4,099.20
Dickinson Wright PLLC	TBP	Invoice # 2025062 - Legal Services - 03/31/25	8,580.00
Dickinson Wright PLLC	TBP	Invoice # 2025067 - Legal Services - 03/31/25	484.00
Hamlett Environmental Technologies Co	SINV00332216	Invoice # 2025061 - Contracted Services	1,745.00
		Subtotal	\$ 21,166.69
ICS Integration Services LLC	TBP	Invoice # 3220 - Contracted Services Proj #13437	16,172.88
		Project #13437 Total	\$ 16,172.88
Tetra Tech Inc	SINV00314394	Invoice # 52360192 - Contracted Services - Proj #17398	965.00
Tetra Tech Inc	SINV00329259	Invoice # 52382948 - Contracted Services - Proj #17398	605.00
Tetra Tech Inc	SINV00333282	Invoice # MAR25-23002 - Contracted Services - Proj #17398	4,275.00
		Project #17398 Total	\$ 5,845.00
Tetra Tech Inc	SINV00330545	Invoice # MAR25-24005 - Contracted Services Proj #17541	5,490.00
		Project #17541 Total	\$ 5,490.00
NTH Consultants, Ltd.	SINV00331465	Invoice # 638685 - Contracted Services Proj #17664	250.00
		Project #17664 Total	\$ 250.00
CDM Smith	SINV00329848	Invoice # 90230307 - Contracted Services Proj #17689	1,418.37
		Project #17689 Total	\$ 1,418.37
ICS Integration Services LLC	SINV00330900	Invoice # 3201 - Contracted Services Proj #17854	2,010.00
		Project #17854 Total	\$ 2,010.00
		Grand Total	\$ 52,352.94

8. Clinton River Water Resource Recovery Facility

AGENDA

DRAINAGE BOARD FOR THE CLINTON RIVER WATER RESOURCE RECOVERY FACILITY

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Change Order No. 8 for Clark Construction Company for Construction of the Optimization Phase I Project for a net increase in the amount of \$175,575
5. Present Construction Estimate No. 9 for Clark Construction Company for Construction of the Optimization Phase I Project in the amount of \$776,471.89 with a transfer to the Oakland County Treasurer in the amount of \$86,274.65
6. Present Construction Estimate No. 3 for Clark Construction Company for Construction of the Optimization Phase II Project in the amount of \$104,338.80 with a transfer to the Oakland County Treasurer in the amount of \$11,593.20
7. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Maintenance Fund in the amount of \$198,002.04
8. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Construction Fund in the amount of \$177,203.61
9. Other business
10. Approve pro rata payment to Drainage Board members
11. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE CLINTON RIVER WATER RESOURCE RECOVERY FACILITY**

March 25, 2025

A meeting of the Drainage Board for the Clinton River Water Resource Recovery Facility was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

David Woodward, Chairperson of the Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

The Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$13,683,210 and the Capital Improvement Plan (as attached) were presented. It was moved by Markham, supported by Woodward, to approve the Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$13,683,210 and the Capital Improvement Plan as presented.

ADOPTED: Yeas - 3
Nays - 0

A memorandum from Razik Alsaigh, P.E., Operations Project Engineer, dated March 25, 2025, requesting the Board approve the uninitiated projects and amended projects budget as identified in the table using funds from Major Maintenance and Capital Improvement reserves was presented. It was moved by Markham, supported by Woodward, to approve the uninitiated projects and amended projects budget as identified in the table using funds from Major Maintenance and Capital Improvement reserves as presented.

ADOPTED: Yeas - 3
Nays - 0

Change Order No. 7 for Clark Construction Company for Construction of the Optimization Phase I Project for a net increase in the amount of \$4,494 was presented. It was moved by Markham, supported by Woodward, to approve Change Order No. 7 for Clark Construction Company for Construction of the Optimization Phase I Project for a net increase in the amount of \$4,494 as presented.

ADOPTED: Yeas - 3
Nays - 0

Construction Estimate No. 8 for Clark Construction Company for Construction of the Optimization Phase I Project in the amount of \$1,725,007.09 with a transfer to the Oakland County Treasurer in the amount of \$191,667.45 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 8 for Clark Construction Company for Construction of the Optimization Phase I Project in the amount of \$1,725,007.09 with a transfer to the Oakland County Treasurer in the amount of \$191,667.45 as presented.

ADOPTED: Yeas - 3
Nays - 0

Construction Estimate No. 2 for Clark Construction Company for Construction of the Optimization Phase II Project in the amount of \$244,296.00 with a transfer to the Oakland County Treasurer in the amount of \$27,144.00 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 2 for Clark Construction Company for Construction of the Optimization Phase II Project in the amount of \$244,296.00 with a transfer to the Oakland County Treasurer in the amount of \$27,144.00 as presented.

ADOPTED: Yeas - 3
Nays - 0

A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Maintenance Fund in the amount of \$309,008.87 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund from the Maintenance Fund in the amount of \$309,008.87.

ADOPTED: Yeas - 3
Nays - 0

A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Construction Fund in the amount of \$147,141.18 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund from the Construction Fund in the amount of \$147,141.18.

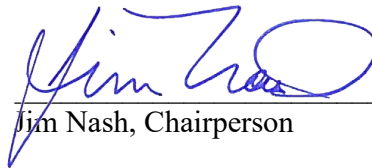
ADOPTED: Yeas - 3

Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Markham and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

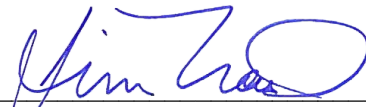


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Clinton River Water Resource Recovery Facility, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Clinton River Water Resource Recovery Facility.



Jim Nash, Chairperson

Dated: March 25, 2025

CHANGE ORDER NO. 8

**Jim Nash, Oakland County Water Resources Commissioner
Clinton River Water Resource Recovery Facility Drainage District
For Construction of the CRWRRF Optimization Phase I Project
City Of Pontiac
Oakland County, Michigan**

Authorization for Extras To & Changes In Contract

Department No. : 6010101

Fund No. : FND84686

Project No. : PRJ-17461

Account No. : 731472

Program No. : PRG149015

Project Activity : FAC

Contract PO : PO 00043820

Contractor :

Clark Construction Company

2660 Superior Court

Auburn Hills, MI 48326

Contract No. : 10566

Date of Contract: 10/24/23

Completion Date: 1/30/27

Auth No.	Location-Description-Reason	Unit Used	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
8-1	LOCATION: Clinton River Water Resource Recovery Facility - 1) Connecting tunnel between Biosolids Building and Main Electrical Building. 2) digester gas treatment system skid next to Main Electrical Building 3&4) north of Biosolids Building 5) East Blvd plant, south of abandoned digesters DESCRIPTION (Extra/Add): Add Type 3 Insulation and Type F4 jacketing on underground steam and condensate pipes on the north and south sides of the utility tunnel as noted in submittal No. 101 review response, per description in attached revised Clark Construction Claim#10 dated March 21, 2025.	LS	1.0	\$13,920	\$13,920	---

**JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER**

Auth No.	Location-Description-Reason	Unit Used	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
8-1	REASON: Needed insulation for underground steam and condensate pipes before and after leaving the utility tunnel were not identified on project bid documents.					
8-2	DESCRIPTION (Extra/Add): Revise multiple electrical requirement related to digester gas treatment system skid needs including 1) feeder breaker 2) heat trace for the gas cleaning system equipment 3) conduit and wire updates for revised skid loads 4) adding lightning protection system, per description in attached Work Directive#3-R2 dated November 11, 2024.	LS	1.0	\$88,438	\$88,438	---
8-2	REASON: Size of electrical equipment included in the Biogas Digester Gas Treatment System Submittal (No. 109A) is larger than specified. Digester Gas Treatment System Submittal (No. 109B) modified several loads and requires updates to the conduit and wire for the system. Also, heat tracing is required for various sections of piping and H2S Removal Vessels.					
8-3	DESCRIPTION (Extra/Add): Provide tap for 6" Potable Water (PW) pipe on the north side of the Biosolids Building for the water line to the Main Electrical Building and route the pipe completely underground, per description in attached Work Directive#11 dated January 28, 2025.	LS	1.0	\$9,277	\$9,277	---
8-3	REASON: Connecting the water line underground is more practical and the underground pipe will provide protection from freezing.					

JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER

Auth No.	Location-Description-Reason	Unit Used	Est. Qty.	Unit Price	Amount Increase	Amount Decrease
8-4	DESCRIPTION (Extra/Subtract): Eliminate the manhole EB-MH-1 and the associated 12" piping and modify the inverts of the storm pipes being added in the culverts, per description in attached Work Directive#12 dated February 10, 2025.	LS	-1.0	\$3,988	---	\$3,988
8-4	REASON: During construction, it was determined that the EB-MH-1 (in the existing roadway near the west entrance to the new MEB site) could be eliminated by making slight modifications to the storm drain culvert elevations					
8-5	DESCRIPTION (Extra/Add): Lump sum cost to provide and install 4-inch natural gas line from the Consumers Energy meter to the east side of the Clinton River, per description in attached Bulletin #4 dated February 14, 2025.	LS	1.0	\$67,928	\$67,928	---
8-5	REASON: Consumers Energy cannot increase the gas pressure in the existing 2-inch gas line to the pressure needed for the new natural gas generator at the East Boulevard Plant. Also the existing 2-inch pipe is very old and is not dependable to operate with higher pressure. Accordingly, running a larger new pipe is required.					
				Totals	\$179,563	\$3,988
				Net Increase	\$175,575	---

JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER

CHANGE ORDER NO. 8

**Jim Nash, Oakland County Water Resources Commissioner
Clinton River Water Resource Recovery Facility Drainage District
For Construction of the CRWRRF Optimization Phase I Project
City Of Pontiac
Oakland County, Michigan**

Prepared by: 
Razik Alsaigh, P.E. - WRC Project Engineer

Date: 04/09/2025

Recommended by: 
Allen Gelderloos, P.E. Consulting Engineer (Jacobs)

Date: 4/8/2025


Approved by: 
Joel Brown, P.E. Chief Engineer

Date: 4/11/2025

The Contractor agrees to do the work described above and agrees to accept payment in full on the basis indicated.

Accepted by: 
Karen M. Middleton - Sr Project Manager
Clark Construction Company

Date: 4/8/2025

Approved by: 
Steve Korth, P.E.
Chief Manager

Date: April 11, 2025

The Contractor is hereby authorized and instructed to do the work described above in accordance with the terms of the Contract.

This Change Order was approved by the Drainage Board on:

CHANGE ORDER

CHANGE ORDER NO. 8

**Jim Nash, Oakland County Water Resources Commissioner
Clinton River Water Resource Recovery Facility Drainage District
For Construction of the CRWRRF Optimization Phase I Project
City Of Pontiac
Oakland County, Michigan**

Notice to Proceed Date:	Friday, November 17, 2023
Contract Substantial Completion Date:	Monday, November 16, 2026
Contract Final Completion Date:	Saturday, January 30, 2027
Original Contract Value:	\$ 30,550,434.00
Previous C.O. Values:	\$ 195,962.00
Change Order No. 8 Value	\$ 175,575.00
Adjusted Contract Value	\$ 30,921,971.00

**JIM NASH
OAKLAND COUNTY WATER RESOURCE COMMISSIONER**

Jim Nash, Oakland County Water Resources Commissioner
Clinton River Water Resource Recovery Facility (CRWRRF) Drainage District
For Construction of the CRWRRF Optimization I
City of Pontiac
Oakland County, Michigan

Construction Estimate No. 9

Period: March 1, 2025 to March 31, 2025

Department No. : 6010101
Fund No. : 84686
Project No. : PRJ-17461

PO No. PO 00043820

Account No. : 731472

Program No. : 149015

Activity : FAC

Vendor No. : 40855

Contract No. : CON00010566

Notice to Proceed : 11/17/2023

Substantial Completion Date : 11/16/2026

Final Completion Date : 01/30/2027

Contractor :
Clark Construction Company
2660 Superior Court
Auburn Hills, MI 48326

Original Contract Amount: \$30,550,434.00

Previous Change Order Numbers (1 through 6): \$191,468.00

Change Orders This Estimate Numbers (7): \$4,494.00

Total Net Change Orders: \$195,962.00

Adjusted Contract Amount: \$30,746,396.00

Subtotal To Date: (Sheet 2 of 2 Column 7) \$11,511,294.87

Less Deductions to Date: (Sheet 2 of 2 Column 7) \$0.00

Gross Estimate: (Work in Place) 37.44% \$11,511,294.87 ✓

Less Amount Reserved: (10% of Gross Estimate) \$1,151,129.49

Total Amount Allowed To Date: \$10,360,165.38

Less Previous Estimates: \$9,583,693.50

Net Payment Request To Be Paid To Contractor: \$776,471.89 ✓

Reserve Payment to Contractor \$0.00

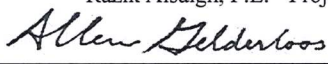
Balance of Contract To Date \$19,235,101.13 ✓ Accounting Auditor: KS 04/10/25

Less Previous Transfers To Reserve: \$1,064,854.83

Amount of Current Transfer: \$86,274.65 ✓

Prepared by: 
Razik Alsaigh, P.E. - Project Engineer

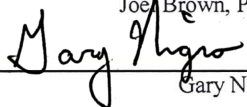
Date: 04/10/2025

Recommended by: 
Jacobs Consultants, Inc. - Consulting Engineer

Date: 4/10/2025

Approved by: 
Joe Brown, P.E. - Chief Engineer

Date: 4/11/2025

Approved by: 
Gary Nigro, P.E. - Manager

Date: 4/11/2025

Approved by Board on: _____

Jim Nash, Oakland County Water Resources Commissioner
Clinton River Water Resource Recovery Facility (CRWRRF) Drainage District
For Construction of the CRWRRF Optimization II
City of Pontiac
Oakland County, Michigan

Construction Estimate No. 3

Estimate Period: March 1, 2025 to March 31, 2025

Department No. : 6010101
Fund No. : 84686
Project No. : PRJ-17720

PO No. PO 00076494
Account No. : 731472
Program No. : 149015
Activity : FAC
Vendor No. : 40855
Contract No. : CON00011282
Notice to Proceed : 10/28/2024
Substantial Completion Date : 10/28/2027
Final Completion Date : 01/26/2028

Contractor :
Clark Construction Company
2660 Superior Court
Auburn Hills, MI 48326

Original Contract Amount: \$35,893,916.00

Previous Change Order Numbers (none): \$0.00

Change Orders This Estimate Numbers (none): \$0.00

Total Net Change Orders: \$0.00

Adjusted Contract Amount: \$35,893,916.00

Subtotal To Date: (Sheet 2 of 2 Column 7) \$639,013.00

Less Deductions to Date: (Sheet 2 of 2 Column 7) \$0.00

Gross Estimate: (Work in Place) 1.78% \$639,013.00 ✓

Less Amount Reserved: (10% of Gross Estimate) \$63,901.30

Total Amount Allowed To Date: \$575,111.70

Less Previous Estimates: \$470,772.90

Net Payment Request To Be Paid To Contractor: \$104,338.80 ✓

Reserve Payment to Contractor \$0.00

Balance of Contract To Date \$35,254,903.00 ✓ Accounting Auditor: *KS* 4/01/25

Less Previous Transfers To Reserve: \$52,308.10

Amount of Current Transfer: \$11,593.20 ✓

Prepared by: *Razik*
Razik Alsaigh, P.E. - Project Engineer

Date: *04/03/2025*

Recommended by: *Allen Geldenloos*
Jacobs Consulting Inc - Consulting Engineer

Date: *4/3/2025*

Approved by: *Joel Brown*
Joel Brown, P.E. - Chief Engineer

Date: *4/8/2025*

Approved by: *Gary Nigro*
Gary Nigro, P.E. - Manager

Date: *4/11/2025*

Approved by Board on: _____

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the CLINTON RIVER WATER RESOURCE RECOVERY FACILITY DRAIN - (Maintenance)

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

Handwritten: H for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Approval of Invoices

The following is a detail of charges paid from the Drain Revolving Fund and Invoices

Payable To	Ref No.	For	Amount
USA Blue Book	Mar 2025	Pcard - Lab Supplies # INV00431968	\$ (1,592.00)
USA Blue Book	Mar 2025	Pcard - Lab Supplies # INV00529692	4,869.13
USA Blue Book	Mar 2025	Pcard - Lab Supplies # INV00595108	4,467.18
USA Blue Book	Mar 2025	Pcard - Lab Supplies # INV00607822	3,474.66
USA Blue Book	Mar 2025	Pcard - Lab Supplies # INV00640808	3,266.62
USA Blue Book	Mar 2025	Pcard - Lab Supplies # INV00650987	2,796.71
CSM Mechanical LLC	V # SINV00328563	Invoice # 4863 - Contracted Services	4,971.50
D3W Industries	V # SINV00331107	Invoice # 5117 - Material and Supplies	5,720.00
D3W Industries	V # SINV00332095	Invoice # 5134 - Material and Supplies	5,720.00
D3W Industries	V # SINV00282425	Invoice # 5152 - Material and Supplies	5,720.00
D. J. Conley Associates, Inc	V # SINV00328694	Invoice # SI-54551-1 - Material and Supplies	1,611.85
Hach	V # SINV00328974	Invoice # HACH1043749 - Services	1,882.00
Haviland Products Company	V # SINV00328566	Invoice # 533022 - Chemical Treatment	7,491.27
Haviland Products Company	V # SINV00330700	Invoice # 534022 - Chemical Treatment	7,472.84
Haviland Products Company	V # SINV00331726	Invoice # 534411 - Chemical Treatment	9,029.00
Haviland Products Company	V # SINV00331727	Invoice # 534657 - Chemical Treatment	2,220.00
Haviland Products Company	TBP	Invoice # 534995 - Chemical Treatment	7,502.52
Haviland Products Company	TBP	Invoice # 535382 - Chemical Treatment	2,220.00
HOH Water Technology	TBP	Invoice # 698666 - Contracted Services	2,152.50
Ingersoll Rand	V # SINV00331725	Invoice # 31200759 - Equipment Maintenance	3,163.53
LaSalle Agri Inc	V # SINV00332097	Invoice # 2819 - Land Application	14,168.70
LaSalle Agri Inc	V # SINV00333690	Invoice # 2788 - Land Application	28,642.74
PVS Technologies Inc	V # SINV00331109	Invoice # 375491 - Chemical Treatment	3,092.76
PVS Technologies Inc	V # SINV00331028	Invoice # 375539 - Chemical Treatment	5,148.00
PVS Technologies Inc	TBP	Invoice # 376086 - Chemical Treatment	3,222.12
Saber Building Services Inc	V # SINV00331110	Invoice # 46776 - Contracted Services - April 2025	1,800.00
Waste Management	V # SINV00331074	Invoice # 8859321 -1714-4 Garbage & Rubbish Disposal	1,912.68
Waste Management	V # SINV00331076	Invoice # 8859337 -1714-6 Garbage & Rubbish Disposal	1,086.20
Washington Elevator Co Inc	V # SINV00323551	Invoice # 2-1027163 - Maintenance Supplies	1,254.40
Subtotal			\$ 144,486.91
Jacobs	V # SINV00331402	Invoice # C6A19600-23- Engineering & Survey - Proj # 1-7550	6,909.38
Subtotal - Project 1-7550			\$ 6,909.38
Eurofins	V # SINV00331551	Invoice # 1900056595 - Lab Fees - Proj 1-7047	\$ 6,784.00
OHM	V # SINV00333292	Invoice # 86004 - Professional Services - Proj # 1-7047	\$ 6,070.75
OHM	TBP	Invoice # 86906 - Professional Services - Proj # 1-7047	\$ 6,663.00
Subtotal - Project 1-7047			\$ 19,517.75
Great Lakes Pump & Supply Company	V # SINV00329850	Invoice # 79103 - Material and Supplies - Proj # 1-3470	\$ 2,633.00
Subtotal - Project 1-3470			\$ 2,633.00
Mark 1 Restoration Services	V # SINV00331368	Invoice # 2502-2 - Contracted Services - Proj # 1-3451	\$ 16,770.00
Subtotal - Project 1-3451			\$ 16,770.00
Actuator Specialties	V # SINV00329112	Invoice # 6389 - Material and Supplies - Proj # 1-3492	\$ 7,685.00
Subtotal - Project 1-3492			\$ 7,685.00
Grand Total			\$ 198,002.04

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the CLINTON RIVER WATER RESOURCE RECOVERY FACILITY DRAIN - (Construction)

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Board approval of payment of the following invoices:

	Ref No.	For	Amount
CDM Smith, Inc	V # SIN00331403	Invoice # 90230306 - Engineering & Survey - 02/22/25 - Proj 1-2181	\$ 527.73
		Total for Project # 1-2181	\$ 527.73
Jacobs Consultant, Inc	V # SIN00332096	Invoice # C6A21702-14 - Engineering and Survey - 03/28/25 - Proj # 1-7720	\$ 62,117.20
		Total for Project # 1-7720	\$ 62,117.20
Jacobs Consultant, Inc	V # SIN00332514	Invoice # C6A21700-27- Engineering and Survey - 07/26/24 - Proj # 1-7461	\$ 101,656.18
Lamphere's Tree Service	V # SIN00333688	Invoice # 18945 - Contracted Services	11,882.50
Lamphere's Tree Service	TBP	Invoice # 18952 - Contracted Services	1,020.00
		Total for Project # 1-7461	\$ 114,558.68
		Total	\$ 177,203.61

9. Augusta Drain

AGENDA

DRAINAGE BOARD FOR THE AUGUSTA DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Construction Estimate No. 2 for Trojan Development Company, Inc. for the Augusta Drainage District Improvements - Drop Fall Structure Reconstruction in the amount of \$124,942.48 with a transfer to the Oakland County Treasurer in the amount of \$8,082.75
5. Present Construction Estimate No. 3 for Pamar Enterprises for Construction of the Augusta Drainage District Improvements - Storm System Rehabilitation in the amount of \$51,107.09 with a transfer to the Oakland County Treasurer in the amount of \$5,242.91
6. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$57,411.70
7. Other business
8. Approve pro rata payment to Drainage Board members
9. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE AUGUSTA DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Augusta Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

A memorandum from Geoff Wilson, P.E., Chief Engineer, dated March 25, 2025, requesting the Board amend the HRC consulting engineering budget to \$286,500 per the attached letter and amend the total project budget to \$1,517,490 was presented. It was moved by Markham, supported by Woodward, to amend the HRC consulting engineering budget to \$286,500 per the attached letter and amend the total project budget to \$1,517,490 as presented.

ADOPTED: Yeas - 3
Nays - 0

Engineering Work Order No. 2 for Hubbell, Roth, and Clark for the Augusta Drain Project - Norton Street to increase contract no. CON00009188 by a not-to-exceed amount of \$73,721.92 was presented. It was moved by Markham, supported by Woodward, to approve Engineering Work Order No. 2 for Hubbell, Roth, and Clark for the Augusta Drain Project - Norton Street to increase contract no. CON00009188 by a not-to-exceed amount of \$73,721.92 as presented.

ADOPTED: Yeas - 3
Nays - 0

Change Order No. 1 for Natural Community Services for Construction of the Augusta Drainage Improvements – Riparian & Vegetative Buffer Strip for a net decrease in the amount of \$120.00 was presented. It was moved by Markham, supported by Woodward, to approve Change Order No. 1 for Natural Community Services for Construction of the Augusta Drainage Improvements – Riparian & Vegetative Buffer Strip for a net decrease in the amount of \$120.00 as presented.

ADOPTED: Yeas - 3
Nays - 0

Change Order No. 2 for T.R. Pieprzak Co. for Construction of the Augusta Drain Norton Street Innovation Project for a net increase in the amount of \$120,281.68 was presented. It was moved by Markham, supported by Woodward, to approve Change Order No. 2 for T.R. Pieprzak Co. for Construction of the Augusta Drain Norton Street Innovation Project for a net increase in the amount of \$120,281.68.

ADOPTED: Yeas - 3
Nays - 0

Construction Estimate No. 1 for Trojan Development Company, Inc for the Augusta Drainage District Improvements - Drop Fall Structure Reconstruction in the amount of \$148,255.89 with a transfer to the Oakland County Treasurer in the amount of \$16,472.88 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 1 for Trojan Development Company, Inc. for the Augusta Drainage District Improvements - Drop Fall Structure Reconstruction in the amount of \$148,255.89 with a transfer to the Oakland County Treasurer in the amount of \$16,472.88 as presented.

ADOPTED: Yeas - 3
Nays - 0

Construction Estimate No. 1 for Natural Community Services for Construction of the Augusta Drainage Improvements - Riparian & Vegetative Buffer Strip in the amount of \$44,666.02 with a transfer to the Oakland County Treasurer in the amount of \$4,621.48 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 1 for Natural Community Services for Construction of the Augusta Drainage Improvements - Riparian & Vegetative Buffer Strip in the amount of \$44,666.02 with a transfer to the Oakland County Treasurer in the amount of \$4,621.48 as presented.

ADOPTED: Yeas - 3
Nays - 0

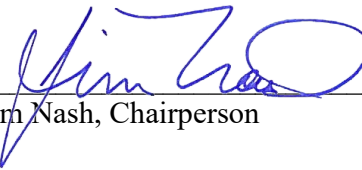
Construction Estimate No. 2 for Pamar Enterprises for Construction of the Augusta Drainage District Improvements - Storm System Rehabilitation in the amount of \$118,901.61 with a transfer to the Oakland County Treasurer in the amount of \$13,211.29 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 2 for Pamar Enterprises for Construction of the Augusta Drainage District Improvements - Storm System Rehabilitation in the amount of \$118,901.61 with a transfer to the Oakland County Treasurer in the amount of \$13,211.29 as presented.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

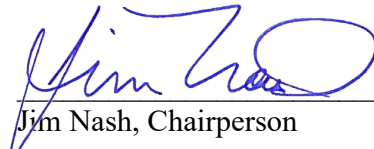


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Augusta Drain, Oakland County, Michigan, held on 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Augusta Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

Jim Nash, Oakland County Water Resources Commissioner
Augusta Drainage District
For Construction of the Augusta Drainage District Improvements - Drop Fall Structure Reconstruction
City of Pontiac
Oakland County, Michigan

Construction Estimate No. 2

March 13, 2025 to March 31, 2025

Department No.: CCN6010101

Fund No.: FND84495

Project No.: PRJ-17557

Account No.: SC730373

Program No.: PRG149015

Activity : FAC

Vendor No. : 5297

Contract No. : CON00011279

Contractor: Trojan Development Company, Inc.
 (Name & Address) 2260 Metamora Road
 Oxford, MI 48371

Date of Contract: 12/20/2024

Completion Date: 7/31/2025

PO Number: PO00076762

Original Contract Amount:	\$491,112.50
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Previous Change Order Numbers (none):	\$0.00
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Change Orders This Estimate Numbers (none):	\$0.00
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Total Net Change Orders:	\$0.00
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Adjusted Contract Amount:	\$491,112.50
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Subtotal To Date: (Sheet 2 of 2 Column 7)	\$418,132.77
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Less Deductions to Date: (Sheet 2 of 2 Column 7)	\$120,378.77
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Gross Estimate: (Work in Place)	60.63%	\$297,754.00
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Less Amount Reserved: (5% of Adjusted Contract Amount)	\$24,555.63
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Total Amount Allowed To Date:	\$273,198.37
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Less Previous Estimates:	\$148,255.89
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Net Payment Request To Be Paid To Contractor:	\$124,942.48
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Reserve Payment to Contractor	\$0.00
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Balance of Contract To Date	\$193,358.50	Accounting Auditor:
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Less Previous Transfers To Reserve:	\$16,472.88
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Amount of Current Transfer:	\$8,082.75
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Prepared by: _____
 Geoff Wilson, P.E. - Chief Engineer (WRC)

Date: _____

Recommended by: 
 Fatemeh Babakhani, P.E. - Consulting Engineer (HRC)

Date: 04/07/2025

Approved by: _____
 Gary Nigro, P.E. - Manager (WRC)

Date: _____

Approved by Board on: _____

JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER

Jim Nash, Oakland County Water Resources Commissioner
Augusta Drain Drainage District
For Construction of the Augusta Drain Drainage District Improvements- Storm System Rehabilitation
Pontiac, MI
Oakland County, Michigan

Construction Estimate No. 3

March 1, 2025 to March 31, 2025

Department No.: CCN6010101

Fund No.: FND84495

Project No.: PRJ-17557

Account No.: SC730373

Program No.: PRG149015

Activity: FAC

Vendor No.: 4186

Contract No.: CON00011281

Date of Contract: 12/18/2024

Completion Date: 7/31/2025

PO Number: PO00076760

Contractor: Pamar Enterprises, Inc.
(Name & Address) 58021 Gratiot Avenue
New Haven, MI 48048

Original Contract Amount: \$454,587.94

Previous Change Order Numbers (none): \$0.00

Change Orders This Estimate Numbers (none): \$0.00

Total Net Change Orders: \$0.00

Adjusted Contract Amount: \$454,587.94

Subtotal To Date: (Sheet 2 of 2 Column 7) \$231,214.90

Less Deductions to Date: (Sheet 2 of 2 Column 7) \$0.00

Gross Estimate: (Work in Place) 50.86% \$231,214.90

Less Amount Reserved: (5% of Adjusted Contract Amount) \$22,729.40

Total Amount Allowed To Date: \$208,485.50

Less Previous Estimates: \$157,378.41

Net Payment Request To Be Paid To Contractor: \$51,107.09

Reserve Payment to Contractor \$0.00


Balance of Contract To Date \$223,373.04 Accounting Auditor:

Less Previous Transfers To Reserve: \$17,486.49

Amount of Current Transfer: \$5,242.91

Prepared by: _____
Geoff Wilson, P.E. - Chief Engineer (WRC)

Date: _____

Recommended by: 
Fatemeh Babakhani, P.E. - Consulting Engineer (HRC)

Date: 04/07/2025

Approved by: _____
Gary Nigro, P.E. - Manager (WRC)

Date: _____

Approved by Board on: _____

JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the AUGUSTA DRAIN (Construction)

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Reimbursement of Drain Revolving Fund

The following is a detail of charges paid from the Drain Revolving Fund
for the period ending April 15, 2025.

Ref No.	Paid To	For	Amount
# SINV00330968	Hubbell, Roth, & Clark, Inc	Invoice # 0224182 - Engineering Services - 01/04/25 - Proj # 1-7557	\$ 7,425.88
# SINV00330973	Hubbell, Roth, & Clark, Inc	Invoice # 0224656 - Engineering Services - 02/01/25- Proj # 1-7557	16,147.31
# SINV00330965	Hubbell, Roth, & Clark, Inc	Invoice # 0225624 - Engineering Services - 03/01/25 - Proj # 1-7557	26,831.93
# SINV00330960	Hubbell, Roth, & Clark, Inc	Invoice # 0223505 - Engineering Services -12/07/24 - Proj # 1-7557	1,662.90
# SINV00330962	Hubbell, Roth, & Clark, Inc	Invoice # 0223506 - Engineering Services - 12/07/24 - Proj # 1-7557	5,343.68
Total Project 1-7557			<u>\$57,411.70</u>

10. Caddell Drain

AGENDA

DRAINAGE BOARD FOR THE CADDELL DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of February 25, 2025
3. Public Comments
4. Present Memorandum from Jack Puscas, E.I.T., Project Engineer, dated April 22, 2025, requesting the Board approve the solicitation of proposals from professional engineering firms for the design of the culvert rehabilitation project at 9 Mile and Drake roads
5. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$3,904
6. Other business
7. Approve pro rata payment to Drainage Board members
8. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE CADDELL DRAIN**

February 25, 2025

A meeting of the Drainage Board for the Caddell Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of February 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Linnie Taylor for Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

David Woodward, Chairperson of the Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held November 26, 2024, were presented for consideration. It was moved by Taylor, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

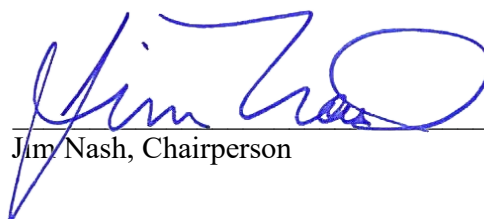
A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$7,023.92 (as attached) was presented. It was moved by Taylor, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$7,023.92.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Taylor, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Taylor and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

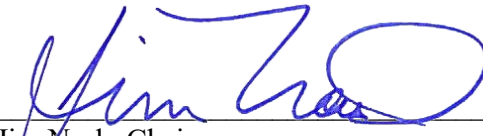


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Caddell Drain, Oakland County, Michigan, held on the 25th day of February 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Caddell Drain Drainage District.



Jim Nash, Chairperson

Dated: February 25, 2025

**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER****MEMORANDUM**

TO: Jim Nash, Chairperson of the Caddell Drain Drainage Board

FROM: Jack Puscas, E.I.T, Project Engineer

SUBJECT: Request For Proposals for Engineering Services for a Rehabilitation Project at 9 Mile and Drake Roads

DATE: April 22, 2025

The Caddell Drain Project involves the rehabilitation or replacement of four corrugated metal pipe arch culverts, located at the intersection of 9 Mile and Drake roads in Farmington Hills. In 2017, sinkholes occurred in multiple locations over the extended portion of the drain northwest of the intersection. This prompted a study by the consulting engineering firm, Fishbeck, in 2018 to replace or rehabilitate the culverts within the next five to 10 years. However, annual structural inspections conducted by Hubbell, Roth, & Clark, Inc. have determined that the culverts are now unable to carry heavy loads. As a result, the City of Farmington Hills has placed weight restrictions on the road, which has caused nearby municipalities to seek alternate routes for their heavy vehicles such as fire trucks. These load restrictions have expedited the need to address the culverts.

Staff, with the support of the City of Farmington Hills, propose to solicit proposals from professional engineering firms for the design of the project. A juried selection process will be utilized to establish a final award for this project. Each proposal will be evaluated in accordance with the following criteria: consultants' understanding of the project including local knowledge, scope of services, schedule, personnel assigned to the project, related project experience and fees.

A request for proposal will be posted on May 1, 2025. The consultant selected will have a notice to proceed date of July 1, 2025. The design process is estimated to take eight months. With Board approval, construction is expected to begin in the spring of 2026.

RECOMMENDED ACTION: Approve the solicitation of proposals from professional engineering firms for the design of the culvert rehabilitation project at 9 Mile and Drake roads.

REQUEST FOR PROPOSAL

ENGINEERING SERVICES FOR

CADDELL DRAIN – 9 MILE & DRAKE PROJECT

PREPARED BY:

WATER RESOURCES COMMISSIONER'S OFFICE
BUILDING 95 WEST
ONE PUBLIC WORKS DRIVE
WATERFORD, MICHIGAN 48328-1907

Date: April 10, 2025

PURPOSE

The purpose of this Request for Proposal (RFP) is to solicit proposals from professional engineering firms (hereinafter called Consultants) for design of the Caddell Drain – 9 Mile & Drake Project (Project). A juried selection process will be utilized to establish a final award for this project. Each proposal will be evaluated in accordance with the criteria described below.

Scoring will be based on the Consultant's understanding of the project including local knowledge, scope of services, schedule, personnel assigned to the Project, related project experience and engineer's fees.

BACKGROUND

The Caddell Drain was built in 1982 and 1986 over an existing watercourse (Tarabusi Creek), and drains lands from Novi, Farmington, and Farmington Hills. The culvert being assessed is part of the drain that crosses diagonally, from the northwest to southeast, at the intersection of Nine Mile Road and Drake Road. The crossing prior to the drain construction (1986) consisted of four 112-x-75 in CMP arch culverts. In 1986, the culverts were left in place and were extended (Caddell Drain Phase II- Sheet 4, Appendix A). In 2017, a sinkhole opened up in multiple locations over the extended portion of the drain northwest of the intersection.

In 2018, Fishbeck conducted a study for the OCWRC office for these culverts to be replaced or rehabilitated in the next 5-10 years. However, annual structural inspections conducted by HRC have determined that the culverts are now unable to carry certain loads. As a result, Farmington Hills has placed weight restrictions on the road, which has caused nearby Fire Departments and DPW vehicles to seek alternate routes. These load restrictions have expedited the need to replace/rehab the culverts. Both the Fishbeck and HRC reports can be found in Appendix A.

SUMMARY OF OBJECTIVES

Consultants are being asked to provide services for the design of the Caddell Drain improvements as part of this RFP. Consultants should discuss potential options to replace or rehab the culverts based on the information provided in Appendix A, as part of the proposal. The preliminary engineering (study) phase will require the Consultant to perform a series of analyses and then provide a Basis of Design Report. Once the Basis of Design is agreed upon, the Consultant will develop a biddable set of drawings and specifications for construction and assist the OCWRC with obtaining necessary permits and ultimately bidding the project. The OCWRC intends to utilize the Consultant to perform contract administration and engineering support for the drain improvements. However, this work will be added to the Contract at a later date through an Engineering Work Order.

SCOPE OF CONSULTANT'S SERVICES

A further breakdown of requested services needed to fulfill the stated objectives above is shown in the attached Engineering Services Agreement located in Appendix A.

- ☒ PRE-391 – PRELIMINARY ENGINEERING PHASE SERVICES
- ☒ DPS-391 – DESIGN PHASE SERVICES
- ☐ AMS-391 – ASSET MANAGEMENT SERVICES
- ☒ BID-391 – BIDDING SERVICES
- ☐ CON-391 – CONSTRUCTION PHASE SERVICES
- ☐ SUR-391 – CONSTRUCTION SURVEYING AND LAYOUT SERVICES
- ☐ RE-391 – RESIDENT ENGINEER SERVICES
- ☐ RPR-391 – RESIDENT PROJECT REPRESENTATIVE SERVICES
- ☐ ADD-391 – ADDITIONAL SPECIAL SERVICES
- ☐ Engineer's Proposal, dated [] (scope of work only).

PROPOSAL FORMAT

The Consultant's proposal shall be presented in an 8-1/2" x 11" format (figures no larger than 11"x 17"). The text shall be concise with emphasis placed on completeness and clarity. One one (1) electronic file in a PDF format of the RFP is required for submittal. Scoring will be conducted by the Selection Committee. Proposals shall be single-sided and limited to 30 pages with a font of 11 or larger. Resumes will not be counted towards the size of the Proposal. Separate each of the following sections by tabs. Follow the outline in the sections when putting together the Proposal.

OCWRC may, at its option, employ a second phase of the selection process consisting of an oral presentation of the Consultant's proposal, an interview, or a combination of the two. Consultants who submit a complete response to this RFP may be required to make one or more oral presentations to OCWRC's representatives. These presentations provide an opportunity for the Consultant to clarify their submittal to ensure that the Selection Committee has a thorough understanding of the submittal and ask questions of the OCWRC to clarify the requirements of the RFP. At this time, the Selection Committee also may pose questions to the Consultants regarding their submittals. OCWRC will tentatively schedule these presentations for the week of June 9, 2025.

Consultants will be evaluated on the following information:

Section I – Understanding of the Project, Scope of Consultant's Services and Duration Schedule

Provide a maximum two-page introduction with a brief discussion of the Consultant's past accomplishments, awards, recognitions, the Consultant's understanding of the project scope and how the firm is situated to address that scope.

Provide a detailed work plan that discusses how the Consultant and sub-Consultants, if used, will meet the scope of the Project as detailed in the Engineering Services Agreement DPS-391 as well as their opinion on whether a rehabilitation method or full replacement is the best approach to address the culverts. Consultants are to articulate in their proposal any additional investigations, modeling, or data retrieval that will be need to be performed during the

preliminary analysis phase in order to select the appropriate option and perform the design. Discuss the proposed planning, organization and management tools to be used to control schedule and costs. Include any anticipated design delegation to the Contractor.

The Consultant shall provide a preliminary schedule for the Work Plan and deliverables with an anticipated completion date of the Design Phase. Assume a Notice to Proceed date of July 1, 2025.

The weighted value of this Section will be 40% of the overall evaluation by the Selection committee.

Section II - Personnel Assigned to Project (Project Team)

Provide the name of the project manager(s) to be assigned this work along with a description of their experience and expertise. This person(s) will direct and coordinate all phases of the project. Also list the names of other key members of the project team along with their experience and expertise, and specific work they will be responsible for. If sub-Consultants are to be used, list the individuals from these firms and their expertise. If the same members are not included in each phase, please list them separately and identify the project phases they will be involved in. Include a range of hours for each person that a resume has been submitted for, including all Subconsultants.

The naming of personnel as listed above will be considered by this office to be the design project team and will be expected to be assigned to the project for its duration.

The weighted value of this Section will be 15% of the overall evaluation by the Selection committee.

Section III - Related Project Experience

Provide descriptions of the firm's ability and experience in performing the engineering services described in this RFP. Provide a list of related municipal project experience within the last 10 years. For three (3) projects, include the following: project description, project dates, dollar value and the names and titles of individuals currently employed with your firm that were assigned to the project and the role(s) they performed. Include a statement on budget and schedule in comparison (from inception to completion) for each of the three highlighted projects. Provide project references with contact information for the highlighted project.

The weighted value of this Section will be 15% of the overall evaluation by the Selection committee.

Section IV - Estimate of Fees

An estimate of fees to complete the Design Phase as outlined in the Scope of Consultant's Services is required. The estimate is to be presented in a spreadsheet format that details the hours, employee classifications, rates for each classification, and name of employee. The

proposed overhead rate, fixed fee percentage, markups or Subconsultants, materials, and equipment should also be specified and included in the cost and shown in the Proposal. Cost should be broken down by activity that is reflected in the Work Plan and provide a clear understanding of the hours and cost to complete each activity. Provide the Estimate of Fees in Excel format.

The weighted value of this Section will be 30% of the overall evaluation by the Selection committee.

Section V – Administrative Forms

The Consultant is to provide executed copies of all the requested documents located in Appendix B. The documents in this section will not be counted towards the size of the Proposal.

REFERENCE DOCUMENTS

WRC will provide the following documents for reference:

Appendix A

- Engineering Services Agreement
 - Part A
 - Part B
 - DC-391 PRE
 - DC-391 DPS
 - DC-391 BID
- Caddell Drain (Tarabusi Creek) at Nine Mile and Drake Road – Fishbeck, Thompson, Carr & Huber, Inc.
- Nine Mile Culvert over Caddell Drain – Culvert Routine Inspection, MDOT Bridge Structure & Inventory and Culvert Vehicular Load Rating – Hubbell, Roth, & Clark, Inc.
- Caddell Drain Phase II – Sheet No. 4 (As-Built)

Appendix B

- E-Verify Program
- Iran Linked Business Certification
- Certification of Safety Compliance
- Engineer's Disclosure
- Non-Collusion Affidavit
- General Information
- Vendor Debarment

ADDITIONAL REQUIREMENTS

Agreement

Before submitting its proposal, the Consultant shall thoroughly review and become familiar with

the attached Engineering Services Agreement and all attachments thereto (Form DC-391). The Consultant selected for the project will be expected to enter into a similar agreement with the WRC.

Insurance

The Consultant shall refer to the specific insurance requirements for this project as presented in Section 15 of the Engineering Services Agreement Standard Terms and Conditions.

Indemnification

The Consultant shall refer to the specific indemnification requirements for this project as presented in Section 16 of the Engineering Services Agreement Standard Terms and Conditions.

Conflicts of Interest

Consultant warrants that before submitting its proposal and/or entering into this contract it has carried out an inquiry within its firm to determine whether the services to be provided under this contract may pose a conflict of interest. For purposes of this contract, a conflict of interest occurs when the services to be provided conflict, are adversarial to, may influence Consultant's judgment or appear to influence Consultant's judgment or quality of services under the contract with the Consultant's representation of other clients. Except as provided herein, Consultant shall certify, to the best of its knowledge, to the WRC that there are no conflicts of interest by providing the services under this contract.

If at any time Consultant determines that there is a conflict of interest or potential conflicts of Interest, then the Consultant shall disclose such conflicts of interest to the WRC. The WRC may request that the Consultant obtain a waiver or acknowledgment of the conflict from its client(s).

In the event that a conflict of interest arises in the course of providing services under this contract, the Consultant may be required to withdraw from its representation of the WRC and may be liable for incremental costs, if any, associated with the WRC having to engage another engineering or consulting firm to perform the services under this contract.

Disclosure of Contents

All information provided in the Consultant's proposal will be held in confidence and will not be revealed or discussed with competitors until the deadline for submission of proposals has expired. Pursuant to Section 13 (1) (j) of the Michigan Freedom of Information Act, as amended, MCL 15.243 (1) (j), provides that a public body may exempt from disclosure as a public record A [a] bid or proposal by a person to enter into a contract or agreement, until the time for the public opening of the bids or proposals, or if a public opening is not conducted, until the deadline for submission of bids or proposals has expired. The submission of additional pertinent information beyond the requirements of this RFP is acceptable. The legal arrangement proposed between the firms comprising a "joint venture, team, Subconsultants, etc." is to be explained in the proposal. There are no requirements

for MBE, WBE or DBE involvement for this portion of the project, or other requirements of federally funded projects.

Rejection of Proposals

The WRC reserves the right to reject any and all of the proposals received as a result of this RFP. No late proposals will be accepted.

Incurred Cost

The WRC will not be liable for any cost incurred by the Consultant in developing its proposal or for any other work performed through and including the execution of a contract for professional services, prior to the execution of a contract.

Addenda to the RFP

An addendum will be issued in the event it becomes necessary to revise any part of this RFP.

Completeness of Consultant's Proposal

The Consultant's proposal shall address all items completely and thoroughly, in accordance with the proposal format provided. The proposal shall be signed by an officer of the firm, or the team authorized to bind the Consultant to its provisions.

The contents and commitments in the Consultant's proposal shall remain firm for 120 calendar days from the submittal due date.

By submitting a proposal, the Consultant's officer certifies that it is not currently debarred from submitting bids for contracts issued by any political subdivision or agency of the State of Michigan, FEMA, or the EPA and that it is not an agent of a person or entity that is currently debarred from submitting bids or contracts issued by any political subdivision or agency of the State of Michigan, FEMA, or the EPA.

Consultant Responsibilities

The Consultant shall be capable of providing all professional services as described above under the Scope of Consultant's Services and to maintain those capabilities until notification that their proposal was unsuccessful. Exclusion of any service for the project may serve as cause for rejection.

Acceptance of Proposal Content

The proposal presented will be evaluated by the Owner's Selection Committee. Scoring will be conducted by the Selection Committee based on the Consultant's understanding of the project including local knowledge, scope of services, schedule, personnel assigned to the project and related project experience. Final recommendation of the highest-ranking firm will be made by

REQUEST FOR PROPOSAL

the Selection Committee.

QUESTIONS

Questions, comments or concerns of any Consultant regarding this RFP or the project, must be submitted in writing via BidNet Direct website within seven (7) days of the bid opening. No questions received after this time will be given consideration. Questions will be reviewed, and formal responses will be disseminated via addenda on BidNet Direct.

SUBMISSIONS

The Consultant's proposal must be submitted by June 3, 2025, at 2:00 pm to the BidNet Direct website.

ENGINEERING SERVICES AGREEMENT

OAKLAND COUNTY, MICHIGAN

BETWEEN

ENGINEER

AND

**OAKLAND COUNTY WATER RESOURCES COMMISSIONER
AS AGENT FOR CADDELL DRAIN**

**BUILDING 95 WEST – ONE PUBLIC WORKS DRIVE
WATERFORD, MICHIGAN 48328-1907**

The Oakland County Water Resources Commissioner, a County Agency for the County of Oakland, State of Michigan and the agent of the Mainland Drain, One Public Works Drive Bldg. 95 West, Waterford, MI ("Owner") and _____ ("Engineer") enter into this contract for engineering services ("Engineering Services Agreement" or "ESA"), effective the _____ day of _____, 2025 for the project known as "Caddell Drain - 9Mile & Drake Project" (the "Project").

1. DOCUMENTS CONSTITUTING THE ENGINEERING SERVICES AGREEMENT

1.1. The Engineering Services Agreement consists of the following documents, which together form the contract between the Owner and the Engineer:

- .1 This Engineering Services Agreement (DC-391 Part A).
- .2 The Engineering Services Agreement Standard Terms and Conditions (DC-391 Part B).
- .3 The forms selected with an "X" below:



PRE-391 – PRELIMINARY ENGINEERING PHASE SERVICES



DPS-391 – DESIGN PHASE SERVICES



AMS-391 – ASSET MANAGEMENT SERVICES



BID-391 – BIDDING SERVICES



CON-391 – CONSTRUCTION PHASE SERVICES



SUR-391 – CONSTRUCTION SURVEYING AND LAYOUT SERVICES



RE-391 – RESIDENT ENGINEER SERVICES



RPR-391 – RESIDENT PROJECT REPRESENTATIVE SERVICES



ADD-391 – ADDITIONAL SPECIAL SERVICES



Engineer's Proposal, dated _____ (scope of work only).

1.2. In the event of conflict, ambiguity, or discrepancy between the terms of any of the documents constituting the Agreement, the more stringent condition, term, or interpretation imposed on the Engineer shall apply.

2. SCOPE OF THIS AGREEMENT

2.1. The Agreement is the entire and integrated contract between the Owner and the Engineer and supersedes all prior negotiations, representations, or agreements, whether written or oral. This Agreement may only be amended by an Engineering Work Order executed by the parties.

2.2. In the event the Owner and the Engineer have marked the Engineer's proposal under Section 1.1.2, the proposal shall be included in the Agreement for the limited purpose of describing the Engineer's scope of services. Such provisions as limitations on liability, mutual indemnification, or conditions of the Engineer's performance that might be contained in the proposal do not apply. Terms in the proposal are subordinate to any conflicting term in the Agreement.

3. PROJECT DESCRIPTION

The Project shall, in general, consist of the following:

The Caddell Drain involves four (4) 112-x-75-inch CMP arch culverts, located at the 9 Mile and Drake intersection in Farmington Hills. This project seeks to replace or rehab the culverts that serve the cities of Novi, Farmington, and Farmington Hills. The repair of the Caddell Drain at the 9 Mile and Drake intersection will extend its service life by deterring ongoing sinkholes and improving its structural integrity.

4. PROJECT-SPECIFIC SERVICES

4.1. The Engineer shall provide the Project-specific services outlined in the forms listed and selected in Section 1.1.2 of this Agreement. The Owner may authorize the Engineer to provide Additional Special Services by Work Order during the course of the Project. The omission of a service from documents incorporated under Section 1.1.2 does not excuse the Engineer from performing any regular or normal service that is necessary to meet the Standard of Care or to accomplish the Owner's stated goals for the Project, unless the service has been specifically excluded from the Engineer's scope of services and the Engineer has informed the Owner in writing of the need for it.

5. CONSULTANTS

5.1. The Engineer intends to retain the Consultants listed below to assist with the performance of its services.

6. PAYMENT TO ENGINEER FOR ENGINEERING SERVICES

6.1. The Owner will compensate the Engineer on an hourly fee for service basis, plus permitted reimbursable expenses, in accordance with the terms of this Engineering Services Agreement.

6.2. The hourly billing rates for services of the Engineer and the Engineer's Consultants are set forth below or on the attached Exhibit 1, as the case may be. The rates may be adjusted only by Engineering Work Order.

Employee or Category	Rate (\$0.00)

6.3. The Engineer's total estimated compensation for each phase of services is as follows:

Preliminary Engineering (Study) Phase Services	\$_____
Design Phase Services	\$_____
Asset Management Services	\$_____
Bidding Services	\$_____
Construction Phase Services	\$_____
Construction Surveying and Layout	\$_____
Resident Engineer (RE) Services	\$_____
Resident Project Representative (RPR) Services	\$_____
Additional Special Services	\$_____

6.4. All terms and conditions governing payment are contained within Section 8 of the Engineering Services Agreement Standard Terms and Conditions (DC-391 Part B).

IN WITNESS WHEREOF, the parties hereto have executed this Engineering Services Agreement as of the day and year first referenced in this Engineering Services Agreement.

WITNESS

OAKLAND COUNTY WATER RESOURCES
COMMISSIONER AS AGENT OF THE CADDELL
DRAIN

Signature: _____

Print Name: Jim Nash

Title: Oakland County Water Resources
Commissioner

WITNESS

Engineer: _____

Signature: _____

Print
Name: _____

Title: _____

Approved as to form:

Oakland County Water Resource Commissioner's Legal Counsel

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the CADDELL DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services *HP for Shawn Phelps*
OCWRC Accounting

DATE: April 22, 2025

SUBJECT: Request for Board approval of payment of the following invoices:

Payable To	Reference	For	Amount
Hubbell Roth & Clark	V # SINV00333259 Invoice # 0225630 - Contracted	Services - 03/01/25	\$ 3,904.00
		Total	\$ 3,904.00

11. Joachim Relief Drain

AGENDA

DRAINAGE BOARD FOR THE JOACHIM RELIEF DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Construction Estimate No. 2 for Pipeline Management Company, LLC for Construction of the Joachim Drain Drainage District Improvements in the amount of \$116,050.50 with a transfer to the Oakland County Treasurer in the amount of \$11,779.50
5. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$20,465.56
6. Other business
7. Approve pro rata payment to Drainage Board members
8. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE JOACHIM RELIEF DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Joachim Relief Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held January 28, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

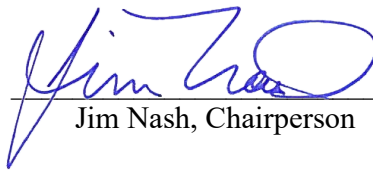
Construction Estimate No. 1 for Pipeline Management Company, LLC for Construction of the Joachim Drain Drainage District Improvements in the amount of \$127,800.00 with a transfer to the Oakland County Treasurer in the amount of \$14,200 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 1 for Pipeline Management Company, LLC for Construction of the Joachim Drain Drainage District Improvements in the amount of \$127,800.00 with a transfer to the Oakland County Treasurer in the amount of \$14,200 as presented.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

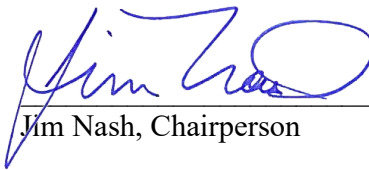
A handwritten signature in blue ink, appearing to read "Jim Nash", is positioned above a horizontal line. The signature is stylized with a large, circular flourish at the end.

Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Joachim Relief Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Joachim Relief Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

Jim Nash, Oakland County Water Resources Commissioner
Joachim Drain Drainage District
For Construction of the Joachim Drain Drainage District Improvements
City of Pontiac
Oakland County, Michigan

Construction Estimate No. 2

March 01, 2025- March 31, 2025

Department No.: CCN6010101

Fund No.: FND84526

Project No.: PRJ-17558

Account No.: SC730373

Program No.: PRG149015

Activity: FAC

Vendor No.: 15328

Contract No.: CON00011278

Date of Contract: 12/20/2024

Completion Date: 3/10/2025

PO Number: PO00078459

Contractor: Pipeline Management Company, LLC
 (Name & Address) 2673 E Maple Road
 Milford Charter Township, MI 48381

Original Contract Amount: \$519,590.00

Previous Change Order Numbers (none): \$0.00

Change Orders This Estimate Numbers (none): \$0.00

Total Net Change Orders: \$0.00

Adjusted Contract Amount: \$519,590.00

Subtotal To Date: (Sheet 2 of 2 Column 7) \$269,830.00

Less Deductions to Date: (Sheet 2 of 2 Column 7) \$0.00

Gross Estimate: (Work in Place) 51.93% \$269,830.00

Less Amount Reserved: (5% of Adjusted Contract Amount) \$25,979.50

Total Amount Allowed To Date: \$243,850.50

Less Previous Estimates: \$127,800.00

Net Payment Request To Be Paid To Contractor: \$116,050.50

Reserve Payment to Contractor \$0.00

Balance of Contract To Date \$249,760.00 Accounting Auditor:

Less Previous Transfers To Reserve: \$14,200.00

Amount of Current Transfer: \$11,779.50

Prepared by: _____
 Geoff Wilson, P.E. - Chief Engineer (WRC)

Date: _____

Recommended by: 
 Fatemeh Babakhani, P.E. - Consulting Engineer (HRC)

Date: 4/7/2025

Approved by: _____
 Gary Nigro, P.E. - Manager (WRC)

Date: _____

Approved by Board on: _____

JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the JOACHIM DRAIN (Construction)

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

 for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Reimbursement of Drain Revolving Fund

The following is a detail of charges paid from the Drain Revolving Fund
for the period ending April 15, 2025.

Date	Ref No.	Paid To	For	Amount
	V # SINV00330985	Hubbell Roth & Clark Inc	Invoice # 0223510 - Engineering Services - 12/07/24 Proj # 1-7558	\$ 5,051.23
	V # SINV00330986	Hubbell Roth & Clark Inc	Invoice # 0224188 - Engineering Services - 01/04/25 - Proj # 1-7558	4,062.46
	V # SINV00330988	Hubbell Roth & Clark Inc	Invoice # 0224658 - Engineering Services - 02/01/25 - Proj #1-17558	3,717.58
	V # SINV00330989	Hubbell Roth & Clark Inc	Invoice # 0225613 - Engineering Services - 03/1/25 - Proj # 1-7558	7,634.29
			Total	<u>\$ 20,465.56</u>

12. Mainland Drain

AGENDA

DRAINAGE BOARD FOR THE MAINLAND DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of September 24, 2024
3. Public Comments
4. Present Memorandum from Sarah Stoolmiller, P.E, Civil Engineer III, dated April 22, 2025, requesting the Board increase the total amount of the engineering services agreement by a not-to-exceed amount of \$264,335.09 for a total not-to-exceed amount of \$402,186.09
5. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$
6. Other business
7. Approve pro rata payment to Drainage Board members
8. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE MAINLAND DRAIN**

September 24, 2024

A meeting of the Drainage Board for the Mainland Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 24th day of September 2024.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held August 27, 2024, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

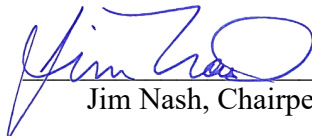
A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$40,619.12 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$40,619.12.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

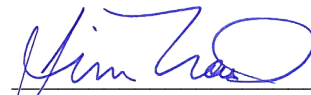


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Mainland Drain, Oakland County, Michigan, held on the 24th day of September 2024, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Mainland Drain Drainage District.



Jim Nash, Chairperson

Dated: September 24, 2024

**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER****MEMORANDUM**

TO: Jim Nash, Chairperson of the Mainland Drain Drainage Board

FROM: Sarah Stoolmiller, P.E., Civil Engineer III

SUBJECT: Mainland Drain Flood Mitigation Project, Engineering Design Budget Update

DATE: April 22, 2025

In July 2023, this Board accepted funding from the Federal Emergency Management Agency's Hazard Mitigate Grant Program for Phase 1 of the Mainland Drain Flood Mitigation Project. In the Grant Agreement, previously accepted by this Board, the budget for Phase 1 (design only) was set at \$295,335. The reimbursable grant amount is \$265,801.50 and the District is responsible for a 10% match, which amounts to a total of \$29,533.50. In December 2023, the Board awarded the engineering services contract for the project to GEI Consultants of Michigan with a not-to-exceed price of \$137,851.

Since awarding the engineering services contract, it was discovered that additional services are needed to complete the project. As a result, additional costs need to be added to the engineering services contract. All additional required services will be covered by the available grant funding agreement.

As part of this project, the Michigan Department of Transportation (MDOT) has agreed to pay the design costs of replacing culverts under Telegraph Road and under the ramp loop at County Center Drive. The additional cost to design these culverts is \$24,625. Additional modeling and requests by MDOT and Michigan's Department of Environment, Great Lakes, and Energy (EGLE) require \$130,107.75 of additional costs. MDOT will reimburse the District for that \$154,732.75 of additional costs.

Additional costs to complete the project are needed for soil exploration, archeological work after positive findings, design and modelling work, addressing EGLE permit application comments, easement exhibits, and a grading plan. This requires an additional cost of \$109,602.34. A breakdown of these costs is included in the attached Engineering Work Order.

A total of \$264,335.09 is requested to be added to the original design cost of \$137,851, for a new not-to-exceed cost of \$402,186.09. MDOT will reimburse \$154,732.75 of this amount, which leaves a new budget for engineering services at \$247,453.34.

Requested Action: Increase the total amount of the engineering services agreement by a not-to-exceed amount of \$264,335.09 for a total not to exceed \$402,186.09.

Jim Nash Oakland County Water Resources Commissioner
One Public Works Drive
Waterford, Michigan 48328-1907
Phone: (248) 858-0958

Engineering Work Order No. D-476

Date: 4/9/2025

To: GEI Consultants

For: Mainland Drain Flood Mitigation Project
Design Phase Budget Amendment

DESCRIPTION

This Engineering Work Order (EWO) is required to define specific additional tasks and compensation related to the Mainland Drain Flood Mitigation Project that falls under contract no. CON00010887. This EWO serves as your approval for compensation of the following additional services as delineated in your attached proposals dated May 13, 2024, May 10, 2024, August 20, 2024, and April 8, 2025.

Task #1.5 Soil Exploration = \$18,300

Soil sampling and testing was not listed in the original proposal for the project. Soiling borings are required in order to complete the design and EGLE permitting portions of the project. GEI will perform eight (8) soil borings to understand where groundwater depths are with the various proposed wetland areas and understand the soil materials and types that will be excavated as part of this project.

Task #1.6 Additional Archeological Work After Positive Findings = \$13,352

During the initial archaeological phase 1 survey, several positive STPs were encountered. Positive findings include precontact, lithics, precontact ceramics, and historic era ceramic fragments. These will all require additional subsurface examinations. Additional testing will include test pit radials, cataloging of artifacts, and additional work in preparing the Phase 1 Report, as well as recording onto Michigan site form, and artifact analysis.

Task #2.1 Additional Costs for MDOT Work Inclusion = \$24,625

The scope of work being added to the Mainland Drain Project involves replacement of an existing 18-inch storm sewer pipe beneath Telegraph Road and a 15-inch storm sewer under the ramp loop onto County Center Drive. MDOT has confirmed that they will reimburse all the costs associated with the engineering, planning, and construction for the two (2) culvert replacements.


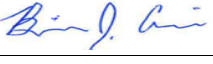

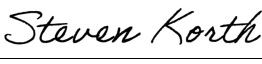
MDOT – Telegraph & On-Ramp Crossing Replacement & Utility Relocation Work = \$130,107.75

Additional design and modeling work related to MDOT's Telegraph Road crossing replacement and Telegraph Road on-ramp crossing. This includes significant impacts to modeling and design work for the EGLE permit application that was previously not included. MDOT to reimburse OCWRC for this work.

Additional Mainland Drain Work Scope Items = \$77,950.34

1. Additional Design & Modeling Work, Basis of Design Report
2. Additional Markups and Level of Effort Required for OCWRC Plans
3. EGLE Permit Application Work
4. Easement Exhibits
5. Developed Additional Spoils Grading Plan for On-Site Disposal of Excavated Material

Fees for this Engineering Work Order shall be billed on a time and material basis according to the contract standard fee and rate schedule as modified by your proposal. The total amount of the Engineering Services Agreement is to be increased by a not to exceed amount of \$264,335.09. This increases the total allowed project amount under this contract to \$402,186.09. This amount is not to be exceeded without written authorization from this office.

RECOMMENDED	DATE: 4/11/2025	ACCEPTED	DATE: 4/11/25
By: 		By: 	
Jack Puscas, E.I.T. Project Engineer OCWRC		Brian Cenci, P.E. Sr. Manager GEI	
APPROVED	DATE: 4/11/2025	APPROVED	DATE: April 14, 2025
By: 		By: 	
Joel Brown, P.E. Chief Engineer OCWRC		Steve Korth, P.E. Chief Manager OCWRC	
Approved by the Drainage District Board on:			

Department No.:	6010101	Account No.:	730373
Fund No:	84544	Program No.:	149015
Project No:	PRJ-17640	Project Activity:	ENG CON
Contract No:	CON00010887	Contract Exp:	1/11/2026

May 13, 2024

VIA EMAIL: stoolmillers@oakgov.com

Sarah Stoolmiller
Oakland County Water Resources Commissioner
One Public Works Building #95W
Waterford Twp, MI 48328

**Re: Soil Exploration & Sampling Proposal
OCWRC, Mainland Drain – Project No. 2400417
Pontiac, MI**

Dear Ms. Stoolmiller:

GEI Consultants of Michigan, P.C. (GEI) is pleased to provide this proposal for soil borings and required EGLE soil testing for the above referenced project. Soil sampling and testing was not listed in our proposed work plan for this project. We feel that these additional items of work are critically necessary in order to complete the design and EGLE permitting portions of this project.

We are proposing to perform 8 soil borings to understand where groundwater depths are within the various proposed wetland areas and understand the soil materials and types that will be excavated as part of this project. Both of these items will be critical for design and for construction planning purposes. Within these 8 different boring locations, we are also proposing to do sediment testing that is required by EGLE, Water Resources Division for Part 301 & 303 permit applications. When dredge excavation of material within regulated areas exceed 2,000 cubic yards, then such sediment testing is required; unless exempted by EGLE (which is very rare).

Scope of Work

The scope of work being added to the Mainland Drain Project includes advancement of eight (8) geotechnical borings, geotechnical analysis, soil sampling, summary reporting, and general project management.

This Scope of Work includes:

Project Management and Client Communications

This task includes general project management activities such as coordination of staff, scheduling, reviewing and approving subcontractor invoices, cost tracking, project QA/QC, and communication with OCWRC.

Geotechnical Borings

Before beginning field drilling operations, GEI will update the project Health and Safety plan (HASP). MissDig 811 will be contacted to mark locations of underground utilities. A total of eight (8) geotechnical borings will be advanced at the locations and depths shown on the attached Soil Boring Location Exhibit. Within each of the borings, representative soil samples will be obtained at 2.5-foot depth intervals. Soil sampling will be performed in accordance with ASTM D1556, split spoon sampling. The soils encountered in the borings will be logged and classified in accordance with the Unified Soil Classification System (USCS). The eight (8) soils borings and target depths, totaling 60 feet, are as follows:

Boring #	Description	Existing Ground Elev. (ft)	Proposed Ground Elev. (ft)	Cut (ft)	Proposed Boring Depth (ft)
1	A-B1	965.58	963.53	2.05	5
2	A-B2	967.33	963.91	3.42	5
3	B-B1	966.57	957.5	9.07	10
4	B-B2	960.91	957.5	3.41	5
5	B-B3	960.61	957.5	3.11	5
6	C-B1	961.58	954.5	7.08	10
7	C-B2	960.13	954.5	5.63	10
8	C-B3	960.28	954.5	5.78	10

Groundwater observations will be made at the time of drilling. The boring holes will be backfilled with soil cuttings.

Soil Sampling

Please refer to the attached EGLE – Water Resources Division’s policy and procedure regarding Sediment Testing for Dredging Projects. Representative soil samples will be selected from the borings and taken to a lab to be tested for Michigan 10 Metals (arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, silver, and zinc), polycyclic aromatic hydrocarbons (PAH) listed in Table 1 of the WRD-048 attachment, and biochemical oxygen demand (BOD) under the guidelines of EGLE’s Water Resources Division - Sediment Testing for Dredging Projects. At this time, GEI believes that EGLE will require testing under these guidelines due to the circumstances of the project and potential of sediments mixing with surface water during construction, we believe EGLE may require this testing before issuing the JPA permit.

Reporting

GEI will submit an electronic copy of our geotechnical and environmental engineering report to OCWRC for review. The report will be prepared by or under the direct supervision of a Professional Engineer registered in the state of Michigan and include:

- Descriptions of subsurface exploration procedures including in-situ testing, laboratory testing, and difficulties or obstructions encountered while drilling.
- Descriptions of the groundwater conditions at the time of drilling.
- Subsurface summary and/or profiles identifying soil strata at the site based on interpretations of the borings.
- Soil boring location diagram.

- Soil boring logs with pertinent project information, ground surface elevation, identification of drilling method and sampling, classification of subsurface materials, groundwater observations, in-situ test results, and notes regarding the depth of any obstructions encountered during drilling.
- Lab results of soil samples with comparison to acceptable nonresidential soil levels.

Project Schedule

We are available to begin work on this project within three weeks of notice to proceed. We anticipate it will take approximately one day for the drill crew to complete the field exploration program described above. Hard copies of the report can be provided within two weeks following completion of the exploration program and receipt of the associated laboratory testing.

Costs

We proposed to perform the above outlined scope of services for lump sum cost as summarized as below:

Task	Cost
Project Management	\$ 1,600.00
Geotechnical Borings	\$ 8,100.00
Laboratory Testing	\$ 4,000.00
Engineering Analysis and Reporting	\$ 4,600.00
Total Cost:	\$ 18,300.00

Should unanticipated soil conditions be encountered and it becomes necessary to extend the borings deeper than the proposed depths, or if additional borings are deemed necessary, we will contact you and obtain your approval prior to completing additional field work.

Terms and Conditions

We will complete the proposed scope of work per the current terms and conditions for professional services contract with OCWRC. We would include this work as an additional task under our Preliminary Engineering & Design Services Phase of the project.

Should you have any questions with regard to the scope of work, fee or work schedule as presented herein, please contact us.

Sincerely,

GEI Consultants of Michigan, P.C.



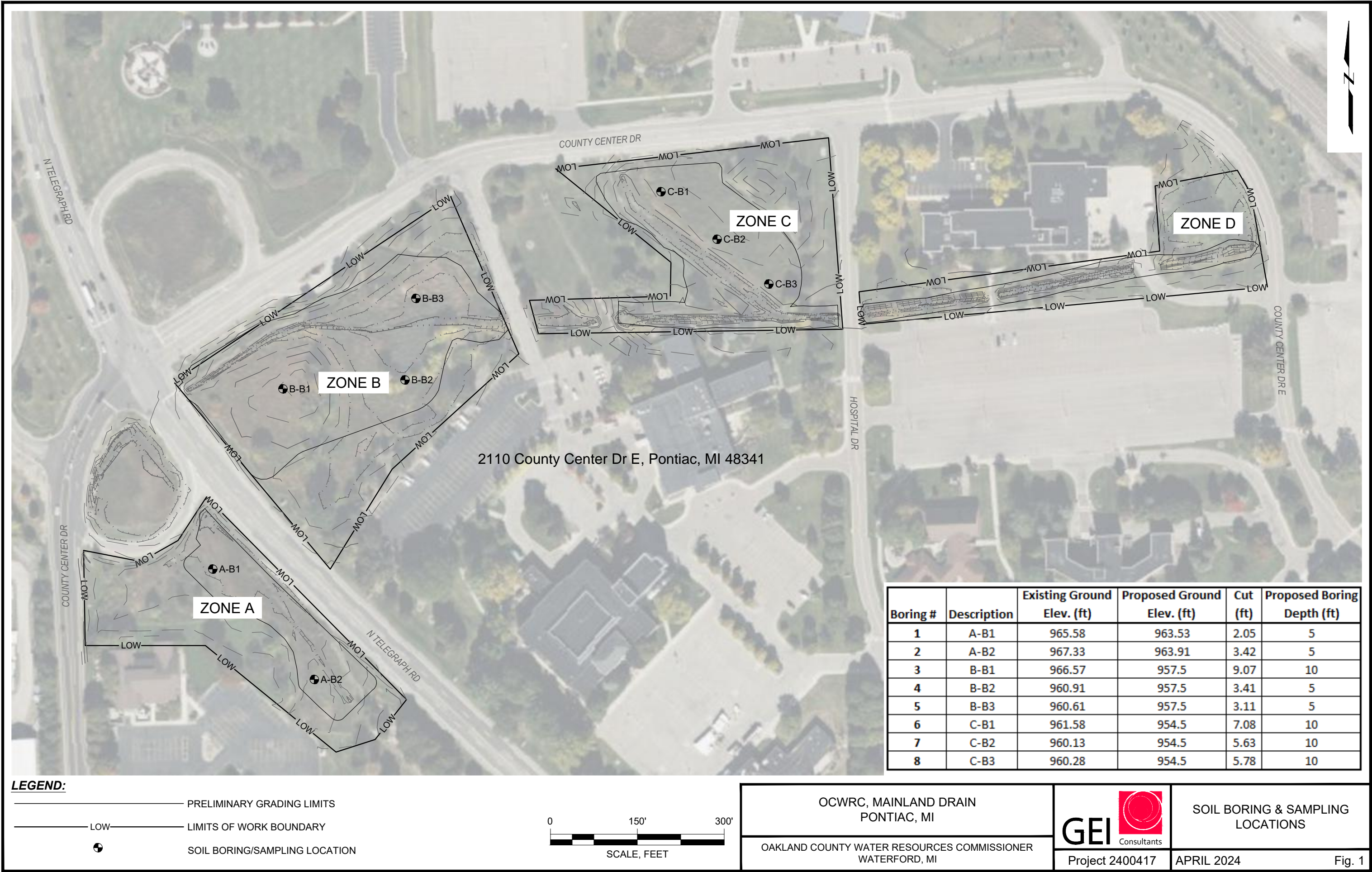
Kyle R. Smith, P.E.
Project Engineer




Brian J. Cenci, P.E.
Senior Project Manager

Attachments (2):

- Map of Proposed Soil Boring & Sampling Locations (1 page)
- WRD-048 Sediment Testing – Policy & Procedure (9 pages)



	WATER RESOURCES DIVISION POLICY AND PROCEDURE		DEPARTMENT OF ENVIRONMENTAL QUALITY
Original Effective Date: April 13, 2018	Subject: Sediment Testing for Dredging Projects		Category:
Revised Date:	Program Name: Water Resources Program		<input type="checkbox"/> Internal/Administrative <input type="checkbox"/> External/Non-Interpretive <input checked="" type="checkbox"/> External/Interpretive
Reformatted Date:	Number: WRD-048	Page: 1 of 9	Type:
			<input type="checkbox"/> Policy <input type="checkbox"/> Procedure <input checked="" type="checkbox"/> Policy and Procedure

A Department of Environmental Quality (DEQ) Policy and Procedure cannot establish regulatory requirements for parties outside of the DEQ. This document provides direction to DEQ staff regarding the implementation of rules and laws administered by the DEQ. It is merely explanatory; does not affect the rights of or procedures and practices available to the public, and does not have the force and effect of law. DEQ staff shall follow the directions contained in this document.

ISSUE:

Identify when sediment testing is required and how results will be used when processing applications for permits under authority of Part 301, Inland Lakes and Streams; Part 303, Wetlands Protection; and Part 325, Great Lakes Submerged Lands, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Sediment testing results are used as one avenue to determine whether a proposed project will result in an unacceptable negative impact on aquatic resources, related either to the mobilization of contaminants to a new location or by exposing wildlife (including fish and other aquatic life) to contaminants previously buried. The specific permit decision criteria are stated differently in each part of the NREPA but each part requires an assessment of the project's impact on the aquatic resource and related organisms. In addition, state permits under these parts may also provide authorization under Section 404 of the federal Clean Water Act, which requires that the project must not violate water quality standards. Michigan's water quality standards require the protection of designated uses including, but not limited to, aquatic life, wildlife, and public health.

This policy applies to projects that can mobilize or expose contaminated sediments including, but not limited to, sediment removals using dredges, draglines, excavators, etc., and other projects that may not directly remove sediment from the aquatic system but may result in sediment being mobilized to other areas of the aquatic system.

AUTHORITY:

Part 31, Water Resources Protection, of the NREPA
 Part 301, Inland Lakes and Streams, of the NREPA
 Part 303, Wetlands Protection, of the NREPA
 Part 325, Great Lakes Submerged Lands, of the NREPA

STAKEHOLDER INVOLVEMENT:

This policy was placed on public notice for 30 days beginning June 26, 2017. Notification was made in the DEQ Calendar; on the DEQ dredging Web site; and to specific stakeholder groups known to have an interest in this policy, including Michigan Manufacturers Association, dredging

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contractors, resource consultants, environmental groups, Michigan Townships Association, Michigan Association of Counties, Michigan Association of County Drain Commissioners, Department of Natural Resources (Fisheries, Wildlife, and Parks and Recreation Divisions), and Michigan Boating Industries Association. Comments received were used to finalize this document.

DEFINITIONS:

Area of known or suspected contamination: An area identified in MiWaters or other databases as containing contaminated or polluted sediment, or a facility, as defined in Part 201 (may show up as Act 307 in MiWaters), Environmental Remediation, of the NREPA, or a National Priorities List Superfund site, or any site that has known or suspected contamination as determined by DEQ staff or the applicant. This may include project sites within Great Lakes Areas of Concern, where designated uses are currently impaired by a pollutant, in areas where a historical dredge area is being expanded vertically and/or horizontally into areas of suspected contamination, new sites in areas of historically known or suspected contamination, sites in proximity and downstream of chemical storage/handling facilities, agricultural or industrial operations, or other sites where contaminants are suspected to be present in the water body's sediments within the project dredge area due to past or current land use practice, at DEQ staff's discretion. In addition, project areas greater than 2,000 cubic yards are assumed to be in sites of suspected contamination because large projects pose a greater risk of negative aquatic impacts should undetected contaminants be present.

Dioxins and Furans Test Area: The Tittabawassee River downstream of the city of Midland, the Saginaw River downstream of the Tittabawassee River, and the portion of Saginaw Bay that lies between the mouth of the Saginaw River and a line drawn between the tip of Fish Point (Tuscola County) and the tip of the unnamed point east of the lakeward end of East Pinconning Road (Bay County) (Figure 1).

MiWaters: The permit tracking and information system used by the Water Resources Division (WRD) staff to electronically record permit file information, such as locations, that are cross-referenced against spatial information stored in multiple databases.

PROCEDURE:

1. Projects involving dredging may require sediment testing, and permit applications submitted for these projects under Parts 301, 303, and 325 will not be considered administratively complete until the WRD determines that either:
 - a. Testing is not required.
 - b. The required testing results have been received.

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2. WRD district staff reviews the proposed dredging project to determine if sediment testing is required. Sediment testing is required for dredging proposed in areas of known or suspected contamination and in the Dioxins and Furans Test Area.
3. Sediment testing may be waived if one of the following conditions is met:
 - a. The applicant provides approved previous test data from the site, or from a site immediately adjacent to (i.e., within 100 feet) and representative of the proposed dredge area, including project depth. The test data must include results for all default parameters identified in step 5.b., below; polychlorinated biphenyl (PCB) if the project site is in a water body identified in step 5.b., below, as requiring PCB testing; and for dioxins and furans if the proposed dredging site is in the Dioxins and Furans Test Area. The test data must have been collected and analyzed within the last ten years.
 - b. The total dredge volume is 2,000 cubic yards or less and the applicant has agreed to permit conditions in an applicable general permit or minor project category that isolate the area to be dredged and prevent downstream movement of sediment, or the project area is not within an area of known or suspected contamination or in the Dioxins and Furans Test Area.
 - c. The total dredge volume is greater than 2,000 cubic yards but due to the specific details of the project site and implementation methods, WRD district staff determines that there is minimal risk of impacts to the aquatic resources at or downstream of the project site should contaminants be present. Note that this waiver is expected to occur only rarely. An example of when this waiver may be appropriate is dredging of a small regulated pond that is entirely on one property and has no outlet or has an outlet and the applicant proposes to use silt screens or other technology to prevent downstream movement of sediment.
4. If testing is not required (and the permit application meets all other administrative completeness criteria), WRD district staff marks the application file in MiWaters as administratively complete and continues processing the application file outside of this policy and procedure. If testing is required and results have not been provided by the applicant, the file remains incomplete and WRD district staff continues processing per this policy and procedure, continuing to step 5.
5. WRD district staff sends a Sediment Testing for Dredging Projects letter to the applicant, which contains the following guidance:
 - a. Applicant may opt to conduct sieve grain analysis test for sand content, or move to step 5.b., below, if the sediment is believed to be less than 90 percent sand. For all sieve grain analysis testing for dredging projects of less than 10,000 cubic yards, the applicant shall collect sample sediment cores to project depth from 6 discrete locations within the proposed dredge area. If more than 10,000 cubic yards of dredging is

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proposed, at least 1 additional sample shall be obtained and analyzed for each 10,000 cubic yards of additional material proposed for dredging. Typically, each core sample will be composited and a subset will be analyzed using United States Standard Sieve Number 200 (Number 200 Sieve). WRD district staff may mandate specific sampling criteria, locations, and/or depth intervals based on their site-specific knowledge. Applicant reports the results for each of the six (or more) discrete sample locations as a mass percentage of retained sediments. If the average mass percentage retained on the Number 200 Sieve is 90 percent sand or greater, no additional sediment testing is required unless the project is located in the Dioxins and Furans Test Area; in which case, dioxins and furans must also be analyzed. The sieve grain analysis test is a pass/fail test. If the average mass percentage of sand is less than 90 percent, then the material must be analyzed according to step 5.b., below, for at least 6 discrete sampling locations.

- b. If the result of the mass percentage retained on the Number 200 Sieve is less than 90 percent sand, on average, or the applicant opted not to conduct sieve grain analysis, contaminant testing is required. For all analytical testing of dredging projects of less than 10,000 cubic yards, applicant shall sample sediments from 6 discrete locations within the proposed dredge area. If more than 10,000 cubic yards of dredging is proposed, at least 1 additional sample shall be obtained and analyzed for each 10,000 cubic yards of additional material proposed for dredging. Typically, each sample will consist of a subset of a composited core taken to full project depth. WRD district staff may mandate specific sampling criteria, locations, and/or depth intervals based on their site-specific knowledge.

The default analytical parameters include nine heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc), polycyclic aromatic hydrocarbons (PAH) listed in Table 1, and biochemical oxygen demand (BOD). Additionally, phosphorus will be required if the proposed dredge spoil disposal location is in a surface water of the state as defined in the Part 4 Rules, Water Quality Standards, promulgated under Part 31, Water Resources Protection, of the NREPA. Default analytical parameters also include PCBs if the project is on one of the following bodies of water: Detroit River, Rouge River, Raisin River, Kalamazoo River, Saginaw River, Saginaw Bay, or Manistique Harbor; or canals that connect to any of the listed bodies of water or canals in the St. Clair Shores area between 11 Mile and 10 Mile Roads.

Additions or deletions to the default testing parameters can be made on a project-specific basis if district staff or the applicant has additional information related to the project. WRD district staff shall coordinate with other WRD and DEQ staff as needed to determine appropriate testing criteria if WRD district staff believes it should be different than the default parameters.

For projects in the Dioxins and Furans Test Area, dioxins and furans must also be analyzed.

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- c. Sediment testing must be conducted according to a United States Environmental Protection Agency-approved laboratory method and reported results must specify the reporting limits.
6. The applicant forwards the sediment analysis results to WRD district staff for review.
7. If the test data is for grain size analysis as detailed in step 5.a., above, WRD district staff performs an arithmetic mean on the grain size results of all samples to determine if the project dredge materials consist of 90 percent sand or greater by grain size.
8. If the sediment to be dredged is 90 percent sand or greater and the project is not located in a Dioxin and Furans Test Area, sediment contaminant testing is not required. Placement of dredged materials is subject to review under Parts 31, 301, 303, and 325 of the NREPA as part of a Joint Permit Application review conducted by WRD district staff.
9. If the sediment to be dredged is less than 90 percent sand or dioxins and furans testing is required, WRD district staff reviews sediment test results:
 - a. If any sample test result exceeds any screening guidelines in Table 2, results shall be sent to the Lakes Erie, Huron, and Superior Unit (LEHSU) supervisor, Surface Water Assessment Section, WRD, for review pursuant to Part 31. If sediment results show PCB and/or mercury concentrations greater than 1 part per million or metals, PAH, or dioxin/furan concentrations greater than the screening guidelines in Table 2, additional sediment testing may be required to evaluate the newly exposed sediment quality or potential downstream impacts. Any additional sediment testing data will be used to evaluate potential impacts to surface water designated uses, as defined in the Part 4 Rules. The LEHSU staff will advise WRD district staff, generally within two weeks, as to the next steps based on the test results.
 - b. If any BOD sample result is 250 milligrams per liter or greater, results shall be sent to the Groundwater Permits Unit (GPU) supervisor, Permits Section, WRD. The GPU supervisor will instruct WRD district staff as to the next steps based on the test results.
10. WRD staff considers the proposed placement of dredged material subject to Parts 31, 301, 303, and 325 of the NREPA, if applicable.
11. If the proposed dredge project is permissible, WRD district staff drafts the permit, including any conditions related to protection of designated uses and the disposal of dredged material, forwards the permit and information related to dredged material disposal requirements under Part 115, Solid Waste Management, of the NREPA, to the applicant, and updates MiWaters.

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ATTACHMENTS:

Table 1. Required PAH Testing

Table 2. Aquatic Life and Wildlife Screening Guidelines

Figure 1. Dioxins and Furans Test Area

DIVISION DIRECTOR APPROVAL:



Teresa Seidel, Director
Water Resources Division

DEPUTY DIRECTOR APPROVAL:



Michael McClellan, Environment Deputy Director

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Table 1. Required PAH Testing

Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(g,h,i)perylene
Benzo(a)pyrene
Chrysene
Dibenzo(a,h)anthracene
Fluoranthene
Fluorene
Indeno(1,2,3-cd)pyrene
2-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene

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Table 2. Aquatic Life and Wildlife Screening Guidelines

CHEMICAL	CONCENTRATION
Metals (mg/kg)	
Arsenic*	33.00
Cadmium*	4.98
Chromium	111.00
Copper*	149.00
Lead*	128.00
Mercury*	1.06
Nickel*	48.60
Selenium**	1.90
Zinc*	459.00
PAH (ug/kg)	
Anthracene*	845
Benz(a)anthracene*	1,050
Benzo(a)pyrene*	1,450
Chrysene*	1,290
Fluorene*	536
Fluranthene*	2,230
Naphthalene*	561
Phenanthrene*	1,170
Pyrene*	1,520
Total PAH*	22,800
Total PCB (mg/kg)	0.676
Dioxin/furans as 2,3,7,8 TCDD TEQ (ug/kg)***	0.00012

References:

*Probable Effect Concentrations (PEC) from MacDonald et al., 2000. Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems. Arch. Environ. Contam. Toxicol. 39. 20-31.

**Thompson, P.A., J. Kurias, and S. Mihok. 2005. Derivation and Use of Sediment Quality Guidelines for Ecological Risk Assessment of Metals and Radionuclides Released to the Environment from Uranium Mining and Milling Activities in Canada. Environmental Monitoring and Assessment 110:71-85.

***United States Environmental Protection Agency, Region 5, RCRA Ecological Screening Levels. August 22, 2003. Toxic Equivalency should be calculated using the 2005 World Health Organization Toxic Equivalency Factor in Table 1 of Van den Berg et al., Toxicological Sciences 93(2), 223-241 (2006). The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxin and Dioxin-Like Compounds.

Figure 1. Dioxins and Furans Test Area

MAINLAND DRAIN FLOOD MITIGATION PROJECT – UPDATED SCOPE OF WORK

(05/10/2024)

POSITIVE FINDINGS: 1 NEW ARCHAEOLOGICAL SITE

Project Understanding – Additional Scope of Work

During the initial day of archaeological Phase I survey fieldwork, including Shovel Test Pits (STPs) to examine the subsurface, GEI's archaeological staff encountered several positive STPs. We're still working on assessing the distribution of positive STPs and the implications of radial testing (this includes additional STPs around positive STPs to delineate site boundaries). Thus far, we've encountered precontact lithics (chipped stone pieces that are the result of stone tool reduction), precontact ceramics, and I believe some historic era ceramic fragments. These will all require some level of additional subsurface examination, like additional test pit radials, additional cataloging of artifacts and additional work in preparing the Phase 1 Report, as well as recording onto Michigan site form(s), and artifact analysis.

Additional Scope of Work

Task 1. Delineation of the Area of Potential Effects (APE) and Records Search

No change from original Scope of Work.

Task 2. Additional: Phase I Survey (Archaeological Resources)

Two field days were included in the original scope of work for this project. One field day of survey was completed on May 7, 2024. As a result of this initial day of fieldwork, GEI encountered 9 Shovel Test Pits (STPs) that were positive for precontact and historic artifacts necessitating additional work to complete the Phase I survey beyond the original scope of work. Additional work will consist of delineating archaeological site boundaries and ascertaining artifact concentrations as indicated by the positive STPs. GEI archaeologists will complete radial STPs at approximate 5-meter intervals, as dictated by the Area of Potential Effects (APE) boundary and ground conditions, both parallel and perpendicular to the transect orientation of the original positive STP. Radials will only be excavated around the perimeter of positive STP clusters in order to delineate site boundaries and will not be excavated between adjacent positive STPs. Artifacts will be collected in the field, with the exception of nondiagnostic items, such as brick and mortar.

The additional survey is anticipated to consist of two additional field days beyond the original scope of work. The Phase I survey will be completed in accordance with the Michigan SHPO Archaeological Standards-Technical Guidance for Archaeologists in the State of Michigan (Revised September 18, 2023) and will be supervised by an archaeologist who meets the Secretary of the Interior's (SOI) Standards for Archaeology.

Task 3. Additional: Artifact Processing and Analyses

As part of the original field work of positive STP findings, we need to follow Michigan SHPO archaeological standards and must log and categorize all artifacts found. All recovered artifacts will be washed, cataloged, and analyzed to collect information regarding the artifact's utility and possible on-site activities. Bulk items, such as debitage, will be cataloged in lots, while formed

artifacts will be assigned an individual catalog number. Artifacts will be classified by artifact group (such as flaked stone, ground stone, battered stone), their principal form of modification, and apparent function. Artifact analyses will include size attributes (length, width, thickness, and weight), lithic material type, and any observable use related damage. Additional attributes specific to an artifact class will also be recorded. The analyses will be recorded in a multi-relationship database. If carbon is recovered that is of sufficient size for radiocarbon dating, GEI will submit the sample with the intent to obtain a date of occupation. Once the study is complete, GEI will prepare the artifacts for landowner transfer by placing each cataloged artifact into 4-mil bags.

Task 4. Additional: Phase I Archaeological Resources Report and Site Records

GEI will prepare a draft technical report that will summarize the results of the cultural resources records search, the Phase I survey, and artifact analyses. Recommendations will also be made for additional work, if necessary. The report will be certified by an archaeologist listed by the Michigan SHPO as meeting the SOI Qualification Standards for Archaeology.

The Phase I report will be generated in accordance with the Michigan SHPO Archaeological Standards-Technical Guidance for Archaeologists in the State of Michigan (Revised September 18, 2023). Report content will also be informed by the information requirements outlined in the Instructions for the Application for SHPO Section 106 Consultation Form.

The Phase I report will be prepared to assist FEMA in meeting their obligations under Section 106. Specifically, the report will provide information about identification efforts completed, the results of the identification efforts, and recommendations regarding the effect of the proposed project on Historic Properties. The report will minimally contain the following elements:

- Project location (township, range, and section or private claim numbers)
- Description of proposed ground disturbance
- Methods employed for the Phase I study
- Discussion on the presence or absence of undisturbed soils
- Outline of past and present land use
- Summary of previously reported sites and surveys
- Findings of the fieldwork, including basic artifact analysis
- A culture history to contextualize known sites within or near the APE
- An Archaeological Sensitivity Map
- Potential for the project to result in adverse effects pursuant to Section 106
- Recommendations for additional fieldwork, if necessary

Upon client review of the technical report, GEI will update the document based on client requests or recommendations (where appropriate) to produce the final technical report for archaeological resources.

Exceptions/Assumptions

- Exceptions & assumptions from Original Scope of Work all remain in-place.

MAINLAND DRAIN FLOOD MITIGATION – ORIGINAL SCOPE OF WORK

Project Understanding

The proposed project includes funding from the Hazard Mitigation Grant Program (HMGP), which is administered by the Federal Emergency Management Agency (FEMA). The issuance of these federal funds necessitates Section 106 of the National Historic Preservation Act (NHPA), as amended (Section 106) compliance review. Based on information received from FEMA during a project meeting on March 11, 2024, GEI understands that a Phase I survey and report is needed for the Michigan State Historic Preservation Office (SHPO) Section 106 application. FEMA will complete a review of GEI's Phase I report and FEMA will prepare and submit the Section 106 application.

Scope of Work

Task 1. Delineation of the Area of Potential Effects (APE) and Records Search

GEI will prepare an Area of Potential Effects (APE) map of the undertaking based on the project site plans and the APE map provided by FEMA. The APE will include the horizontal and vertical extent of ground disturbance related to the proposed project and any temporary use areas, such as equipment staging locations. Consideration will also be given to the potential for the project to result in indirect effects to nearby lands and/or built-environment features.

Upon delineation of the APE, GEI cultural resource specialists will conduct a records search to identify known and previously recorded cultural resources in and adjacent to the APE. The records review will be completed for the APE and all lands within a one-mile search radius and will include a review of the following resources:

- National Historic Landmarks (NHL) List;
- National Register of Historic Places (NRHP) Spatial Data (GIS) Public Database; and the
- Michigan SHPO Archaeological Site Files.

The SHPO File review will be completed by SHPO staff via the SHPO Smartsheet request system and please be advised that as of February 29, 2024, SHPO is changing the procedures for the review. All built-environment research will be completed by GEI via publicly available databases as the Michigan SHPO Files for Architectural Resources are not available for review. SHPO will only complete the archaeological resources review.

Task 2. Phase 1 Survey (Archaeological Resources)

Following the completion of Task 1, a Phase 1 archaeological resources survey will be completed for the APE. GEI assumes that no architectural resources fieldwork will be needed for the project.

The survey for archaeological resources will be completed in accordance with the Michigan SHPO Archaeological Standards: Methodological Standards Brief Fact Sheet (Revised September 18, 2023) and will be supervised by an archaeologist who meets the Secretary of the Interior's (SOI) Standards for Archaeology.

GEI archaeologists will conduct a Phase 1 pedestrian (surface) survey for those portions of the APE that exhibit sufficient surface visibility (25 percent or greater). Those portions of the APE that have less than 25 percent surface visibility will require subsurface examination to be completed via Shovel Test Pits (STPs).

Over the four project areas, no more than 12.2-acres of ground will be disturbed. Project area A (2.8-acres), B (5.0-acres), C (2.8-acres) and D (1.62-acres) will account for just over 23,000 cubic yards of excavation. Most of this will be removed and taken off site in order to maximize the floodplain storage. For this scope of work, GEI assumes that approximately 50 percent (6.1-acres) will require subsurface examination via STPs. The remaining 6.1-acres of the APE will require examination via surface survey only due to sufficient surface visibility, inundation, and/or the presence of known soil disturbances. Surface survey and STP excavation will be completed at intervals not exceeding 15-meters, as feasible, and depending on existing conditions. Notes and photographs will be taken to document existing conditions in the APE and any areas that cannot be surveyed, such as areas exhibiting standing water or saturated soils.

GEI assumes that the Phase 1 survey will result in negative findings. In the event that cultural resources are encountered, these resources may require additional field efforts to delineate the site boundaries, record the site details, or perform in-field analysis. The client will be contacted in the event of positive findings to discuss the next steps for the project and the implications for the project budget and timeline.

Task 3. Phase 1 Archaeological Survey Report

GEI will prepare a draft technical report that will summarize the results of the cultural resources records search and the survey. Recommendations will also be made for additional work, where necessary. The report will be certified by an archaeologist listed by the Michigan SHPO as meeting the SOI Qualification Standards for Archaeology. The Phase 1 Report will be generated in accordance with the Michigan SHPO Archaeological Standards: Reporting Standards Brief Fact Sheet (Revised September 18, 2023). Report content will also be informed by the information requirements outlined in the Instructions for the Application for SHPO Section 106 Consultation Form.

The Phase 1 report will be prepared to assist the Federal Agency in meeting their obligations under Section 106. Specifically, the report will provide information about identification efforts completed, the results of the identification efforts, and recommendations regarding the effect of the proposed project on Historic Properties. The report will minimally contain the following elements:

- Project location (township, range, and section or private claim numbers)
- Description of proposed ground disturbance
- Methods to be employed for the Phase 1 study
- Discussion on the presence or absence of undisturbed soils
- Outline of past and present land use
- Summary of previously reported sites and surveys
- Findings of the fieldwork
- A culture history to contextualize known sites within or near the APE
- An Archaeological Sensitivity Map

- Potential for the project to result in adverse effects pursuant to Section 106
- Recommendations for additional fieldwork, if necessary

GEI assumes that the Phase 1 study will result in negative findings. In the event that cultural resources are present in the APE based on the results of the records search or the Phase 1 survey, these resources will need to be recorded onto Michigan Terrestrial Archaeological Site Forms/Update Forms and the details incorporated into the report. Further, and to support the Section 106 review process, such resources will require evaluation for inclusion in the NRHP. The client will be contacted in the event of positive findings to discuss the next steps for the project and the implications for the project budget and timeline.

Upon client review of the technical report, GEI will update the document based on client requests or recommendations (where appropriate) to produce the final technical report for archaeological resources.

Deliverables

- GEI DraE/Final Technical Report with APE Map and Archaeological Sensitivity Map (Task 3).

Exceptions/Assumptions

- Agency coordination efforts, such as video conferences, telephone calls, and/or emails, are not included in this scope of work.
- The client will ensure approval of the right-of-entry (ROE) form received from FEMA for the Phase 1 survey.
- If marking for utilities is necessary prior to the completion of any STPs, GEI assumes that cultural resources staff will not need to be present on-site to observe the marking.
- The archaeological survey area will measure no more than approximately 12.2-acres.
- Pedestrian (surface) examination will be the appropriate identification method for approximately 6.1-acres in the APE.
- Subsurface testing will be necessary to complete the survey within about 6.1-acres of the APE. This includes up to 100 STPs plotted, but a total of 40 STPs excavated due to the presence of saturated soils, standing water, etc. that would negate up to 60 STPs.
- If more than 6.1-acres of the APE will require STPs to complete the Phase 1 survey, or more than 40 excavated STPs, the client will be contacted to discuss potential changes to the survey schedule and budget.
- The Phase 1 survey will take no more than two, 8-hour person-days for a team of two archaeologists.
- No archaeological resources or human remains will be encountered during the Phase 1 survey.
- Artifacts, if encountered, must be documented. Fees associated with artifact analysis are not included in this scope of work. Further, any curation or long-term preservation fees associated with detected artifacts are not included and would be addressed via a supplemental authorization, if needed.
- If the Phase 1 survey results in positive findings, GEI will stop work and discuss the results with the client to determine the next steps for the project. Any additional work to

address encountered finds would result in the need for a change order. Such efforts could include, but are not limited to, site recordation, additional subsurface testing, or excavation.

- No Phase 2 site evaluation, Phase 3 data recovery, or construction monitoring services are included in this scope of work. Such services, if needed, would be addressed via supplemental authorizations.
- No built environment resources are located in the APE and no architectural resources research, fieldwork, or reporting efforts will be required for the project.
- The identification efforts will result in a recommended finding of No Historic Properties Affected or No Adverse Effect on Historic Properties within the APE. If any NRHP-listed or NRHP-eligible resources are identified in the APE (i.e., Historic Properties pursuant to Section 106) and these resources cannot be avoided by the proposed project, GEI will contact the client to discuss the next steps for the project.
- The client will provide the most current site plans or conceptual drawings to include as an attachment to the technical report.
- The Federal Agency will conduct any required consultation with Native Americans or other interested parties pursuant to Section 106.
- The Federal Agency will prepare and submit the Section 106 Application Package directly to the Michigan SHPO and GEI will not assist with the preparation or submittal process.

Mainland Drain Fees

GEI Updated Cost Estimate

5/10/2024

Rate/Hour	grade 8 D. Jurich \$260.00	grade 6 J. Sanka \$180.00	grade 3 L. Brace \$120.00	grade 1 Technican \$100.00	Graphics E. White \$128.00	Total Hours	Total Dollars
Task 1. Delineation of the APE and Records Search						0	\$0.00
Task 2. Phase 1 Survey, inc. HASP (record up to 1 new archaeological site			28	24		52	\$5,760.00
Task 3. Artifact Processing and Analysis	1		24			25	\$3,140.00
Task 4. Phase I Archaeological Survey Report (1 draft and 1 final), inc. 1 new archaeological site form	1	2	16	8	4	31	\$3,852.00
Total Labor Hours	2	2	68	32	4	108	
Total Direct Labor Dollars	\$520.00	\$360.00	\$8,160.00	\$3,200.00	\$512.00		\$12,752.00
OTHER DIRECT COSTS							
Mileage/Vehicle Rental (\$500/week per staff member)							\$500
GPS Rental (\$50/day)							\$100
Postage and Handling (Return Artifacts to Landowner, if needed)							\$100
Total Other Direct Costs							\$600
TOTAL ESTIMATED PROJECT COST							\$13,352.00



8/20/2024
Project No. 2400417

VIA EMAIL: stoolmillers@oakgov.com

Sarah Stoolmiller
Oakland County Water Resources Commissioner
One Public Works Building #95W
Waterford Twp, MI 48328

**Re: Estimated Additional Costs for MDOT work inclusion
Mainland Drain Project
Pontiac, MI**

Dear Ms. Stoolmiller:

GEI Consultants of Michigan, P.C. (GEI) is pleased to provide this proposal and estimate for additional MDOT related work for the above-referenced project. This proposal summarizes our understanding of the potential additional work needed and itemized costs for replacing the storm sewer crossings underneath both Telegraph Rd. and underneath the loop ramp for County Center Dr. This includes additional work and costs for gas utility relocation work and coordination along Telegraph Rd.

Scope

The scope of work being added to the Mainland Drain Project involves replacement of an existing 18" storm sewer pipe underneath Telegraph Rd. and a 15" storm sewer underneath the ramp loop onto County Center Drive. The additional costs associated with the 15" storm sewer replacement underneath the ramp loop have been added to this proposal, per the email on 8/16/24 from James Davis, P.E. – Drainage Coordinator, MDOT. It is assumed that for purposes of this additional work that both crossings would be replaced with open cut construction methods and not done by trenchless means.

This Scope of Work includes:

MDOT Coordination & Permitting

Throughout the project, GEI will coordinate with James Davis, PE, MDOT Drainage Coordinator, and the local TSC to keep them informed of project status and to coordinate with design and construction items. The additional work for the culvert replacements has already started with MDOT, as well as coordination with Consumers Energy for over a month to relocate the 6" gas main along Telegraph Rd.

MDOT has indicated the following in emails regarding what additional work will be necessary, in order for MDOT to pay for the engineering, planning and construction costs for the two culvert crossing replacements.

- The culverts under MDOT's review will be the Mainland Drain under Telegraph Rd. and the culvert under the loop ramp.
- MDOT will review and recommend for both of the crossings:
 - Sizes
 - Invert elevations
 - Riprap configurations
- MDOT requests to see the entirety of the proposed improvements for the entire project area to utilize in sizing both the Telegraph Rd. and on-ramp loop storm sewer crossing replacements.
- Coordinate with Consumer Energy the lowering of a 6" gas utility main in the Telegraph Rd. right-of-way that is currently in conflict with the proposed storm sewer replacement.
- The horizontal and vertical separation between the 6" gas utility and the new storm sewer crossings.
- The culvert(s) size will need to be review and approved thru MDOT hydraulics.
- Construction practices and specifications for the additional work items will need to follow MDOT Standard Specifications Manual, updated 2020.
- Geotechnical evaluation of the existing soils, sub-base and pavement thicknesses for both road crossings.
- Develop detour and traffic control plans for various road closures of MDOT roads as part of the project.
- MDOT has indicated that all additional design, engineering, coordination and construction related costs for this additional work can be invoiced and paid for by MDOT through their drain assessment program.

Our coordination work with MDOT on these crossing replacements and utility relocation(s) will include:

- Submitting preliminary 30% plans for review;
- Submitting 60% plans for review;
- Communication with MDOT to address comments and questions;
- Submitting 90% plans for review;
- Submitting plans for final approval for permitting and bidding;
- Submitting and creating traffic control and detour plans;
- Submitting contractor shop drawings.

GEI will prepare and submit a permit application through CPS for final MDOT approval. Once the work is completed, GEI will prepare and submit final as-built records to MDOT.

Project Schedule

The work involved in this proposal has already started and we anticipate that in total, this additional work will extend the project bidding schedule approximately 4 to 6 weeks.

Costs

We propose to perform the above outlined scope of additional work on a time and materials basis, with a not-to-exceed cost of \$24,625. The amounts for each sub-task and overall additional work is summarized below:

MDOT - ADDITIONAL WORK	
TASK	COST
Soil Borings & Geotechnical work	\$4,575.00
Coordination for Consumers 6" gas utility relocation	\$6,500.00
Coordination with MDOT	\$7,160.00
Design, Specs & Const. Document Preparation	\$6,390.00
TOTAL: \$24,625.00	

Terms and Conditions

We will complete the proposed scope of work per the current terms and conditions for professional services contract with OCWRC.

Should you have any questions with regard to the scope of work, fee or work schedule as presented herein, please contact us. We thank you for the opportunity to submit this proposal and look forward to working with you on this project.

Sincerely,

GEI Consultants of Michigan, P.C.



Kyle R. Smith, P.E.
Project Engineer



Brian J. Cenci, P.E.
Senior Project Manager

3/13/2025 (updated 4/8/2025)

Project No. 2400417

VIA EMAIL: stoolmillers@oakgov.com

Sarah Stoolmiller
Oakland County Water Resources Commissioner
One Public Works Building #95W
Waterford Twp, MI 48328

**Re: Explanation of Additional Costs for Mainland Drain project
Pontiac, MI**

Dear Ms. Stoolmiller:

GEI Consultants of Michigan, P.C. (GEI) is pleased to provide this summary letter to review the current project budget and all work completed and compare it with the initial proposed budget and planned scope of work. This letter and associated attachments provide details regarding the reasons for the additional costs, provides an overview of costs that have been invoiced to the Drain and should be invoiced to MDOT and ultimately this letter acts as a request for a contract amendment with additional budget to complete the project through to construction. As outlined in prior correspondence, we recognize that we could not completely understand all of the specific tasks that would be needed when submitting our proposal, but it is our desire that this project be the beginning of a long-term working relationship with the Oakland County Water Resources Commissioner's (OCWRC) office. Because of this desire, through the end of January 2025, we have 'written-off' time or put down work on this project as 'training' for now approximately \$37,100 in fees that were never invoiced and won't be invoiced on this project. We don't go through and identify every time an additional item of work comes up that may be beyond our additional scope, which is the major reason as to why some of this additional work was not discussed with you earlier. In working with many drain offices, as the need for additional work because of changes comes up, we anticipate that the client is aware as well. However, going forward, we will communicate monthly with you regarding project costs and how the remaining budget compares with the work completed. This way, any additional work can be identified and addressed earlier with your knowledge and understanding. We have also spoken with MDOT's Drainage Division regarding the MDOT costs and reimbursement of the MDOT associated work and they have indicated that the OCWRC's office can invoice them for progress payment of these design and planning costs that the OCWRC's office has incurred and paid to date.

Below is a summary of the initial contract costs and any subsequent approved change orders.

Initial Contract Amounts (Task #1):

- Task #1.1: Preliminary Engineering = \$61,503

- Task #1.2: Final Design = \$67,788
 - Task #1.3: Bidding = \$8,560
 - Task #1.4: Construction Phase Services (est.) = \$43,448
- TOTAL INITIAL CONTRACT AMOUNT = \$181,299***

Approved Contract Amendments, Additional Work:

- Task #1.5: Soil Exploration = \$18,300
- Task #1.6: Additional Archeological Work after Positive Findings = \$13,352
- Separately Billed, Task #2.1: Additional MDOT work (est.) = \$24,625 ← This was viewed as simply a placeholder estimate for getting the MDOT work for replacement of the Telegraph Rd. and on-ramp crossings started and integrated as part of the Mainland Drain project.

TOTAL, MAINLAND DRAIN – CURRENT CONTRACT AMOUNT = \$212,951

TOTAL, MAINLAND DRAIN – CURRENT CONTRACT AMOUNT (EXCL. CONST.) = \$169,503

TOTAL, MDOT – CURRENT CONTRACT ESTIMATE = \$24,625

Additional Work Scope Items

We have summarized below the items of additional work that exceeded our initial budget listed in the proposal and also provided such information in Exhibits 'A' & 'B' so the timing of these cost impacts to the budget could be reviewed. We have listed with each item of additional work and what approximate cost from both prior invoiced work or future anticipated work is associated with the additional work scope items. We also identified some additional MDOT and other utility relocation costs associated with the two MDOT culvert replacements and have itemized those costs separately, so that some of those prior invoiced costs to the overall Mainland Drain project can be deferred to the MDOT specific work. In the attached Exhibit 'B' it provides the amounts each month for either invoiced or unbilled costs that were paid or charged to the Mainland Drain and they should be paid by MDOT. The amounts of those cost adjustments are listed for the appropriate work item.

1. MDOT – Telegraph & On-Ramp Crossing Replacement & Utility Relocation work

Additional Design & Modeling work related to MDOT's Telegraph Road crossing replacement and the Telegraph Road on-ramp crossing. This includes significant impacts to modeling & design work for the EGLE Permit Application that was previously not included. Overall work needed in design to include a significantly larger sized culvert under Telegraph Rd., while still meeting the FEMA Grant requirements. Additional work for construction plans & specification work for inclusion of MDOT work and to conform to MDOT plan requirements for crossings. This additional work also includes \$12,285.00 in unbilled costs for additional geotechnical work to meet MDOT plan and design requirements for crossing replacement inclusion.

Additional design and modeling work involved with Telegraph Road (MDOT) crossing and upstream on-ramp connector road, including other utility relocation coordination work necessary because of these crossing changes. Initially, in the MDOT cost summary letter dated August 20th, 2024, we estimated that the inclusion of the replacement culvert under Telegraph Rd. for MDOT would add an estimated \$24,625 of additional costs to the project. However, this significantly underestimated the cost for inclusion of that work because of the desired new box culvert size that MDOT ultimately

wants to have installed under Telegraph Rd. This larger sized culvert caused significant design and modeling issues once the EGLE correction requests were issued. Previously, we were unaware that so much of the additional modeling and design work was an issue with having more flow through the system at higher rates without flooding out adjacent property. The larger sized culvert and gas utility impacts caused a significant change in the system design and modeling work that had already been selected at that time, as was outlined in the Basis of Design report that was provided to OCWRC in August 2024. We have gone through all invoices and have identify all both prior invoiced costs and unbilled costs that were assigned to the Mainland Drain and should have been charged to MDOT. The amounts for each prior invoice and month of these cost adjustments have been identified in both Exhibits 'A' & 'B'. This additional work for these MDOT related costs also includes additional work associated with relocating the Consumers Energy gas line on Telegraph Rd.

Month-by-month Additional Cost Review

(costs include all unbilled and all cost adjustments either billed or unbilled)

March 24':	\$0.00
April 24':	\$0.00
May 24':	\$3,840.00
June 24':	\$5,760.00
July 24':	\$13,675.00
Aug. 24':	\$13,882.50
Sept. 24':	\$8,196.25
Oct. 24':	\$9,066.50
Nov. 24':	\$9,688.50
Dec. 24':	\$15,498.50
Jan. 25':	\$40,125.50
TOTAL:	\$119,732.75

Current Contract Estimate = \$24,625.00

Total Invoiced to Date = \$57,316.25

INVOICED: Budget Corrections/Adjustments for Design, Modeling changes (to date) = \$37,157.50

UNBILLED: Budget Corrections/Adjustments for Design, Modeling changes (to date) = \$12,974.00

UNBILLED: Design, Modeling changes (to date) = \$12,285.00

Current Amount over Initial MDOT Estimate = \$95,107.75

Estimate of Additional MDOT costs for design, modeling changes (to completion) = \$35,000.00

(does not include Const. Phase Services)

TOTAL CONTRACT AMENDMENT AMOUNT FOR MDOT WORK = \$130,107.75

NOTE: All costs shown for the Mainland Drain additional cost summary items are based on the current contract budget, including the two additional tasks #1.5 & #1.6, of \$169,503.00. The identified additional costs over that current contract budget was identified as \$70,279.84, which is the amount over the current contract budget excluding construction phase services. Including the construction phase services task #1.4 (totaling \$43,448), the total over the current contract amount is \$26,831.84.

2. Mainland Drain – Additional Design & Modeling work, Basis of Design Report

There has been a number of design changes that has caused a number of modeling and design change iterations in order to meet project goals in this retrofit design site (storage volumes, freeboards). This additional modeling work also carried through to the Basis of Design Report and in the 30%, 60% & 90% Plan sets. In the initial proposal, approximately \$12,500 was the anticipated to cost for creating the Basis of Design Report and \$43,000 total was the budgeted amount for both modeling and design work throughout the life of the project. That budgeted cost was exceeded after July 2024 as the Basis of Design report was nearing completion and because the EGLE permit was submitted. In that EGLE permit modeling work, significant modeling was done in order to provide a design that met the parameters of the OCWRC and also get an EGLE permit approved. The modeling work associated with MDOT upsizing the box culvert and EGLE's requests caused additional changes to the design, plans and Basis of Design report; since all these items worked in conjunction with each other for impacting and modifying the design of the overall system.

Design & modeling changes associated with each of the following items:

- Design involved with upsizing of culvert above steam tunnels
- Level of coordination and changes to the site for to meet FM&O preferences & changes
- Project redesign to account for archaeological positive findings
- Design & plan changes for Easter Seals storm inflow and lease boundary encroachment
- Design & plan changes due to tree removal limitations by FM&O
- Design involved with Road Commission work & Area 'D' modifications

Cost Summary for Additional Design & Modeling work, Basis of Design Report

Feb. 24':	\$0.00
March 24':	\$0.00
April 24':	\$0.00
May 24':	\$0.00
June 24':	\$0.00
July 24':	\$11,750.00
Aug. 24':	\$6,750.00
Sept. 24':	\$0.00
Oct. 24':	\$0.00
Nov. 24':	\$0.00
Dec. 24':	\$0.00
Jan. 25':	\$0.00
TOTAL:	\$18,500.00

Additional Costs for Design & Modeling work, Basis of Design Report (to date) = \$18,500

3. Mainland Drain – Additional markups and level of effort required for OCWRC markups, plan edits after 60% design plan set meeting & anticipated for 90% & Final Plans.

Additional time was needed for completing the 60% design plan set markup review. We have included this item as an explanation as to why the planned budget costs are different than current. Most of this issue can be attributed to this being the first project we've worked with the OCWRC office and in the future we will better understand what the OCWRC expects as a work product as the client and the level of effort for plan preparation and edits will be more accurately accounted for in the future.

Cost Summary for Additional Markups & Plan Edits

Feb. 24':	\$0.00
March 24':	\$0.00
April 24':	\$0.00
May 24':	\$0.00
June 24':	\$0.00
July 24':	\$1,180.00
Aug. 24':	\$3,440.00
Sept. 24':	\$0.00
Oct. 24':	\$0.00
Nov. 24':	\$0.00
Dec. 24':	\$2,980.00
Jan. 25':	\$0.00
TOTAL:	\$7,600.00

Additional Drain Costs for Markups & Plan Edits (to date) = \$7,600

4. Mainland Drain – EGLE Permit Application work: 3 Correction Requests total. Significant Correction Request received in October 2024 required extensive additional modeling work and design iterations to try and meet the desires of EGLE to address their concerns.

As part of the EGLE permit application submitted, there have been 3 correction requests received to-date. In the proposal, we anticipated getting a correction request for items, but the project was issued for public notice in August of this year and a significant correction request was recently received in September 24'. The items identified in the correction request speak to some significant design issues that may impact the current 90% design plans. The meeting held with EGLE staff and your office on November 13th, 2024 was helpful to understand some of the issues, but it appears as though even more modeling work and design modifications will be needed. Again, it was anticipated to be getting comments and items to provide more information on as part of a correction request for the permit application, but now once public notice was issued, EGLE shouldn't be asking for significant modifications or for the applicant to provide a bunch of new information. We completed significant additional modeling work in completing the requirements of the most recent correction request. This significant additional work can be viewed in looking at the total unbilled Mainland Drain costs for September, October, November & December, which totaled approximately \$55,600 for those 4 months. Of that total in those 4 months, we identified approximately \$34,200 of additional costs solely associated with modeling and design work associated with the EGLE Permit and modifications that they asked to provide in our plans.

Cost Summary for Additional EGLE Permitting work

Feb. 24':	\$0.00
March 24':	\$0.00
April 24':	\$0.00
May 24':	\$0.00
June 24':	\$0.00
July 24':	\$0.00
Aug. 24':	\$1,640.00
Sept. 24':	\$11,860.00
Oct. 24':	\$5,330.00
Nov. 24':	\$10,840.00
Dec. 24':	\$4,530.00
Jan. 25':	\$0.00
TOTAL:	\$34,200.00

Additional Drain Costs for EGLE Permitting work (to date) = \$34,200

5. Mainland Drain – Easement Exhibits

Initially, only 9 hours of total of time was anticipated for developing an easement exhibit for additional construction area for performing the work. The assumption was that there were already existing easements over the Mainland Drain and new easement exhibits wouldn't be needed, other than for developing easements for additional construction access and staging. The easement exhibits being done are for the entire site over all portions of the Drain and wetland zone areas. We've had considerable issues rectifying the GIS mapping base with the actual parcel descriptions for these properties and some additional surveying was done to try and locate any parcel corners or fence lines to match with the GIS mapping coordinate system for Oakland County.

Cost Summary for Additional Easement Exhibit work

Feb. 24':	\$0.00
March 24':	\$0.00
April 24':	\$0.00
May 24':	\$0.00
June 24':	\$0.00
July 24':	\$0.00
Aug. 24':	\$0.00
Sept. 24':	\$0.00
Oct. 24':	\$0.00
Nov. 24':	\$440.00
Dec. 24':	\$1,050.00
Jan. 25':	\$1,810.00
TOTAL:	\$3,300.00

Additional Drain Costs for Easement Exhibits (to date) = \$3,300

6. Mainland Drain – Developed additional spoils grading plan for on-site disposal of excavated material

As part of the overall planning for construction, two sites were identified. GEI performed a topographic survey of these areas and have developed a spoil and construction staging plan for depositing construction spoils in these locations. The work included additional surveying, on-site meetings to review the sites and putting together a grading plan for the construction documents.

Cost Summary for Additional Spoils Grading Plan & On-Site Disposal

Feb. 24':	\$0.00
March 24':	\$0.00
April 24':	\$0.00
May 24':	\$0.00
June 24':	\$0.00
July 24':	\$0.00
Aug. 24':	\$1,989.84
Sept. 24':	\$1,100.00
Oct. 24':	\$1,950.00
Nov. 24':	\$1,640.00
Dec. 24':	\$0.00
Jan. 25':	\$0.00
TOTAL:	\$6,679.84

Additional Drain Costs for Spoils Grading Plan & On-Site Disposal (to date) = \$6,679.84

TOTAL ADDITIONAL MAINLAND DRAIN COSTS OVER CURRENT CONTRACT AMOUNT (INCL. CONST.) = \$26,831.34

CURRENT CONTRACT AMOUNT (EXCL. CONST.) = \$169,503.00

CURRENT CONTRACT AMOUNT (INCL. CONST.) = \$212,951.00

TOTAL ADDITIONAL MAINLAND DRAIN COSTS OVER CURRENT CONTRACT AMOUNT (EXCL. CONST.) = \$70,279.84

ESTIMATED MAINLAND DRAIN AMOUNT TO BIDDING = \$7,670.50

TOTAL CONTRACT AMENDMENT AMOUNT FOR MAINLAND DRAIN WORK = \$77,950.34

(Construction Costs in separate proposal)

Should you have any questions with regard to any of the items please let us know, as we wish to meet and talk through any cost issues that may exist going forward.

Sincerely,

GEI Consultants of Michigan, P.C.



Kyle R. Smith, P.E.
Project Engineer



Brian J. Cenci, P.E.
Senior Project Manager

Attachments (3):

- * Exhibit 'A' – Overall Budget Analysis
- * Exhibit 'B' – Monthly Budget Analysis
- * Exhibit 'C' – Monthly Additional Cost Analysis, By Item

MAINLAND DRAIN - OVERALL BUDGET ANALYSIS - EXHIBIT 'A'

Date: Updated through January 31, 2025

	Current Contract Amount	Total Invoiced to Date	Total Unbilled to Date (no cost adj.)	Cost Modifications	Adjusted Total Costs to Date - Billed & Unbilled (if cost adj. made)	Current Amount over/under (-) Budget/Estimate (if cost adj. made)	Estimated Amount to Completion (remaining Drain bidding & MDOT bidding)	Contract Ammendment Amount
MAINLAND DRAIN (ex. Const.):	\$169,503.00	\$212,950.57	\$76,963.77	-\$50,131.50	\$239,782.84	\$70,279.84	\$7,670.50	\$77,950.34
MDOT:	\$24,625.00	\$57,316.25	\$12,285.00	\$50,131.50	\$119,732.75	\$95,107.75	\$35,000.00	\$130,107.75
MAINLAND (w/ Const):	\$212,951.00					\$26,831.84	\$7,670.50	\$34,502.34

Invoice No.	Invoice Date	Total Invoiced Amount (Drain & MDOT)	Mainland Drain Amount on Invoice	MDOT Amount on Invoice	Unbilled - Mainland Drain	Unbilled - MDOT	MDOT related Cost Adjustments: Either invoiced to Drain or Unbilled & not included in previous MDOT Amount	Adjusted Mainland Drain Current Amount = (Invoiced + Unbilled) - MDOT cost adjustments	Adjusted MDOT Current Amount = (Invoiced + Unbilled) + MDOT cost adjustments
5021195	3/20/2024 (Feb 24')	\$24,262.35	\$24,262.35	\$0.00	\$0.00	\$0.00	\$0.00	\$24,262.35	\$0.00
5021434	4/24/2024 (March 24')	\$37,858.22	\$37,858.22	\$0.00	\$0.00	\$0.00	\$0.00	\$37,858.22	\$0.00
025021732	5/29/2024 (April 24')	\$14,882.50	\$14,882.50	\$0.00	\$0.00	\$0.00	\$0.00	\$14,882.50	\$0.00
025022000	7/24/2024 (May 24')	\$37,424.63	\$37,424.63	\$0.00	\$0.00	\$0.00	\$3,840.00	\$33,584.63	\$3,840.00
025022326	7/24/2024 (June 24')	\$22,796.25	\$22,796.25	\$0.00	\$0.00	\$0.00	\$5,760.00	\$17,036.25	\$5,760.00
025022679	8/22/2024 (July 24')	\$40,619.12	\$40,619.12	\$0.00	\$0.00	\$0.00	\$13,675.00	\$26,944.12	\$13,675.00
025023094	9/25/2024 (Aug 24')	\$35,107.50	\$35,107.50	\$0.00	\$0.00	\$0.00	\$13,882.50	\$21,225.00	\$13,882.50
025023412	10/22/2024 (Sept 24')	\$6,526.25	\$0.00	\$6,526.25	\$17,101.75	\$0.00	\$1,670.00	\$15,431.75	\$8,196.25
025023718	11/25/2024 (Oct 24')	\$6,746.50	\$0.00	\$6,746.50	\$13,792.50	\$0.00	\$2,320.00	\$11,472.50	\$9,066.50
025024038	12/21/2024 (Nov 24')	\$3,434.50	\$0.00	\$3,434.50	\$23,572.53	\$0.00	\$6,254.00	\$17,318.53	\$9,688.50
025024333	1/27/2025 (Dec 24')	\$15,498.50	\$0.00	\$15,498.50	\$11,453.24	\$0.00	\$0.00	\$11,453.24	\$15,498.50
025024576	2/24/2025 (Jan 25')	\$25,110.50	\$0.00	\$25,110.50	\$11,043.75	\$12,285.00	\$2,730.00	\$8,313.75	\$40,125.50
		\$270,266.82	\$212,950.57	\$57,316.25	\$76,963.77	\$12,285.00	\$50,131.50	\$239,782.84	\$119,732.75
								\$175,793.07	
								\$63,989.77	

Drain Total, Invoiced to Date +/- MDOT cost adjustments:

Drain Total, Unbilled to Date w/ MDOT cost adjustments:

MAINLAND DRAIN - MONTHLY ADDITIONAL COST ANALYSIS, BY ITEM - EXHIBIT 'C'

Date: Updated through January 31, 2025

Additional Cost Item	Monthly Cost of Additional Work Item - Includes All Cost Adjustments, Invoiced & Unbilled Work { Only additional costs shown over the Current Contract Amount w/o Construction Costs (total of \$70,279.84) }												Total
	Feb. 24'	March 24'	April 24'	May 24'	June 24'	July 24'	Aug. 24'	Sept. 24'	Oct. 24'	Nov. 24'	Dec. 24'	Jan. 25'	
#1 - MDOT: Telegraph & On-Ramp Crossing Replacement & Utility Relocation work	\$0.00	\$0.00	\$0.00	\$3,840.00	\$5,760.00	\$13,675.00	\$13,882.50	\$8,196.25	\$9,066.50	\$9,688.50	\$15,498.50	\$40,125.00	\$119,732.25
#1 - MDOT: Cost Adjustments	\$0.00	\$0.00	\$0.00	\$3,840.00	\$5,760.00	\$13,675.00	\$13,882.50	\$1,670.00	\$2,320.00	\$6,254.00	\$0.00	\$2,730.00	\$50,131.50
#2 - Mainland Drain: Additional Design & Modeling work, Basis of Design Report	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$11,750.00	\$6,750.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$18,500.00
#3 - Mainland Drain: Additional markups and Plan Edits for various work % milestones	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,180.00	\$3,440.00	\$0.00	\$0.00	\$0.00	\$2,980.00	\$0.00	\$7,600.00
#4 - Mainland Drain: Additional EGLE Permit Application work	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6,640.00	\$8,860.00	\$3,330.00	\$10,840.00	\$4,530.00	\$0.00	\$34,200.00
#5 - Mainland Drain: Easement Exhibits	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$440.00	\$1,050.00	\$1,810.00	\$3,300.00
#6 - Mainland Drain: Spoils Grading Plan work for on-site disposal of excavated material	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,989.84	\$1,100.00	\$1,950.00	\$1,640.00	\$0.00	\$0.00	\$6,679.84
TOTAL ADDITIONAL MAINLAND DRAIN WORK - BY MONTH:	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12,930.00	\$18,819.84	\$9,960.00	\$5,280.00	\$12,920.00	\$8,560.00	\$1,810.00	\$70,279.84
TOTAL MAINLAND DRAIN COSTS - BY MONTH: (All work w/ cost adjustments)	\$24,262.35	\$37,858.22	\$14,882.50	\$33,584.63	\$17,036.25	\$26,944.12	\$21,225.00	\$15,431.75	\$11,472.50	\$17,318.53	\$11,453.24	\$8,313.75	\$239,782.84

13. Pontiac Clinton River #1 Drain

AGENDA

DRAINAGE BOARD FOR THE PONTIAC CLINTON RIVER NO. 1 DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present Construction Estimate No. 3 for Pamar Enterprises for Construction of the PCR No. 1 Drain Drainage District Improvements in the amount of \$178,753 with a transfer to the Oakland County Treasurer in the amount of \$19,861.44
5. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$29,865.59
6. Other business
7. Approve pro rata payment to Drainage Board members
8. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE PONTIAC CLINTON RIVER NO. 1 DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Pontiac Clinton River No. 1 Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

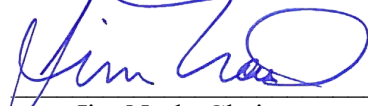
Construction Estimate No. 2 for Pamar Enterprises for Construction of the PCR No. 1 Drain Drainage District Improvements in the amount of \$10,689.75 with a transfer to the Oakland County Treasurer in the amount of \$1,187.75 was presented. It was moved by Markham, supported by Woodward, to approve Construction Estimate No. 2 for Pamar Enterprises for Construction of the PCR No. 1 Drain Drainage District Improvements in the amount of \$10,689.75 with a transfer to the Oakland County Treasurer in the amount of \$1,187.75 as presented.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

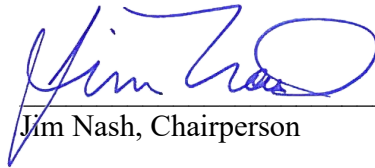


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Pontiac Clinton River No. 1 Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Pontiac Clinton River No. 1 Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

Jim Nash, Oakland County Water Resources Commissioner
Pontiac-Clinton River No. 1 Drain Drainage District
For Construction of the Pontiac-Clinton River (PCR) No. 1 Drain Drainage District Improvements
Pontiac, MI
Oakland County, Michigan

Construction Estimate No. 3

March 01, 2025 to March 31, 2025

Department No.: CCN6010101

Fund No.: FND84447

Project No.: PRJ-17559

Account No.: SC730373

Program No.: PRG149015

Activity: FAC

Vendor No.: 4186

Contract No.: CON00011347

Date of Contract: 11/27/2024

Completion Date: 3/10/2025

PO Number: PO00077682

Contractor: Pamar Enterprises, Inc.
(Name & Address) 58021 Gratiot Avenue
New Haven, MI 48048

Original Contract Amount: \$611,258.52

Previous Change Order Numbers (none): \$0.00

Change Orders This Estimate Numbers (none): \$0.00

Total Net Change Orders: \$0.00

Adjusted Contract Amount: \$611,258.52

Subtotal To Date: (Sheet 2 of 2 Column 7) \$276,809.34

Less Deductions to Date: (Sheet 2 of 2 Column 7) \$0.00

Gross Estimate: (Work in Place) 45.29% \$276,809.34

Less Amount Reserved: (10% of Gross Estimate) \$27,680.93

Total Amount Allowed To Date: \$249,128.41

Less Previous Estimates: \$70,375.41

Net Payment Request To Be Paid To Contractor: \$178,753.00

Reserve Payment to Contractor \$0.00


Balance of Contract To Date \$334,449.18 Accounting Auditor:

Less Previous Transfers To Reserve: \$7,819.49

Amount of Current Transfer: \$19,861.44

Prepared by: _____
Geoff Wilson, P.E. - Chief Engineer (WRC)

Date: _____

Recommended by: 
Fatemeh Babakhani, P.E. - Consulting Engineer (HRC)

Date: 04/09/2025

Approved by: _____
Gary Nigro, P.E. - Manager (WRC)

Date: _____

Approved by Board on: _____

JIM NASH
OAKLAND COUNTY WATER RESOURCES COMMISSIONER

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the PONTIAC CLINTON RIVER # 1 DRAIN (Construction)

FROM: Shawn Phleps, Chief of Fiscal Services *HP for Shawn P*
OCWRC Accounting

DATE: April 22, 2025

SUBJECT: Request for Board approval of payment of the following invoices:

Payable to	Ref No.	For	Amount
Hubbell, Roth & Clark, Inc	V # SINV00330964	Invoice # 0223508 - Engineering Services - 12/07/24 - Proj 1-7559	\$ 2,270.60
Hubbell, Roth & Clark, Inc	V # SINV00330967	Invoice # 0223509 - Engineering Services - 12/07/24 - Proj 1-7559	4,954.94
Hubbell, Roth & Clark, Inc	V # SINV00330970	Invoice # 0224183 - Engineering Services - 01/04/25 - Proj 1-7559	1,734.74
Hubbell, Roth & Clark, Inc	V # SINV00330978	Invoice # 0224657 - Engineering Services - 02/01/25 - Proj 1-7559	13,926.08
Hubbell, Roth & Clark, Inc	V # SINV00330982	Invoice # 0225612 - Engineering Services - 03/01/25 - Proj 1-7559	6,979.23
Total Project 1-7559			29,865.59
Total Project 1-7559			\$ 29,865.59

14. Dorothy Webb Drain

AGENDA

DRAINAGE BOARD FOR THE DOROTHY WEBB DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of August 27, 2019
3. Public Comments
4. Present Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$10,454
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE DOROTHY WEBB DRAIN**

August 27, 2019

A meeting of the Drainage Board for the Dorothy Webb Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 27th day of August, 2019.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Helaine Zack, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: David Woodward, Chairperson of the Oakland County Board of Commissioners

Minutes of the meeting held February 19, 2013 were presented for consideration. It was moved by Zack, supported by Nash, that the minutes be approved.

ADOPTED: Yeas - 2
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

A Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$23,690 for the Dorothy Webb Drain (as attached) were presented. It was moved by Zack, supported by Nash, to adopt the Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$23,690 as presented.

ADOPTED: Yeas - 2
Nays - 0

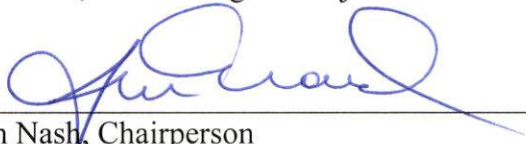
A request for reimbursement of the Drain Revolving Fund in the amount of \$536.73 (as attached) was presented. It was moved by Zack, supported by Nash, to reimburse the Drain Revolving Fund in the amount of \$536.73 as presented.

ADOPTED: Yeas - 2
Nays - 0

It was moved by Nash, supported by Zack, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Zack.

ADOPTED: Yeas - 2
Nays - 0

There being no further business, the meeting was adjourned.




Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board of the Dorothy Webb Drain, Oakland County, Michigan, held on the 27th day of August, 2019, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board of the Dorothy Webb Drain Drainage District.



Jim Nash, Chairperson

Dated: September 4th, 2019

OAKLAND COUNTY WATER RESOURCES COMMISSIONER
MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE
Dorothy Webb Drain

Assessment for current fund deficit and estimated maintenance expenses for fiscal years: 2025 through 2027

Date last assessment approved:	08/27/19	
Last Assessment:		\$23,690
Current Available Cash:		(\$554)

Expenditure History:	Fiscal Year	Amount
	2018	\$2,240
	2019	\$2,839
	2020	\$1,618
	2021	\$1,261
	2022	\$2,558
	2023	\$2,902
	2024	\$4,294

Estimated Expenditures:	Year	Amount
	2025	\$3,300
	2026	\$3,300
	2027	\$3,300
	Total	\$9,900

Recommended Assessment:

Current Cash Deficit	\$554
Total Anticipated Expenses 2025 - 2027	\$9,900

TOTAL RECOMMENDED ASSESSMENT	\$10,454
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Prepared by: Andrea Craft Date: 4/10/2025
Andrea Craft - Supervisor WRC Financial Services

Approved by: _____ Date: _____
Geoff Wilson, P.E. - Chief Engineer

Approved by: _____ Date: _____
Gary Nigro, P.E. - Manager

Note: Current Available Cash as of February 28, 2025, Fiscal Services Division Report.

**SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE
OF THE DOROTHY WEBB DRAIN**

Public Corporation	*Percentage of Apportionment	Total Amount of Assessment	Payment #1	Payment #2	Payment #3
Charter Township of West Bloomfield	79.5400%	\$ 8,315.11	\$ 8,315.11	-	-
Road Commission for County of Oakland on account of drainage to county highways	20.4600%	\$ 2,138.89	\$ 2,138.89	-	-
<hr/>					
Total	100.000%	\$ 10,454.00	\$ 10,454.00	\$ -	\$ -

*Apportionment based on Final Order of Apportionment dated 4/25/1995.

Assessment Payment Due Date(s): Payment #1 05/31/2025

I hereby certify that I have prepared the Special Assessment Roll for the Maintenance of the Dorothy Webb Drain for the fiscal years 2025- 2027 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the Dorothy Webb Drain

The foregoing Special Assessment Roll for the maintenance of the Dorothy Webb Drain was approved by the Drainage Board on _____ .

Jim Nash
Chairman of the Drainage Board for the Dorothy Webb Drain

15. Doyon Drain

AGENDA

DRAINAGE BOARD FOR THE DOYON DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of August 27, 2019
3. Public Comments
4. Present Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$17,804
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE DOYON DRAIN**

August 27, 2019

A meeting of the Drainage Board for the Doyon Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 27th day of August, 2019.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Helaine Zack, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: David Woodward, Chairperson of the Oakland County Board of Commissioners

Minutes of the meeting held November 28, 2017 were presented for consideration. It was moved by Zack, supported by Nash, that the minutes be approved.

ADOPTED: Yeas - 2
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.


A Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$15,549 for the Doyon Drain (as attached) were presented. It was moved by Zack, supported by Nash, to adopt the Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$15,549 as presented.

ADOPTED: Yeas - 2
Nays - 0

It was moved by Nash, supported by Zack, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Zack.

ADOPTED: Yeas - 2
Nays - 0

There being no further business, the meeting was adjourned.

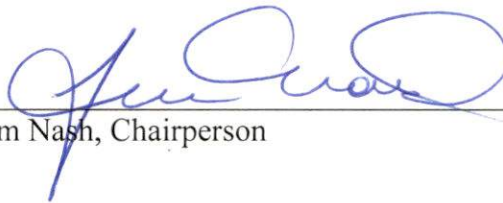


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board of the Doyon Drain, Oakland County, Michigan, held on the 27th day of August, 2019, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board of the Doyon Drain Drainage District.



Jim Nash, Chairperson

Dated: September 4th, 2019

OAKLAND COUNTY WATER RESOURCES COMMISSIONER
MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE
Doyon Drain

Assessment for current fund deficit and estimated maintenance expenses for fiscal years: 2025 through 2027

Date last assessment approved:	08/27/19	
Last Assessment:		\$15,549
Current Available Cash:		(\$6,704)

Expenditure History:	Fiscal Year	Amount
	2018	\$4,169
	2019	\$4,243
	2020	\$2,864
	2021	\$2,548
	2022	\$1,832
	2023	\$5,146
	2024	\$2,848

Estimated Expenditures:	Year	Amount
	2025	\$3,700
	2026	\$3,700
	2027	\$3,700
	Total	\$11,100

Recommended Assessment:

Current Cash Deficit	\$6,704
Total Anticipated Expenses 2025 - 2027	\$11,100

TOTAL RECOMMENDED ASSESSMENT	\$17,804
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Prepared by: Andrea Craft Date: 4/10/2025
Andrea Craft - Supervisor WRC Financial Services

Approved by: _____ Date: _____
Geoff Wilson, P.E. - Chief Engineer

Approved by: _____ Date: _____
Gary Nigro, P.E. - Manager

Note: Current Available Cash as of February 28, 2025, Fiscal Services Division Report.

**SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE
OF THE DOYON DRAIN**

Public Corporation	*Percentage of Apportionment	Total Amount of Assessment	Payment #1	Payment #2	Payment #3
Charter Township of West Bloomfield	100.000%	\$ 17,804.00	\$ 17,804.00	-	-
Total	100.000%	\$ 17,804.00	\$ 17,804.00	\$ -	\$ -

*Apportionment based on Final Order of Apportionment dated 1/20/1982.

Assessment Payment Due Date(s): Payment #1 05/31/2025

I hereby certify that I have prepared the Special Assessment Roll for the Maintenance of the Doyon Drain for the fiscal years 2025- 2027 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the Doyon Drain

The foregoing Special Assessment Roll for the maintenance of the Doyon Drain was approved by the Drainage Board on _____ .

Jim Nash
Chairman of the Drainage Board for the Doyon Drain

16. Jacobs Drain

AGENDA

DRAINAGE BOARD FOR THE JACOBS DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of December 17, 2024
3. Public Comments
4. Present Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$19,226
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE JACOBS DRAIN**

December 17, 2024

A meeting of the Drainage Board for the Jacobs Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 17th day of December 2024.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held August 27, 2019, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

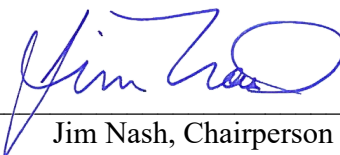
A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$775.00 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$775.00.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

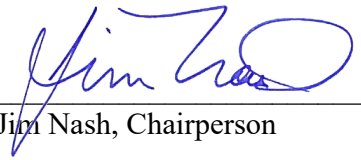


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Jacobs Drain, Oakland County, Michigan, held on the 17th day of December 2024, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Jacobs Drain Drainage District.



Jim Nash, Chairperson

Dated: December 17, 2024

OAKLAND COUNTY WATER RESOURCES COMMISSIONER
MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE
Jacobs Drain

Assessment for current fund deficit and estimated maintenance expenses for fiscal years: 2025 through 2027

Date last assessment approved:	08/27/19	
Last Assessment:		\$25,584
Current Available Cash:		(\$4,826)

Expenditure History:	Fiscal Year	Amount
	2018	\$6,806
	2019	\$3,955
	2020	\$3,726
	2021	\$2,190
	2022	\$5,353
	2023	\$3,520
	2024	\$4,472

Estimated Expenditures:	Year	Amount
	2025	\$4,800
	2026	\$4,800
	2027	\$4,800
	Total	\$14,400

Recommended Assessment:

Current Cash Deficit	\$4,826
Total Anticipated Expenses 2025 - 2027	\$14,400

TOTAL RECOMMENDED ASSESSMENT	\$19,226
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Prepared by: Andrea Craft Date: 4/10/2025
Andrea Craft - Supervisor WRC Financial Services

Approved by: _____ Date: _____
Geoff Wilson, P.E. - Chief Engineer

Approved by: _____ Date: _____
Gary Nigro, P.E. - Manager

Note: Current Available Cash as of February 28, 2025, Fiscal Services Division Report.

SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE OF THE JACOBS DRAIN

Public Corporation	*Percentage of Apportionment	Total Amount of Assessment	Payment #1	Payment #2	Payment #3
Charter Township of West Bloomfield	81.860%	\$ 15,738.40	\$ 15,738.40	-	-
Road Commission for County of Oakland on account of drainage to county highways	18.140%	\$ 3,487.60	\$ 3,487.60	-	-
<hr/>					
Total	100.000%	\$ 19,226.00	\$ 19,226.00	\$ -	\$ -

*Apportionment based on Final Order of Apportionment dated 6/21/2005.

Assessment Payment Due Date(s): Payment #1 05/31/2025

I hereby certify that I have prepared the Special Assessment Roll for the Maintenance of the Jacobs Drain for the fiscal years 2025- 2027 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the Jacobs Drain

The foregoing Special Assessment Roll for the maintenance of the Jacobs Drain was approved by the Drainage Board on _____ .

Jim Nash
Chairman of the Drainage Board for the Jacobs Drain

17. McIntosh Drain

AGENDA

DRAINAGE BOARD FOR THE MCINTOSH DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of May 23, 2006
3. Public Comments
4. Present Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$8,166
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE McINTOSH DRAIN**

MAY 23, 2006

A meeting of the Drainage Board for the McIntosh Drain was held in the office of the Oakland County Drain Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan on the 23rd day of May, 2006.

The meeting was called to order by the Chairperson.

PRESENT: John P. McCulloch, Chairperson and
Oakland County Drain Commissioner

Bill Bullard, Jr., Chairperson of the
Oakland County Board of Commissioners

Chuck Moss, Chairperson of the Finance Committee
Oakland County Board of Commissioners

ALSO

PRESENT: Joseph P. Kozma,
Deputy and Manager,
Engineering & Construction

Philip Sanzica,
Chief Engineer

Michael McMahon,
Engineer

Elaine Van Dyke
Secretary

Lynn Sonkiss,
Chief of Fiscal Services

Shawn Phelps,
Fiscal Services Division

Gary Nigro,
Civil Engineer

Terry Dohany,
Secretary

Dan Mitchell,
Hubbell Roth & Clark, Inc.

Minutes of the meeting held November 9, 1993 were presented for consideration. It was moved by Moss, supported by Bullard, that the minutes be approved as presented.

ADOPTED: Yeas - 3
Nays - 0

Mr. McCulloch asked if there were any comments from those in attendance. There were none.

Request for Reimbursement of Drain Revolving Fund in the amount of \$570.56 was presented for approval. It was moved by Moss, supported by Bullard, to approve the Request for Reimbursement of Drain Revolving Fund in the amount of \$570.56.

ADOPTED: Yeas - 3
Nays - 0

It was moved by McCulloch, supported by Moss to certify attendance and authorize pro-rata payment of \$25.00 per day to both Mr. Moss and Mr. Bullard.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.



John P. McCulloch, Chairperson

STATE OF MICHIGAN)
) SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the McIntosh Drain, Oakland County, Michigan, held on the 23rd day of May, 2006 and that the said minutes are on file in the office of the Oakland County Drain Commissioner and are available to the public.

I further certify that notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Drain Commissioner which is the principal office of the McIntosh Drain Drainage District.



John P. McCulloch, Chairperson

Dated: June 5, 2006

OAKLAND COUNTY WATER RESOURCES COMMISSIONER
MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE
McIntosh Drain

Assessment for current fund deficit and estimated maintenance expenses for fiscal years: 2025 through 2027

Date last assessment approved:	N/A	
Last Assessment:		N/A
Current Available Cash:		(\$566)

Expenditure History:	Fiscal Year	Amount
	2018	\$1,360
	2019	\$1,404
	2020	\$2,155
	2021	\$1,481
	2022	\$1,158
	2023	\$1,355
	2024	\$1,834

Estimated Expenditures:	Year	Amount
	2025	\$1,700
	2026	\$1,700
	2027	\$1,700
	Total	\$5,100

Recommended Assessment:

Current Cash Deficit	\$566
Total Anticipated Expenses 2025 - 2027	\$5,100
Proposed Special Maintenance Expenses	\$2,500

TOTAL RECOMMENDED ASSESSMENT	\$8,166
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Prepared by: Andrea Craft Date: 4/10/2025
Andrea Craft - Supervisor WRC Financial Services

Approved by: _____ Date: _____
Geoff Wilson, P.E. - Chief Engineer

Approved by: _____ Date: _____
Gary Nigro, P.E. - Manager

Note: Current Available Cash as of February 28, 2025, Fiscal Services Division Report.

SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE OF THE MCINTOSH DRAIN

Public Corporation	*Percentage of Apportionment	Total Amount of Assessment	Payment #1	Payment #2	Payment #3
Charter Township of West Bloomfield	60.390%	\$ 4,931.45	\$ 4,931.45	-	-
Road Commission for County of Oakland on account of drainage to county highways	39.610%	\$ 3,234.55	\$ 3,234.55	-	-
<hr/>					
Total	100.000%	\$ 8,166.00	\$ 8,166.00	\$ -	\$ -

*Apportionment based on Final Order of Apportionment dated 5/14/1991.

Assessment Payment Due Date(s): Payment #1 05/31/2025

I hereby certify that I have prepared the Special Assessment Roll for the Maintenance of the McIntosh Drain for the fiscal years 2025- 2027 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the McIntosh Drain

The foregoing Special Assessment Roll for the maintenance of the McIntosh Drain was approved by the Drainage Board on _____ .

Jim Nash
Chairman of the Drainage Board for the McIntosh Drain

18. Finney Drain

AGENDA

DRAINAGE BOARD FOR THE FINNEY DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of April 26, 2022
3. Public Comments
4. Present Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$6,564
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE FINNEY DRAIN**

April 26, 2022

A meeting of the Drainage Board for the Finney Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 26th day of April 2022.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: David Woodward, Chairperson of the Oakland County Board of Commissioners

Minutes of the meeting held August 27, 2019, were presented for consideration. It was moved by Markham, supported by Nash, that the minutes be approved.

ADOPTED: Yeas - 2
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

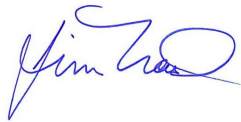
A Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$5,703 for the Finney Drain (as attached) were presented. It was moved by Markham, supported by Nash, to adopt the Maintenance Assessment Recommendation and Special Assessment Roll in the amount of \$5,703 as presented.

ADOPTED: Yeas - 2
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Markham.

ADOPTED: Yeas - 2
Nays - 0

There being no further business, the meeting was adjourned.

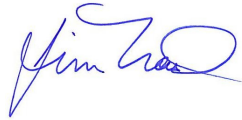


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Finney Drain, Oakland County, Michigan, held on the 26th day of April, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Finney Drain Drainage District.



Jim Nash, Chairperson

Dated: April 26, 2022

OAKLAND COUNTY WATER RESOURCES COMMISSIONER
MAINTENANCE ASSESSMENT RECOMMENDATION FOR THE
Finney Drain

Assessment for current fund deficit and estimated maintenance expenses for fiscal years: 2025 through 2027

Date last assessment approved:	04/26/22	
Last Assessment:		\$5,703
Current Available Cash:		(\$864)

Expenditure History:	Fiscal Year	Amount
	2018	\$999
	2019	\$1,422
	2020	\$1,913
	2021	\$1,276
	2022	\$1,892
	2023	\$1,374
	2024	\$1,784

Estimated Expenditures:	Year	Amount
	2025	\$1,900
	2026	\$1,900
	2027	\$1,900
	Total	\$5,700

Recommended Assessment:

Current Cash Deficit	\$864
Total Anticipated Expenses 2025 - 2027	\$5,700

TOTAL RECOMMENDED ASSESSMENT	\$6,564
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Prepared by: Andrea Craft Date: 4/10/2025
Andrea Craft, Supervisor WRC Financial Services

Approved by: _____ Date: _____
Geoff Wilson, P.E. - Chief Engineer

Approved by: _____ Date: _____
Gary Nigro, P.E. - Manager

Note: Current Available Cash as of February 28, 2025, Fiscal Services Division Report.

SPECIAL ASSESSMENT ROLL FOR THE MAINTENANCE OF THE FINNEY DRAIN

Public Corporation	*Percentage of Apportionment	Total Amount of Assessment	Payment #1	Payment #2	Payment #3
Charter Township of Highland	94.000%	\$ 6,170.16	\$ 6,170.16	-	-
Road Commission for County of Oakland on account of drainage to county highways	6.000%	\$ 393.84	\$ 393.84	-	-
<hr/>					
Total	100.000%	\$ 6,564.00	\$ 6,564.00	\$ -	\$ -

*Apportionment based on Final Order of Apportionment dated 7/1/1968.

Assessment Payment Due Date(s): Payment #1 05/31/2025

I hereby certify that I have prepared the Special Assessment Roll for the Maintenance of the Finney Drain for the fiscal years 2025- 2027 in accordance with the direction of the Drainage Board and the statutory provisions applicable thereto.

Jim Nash
Chairman of the Drainage Board for the Finney Drain

The foregoing Special Assessment Roll for the maintenance of the Finney Drain was approved by the Drainage Board on _____ .

Jim Nash
Chairman of the Drainage Board for the Finney Drain

19. Bishop Drain

AGENDA

DRAINAGE BOARD FOR THE BISHOP DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of February 25, 2025
3. Public Comments
4. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$3,004
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE BISHOP DRAIN**

February 25, 2025

A meeting of the Drainage Board for the Bishop Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of February 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

Linnie Taylor for Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

David Woodward, Chairperson of the Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 27, 2024, were presented for consideration. It was moved by Taylor, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

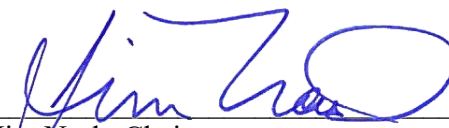
A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$1,041.09 (as attached) was presented. It was moved by Taylor, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$1,041.09.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Taylor, to certify attendance and authorize pro rata payment of \$25 per day to Ms. Taylor and Mr. Woodward.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

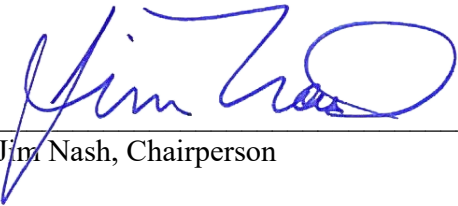


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Bishop Drain, Oakland County, Michigan, held on the 25th day of February 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Bishop Drain Drainage District.



Jim Nash, Chairperson

Dated: February 25, 2025

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the BISHOP DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Approval of Invoices

The following is a detail of Maintenance charges paid from the Drain Revolving
Fund and Invoices for the period ending April 15, 2025.

Date	Ref No.	Paid To	For	Amount
4/12/2025	SINV00333259	Hubbell Roth & Clark Inc	Invoice # 0225630 - Contracted Services - 3/01/25	\$ 3,004.00
			Total	\$ 3,004.00

20. Joseph Jones Drain

AGENDA

DRAINAGE BOARD FOR THE JOSEPH JONES DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of January 28, 2025
3. Public Comments
4. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Construction Fund in the amount of \$57,370.72
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE JOSEPH JONES DRAIN**

January 28, 2025

A meeting of the Drainage Board for the Joseph Jones Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 28th day of January 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held December 17, 2024, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

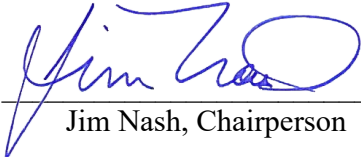
A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund from the Construction Fund in the amount of \$4,164.75 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund from the Construction Fund in the amount of \$4,164.75.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

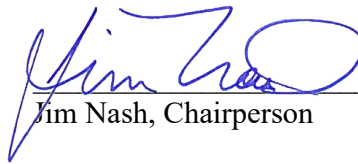


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Joseph Jones Drain, Oakland County, Michigan, held on the 28th day of January 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Joseph Jones Drain Drainage District.



Jim Nash, Chairperson

Dated: January 28, 2025

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the JOSEPH JONES DRAIN - (Construction Fund)

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

SP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Board approval of payment of the following invoices:

Date	Ref No.	Paid To	For	Amount
	V # SINV00333285	Drummond Carpenter PLLC	Invoice # 5367 - Contracted Services - Proj 1-7603	\$ 1,552.50
	V # SINV00329232	Drummond Carpenter PLLC	Invoice # 5340 - Contracted Services - Proj 1-7603	\$ 10,062.25
	V # SINV00329088	Drummond Carpenter PLLC	Invoice # 5290 - Contracted Services - Proj 1-7603	\$ 4,367.00
			Total Project 1-7603	\$ 15,981.75
	V # SINV00333307	Geosyntec Consultants of Michigan	Invoice # 42220208 - Contracted Services - Proj 1-7604	\$ 24,715.95
	V # SINV00329092	Geosyntec Consultants of Michigan	Invoice # 42220148 - Contracted Services - Proj 1-7604	4,561.62
	V # SINV00329095	Geosyntec Consultants of Michigan	Invoice # 422607568 - Contracted Services - Proj 1-7604	12,111.40
			Total Project 1-7604	\$ 41,388.97
			Total	\$ 57,370.72

21. Northwest Oakland Sanitary Sewer Drain

AGENDA

DRAINAGE BOARD FOR THE NORTHWEST OAKLAND SANITARY SEWER DRAIN

April 22, 2025

1. Call meeting to order
2. Approve minutes of meeting of March 25, 2025
3. Public Comments
4. Present request for Board approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$197,792.31
5. Other business
6. Approve pro rata payment to Drainage Board members
7. Adjourn

**MINUTES OF THE MEETING OF THE DRAINAGE BOARD
FOR THE NORTHWEST OAKLAND SANITARY SEWER DRAIN**

March 25, 2025

A meeting of the Drainage Board for the Northwest Oakland Sanitary Sewer Drain was held in the office of the Oakland County Water Resources Commissioner, Public Works Building, One Public Works Drive, Waterford, Michigan at 2:00 p.m. on the 25th day of March 2025.

The meeting was called to order by the Chairperson.

PRESENT: Jim Nash, Oakland County Water Resources Commissioner

David Woodward, Chairperson of the Oakland County Board of Commissioners

Gwen Markham, Chairperson of the Finance Committee, Oakland County Board of Commissioners

ABSENT: None.

Minutes of the meeting held February 25, 2025, were presented for consideration. It was moved by Markham, supported by Woodward, that the minutes be approved.

ADOPTED: Yeas - 3
Nays - 0

Chairperson Nash asked if there were any public comments. There were none.

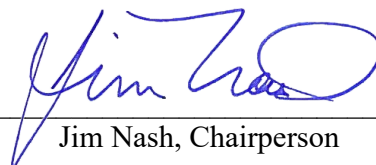
A request for approval of payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$324,929.78 (as attached) was presented. It was moved by Markham, supported by Woodward, to approve the payment of invoices and/or reimbursement of the Drain Revolving Fund in the amount of \$324,929.78.

ADOPTED: Yeas - 3
Nays - 0

It was moved by Nash, supported by Markham, to certify attendance and authorize pro rata payment of \$25 per day to Mr. Woodward and Ms. Markham.

ADOPTED: Yeas - 3
Nays - 0

There being no further business, the meeting was adjourned.

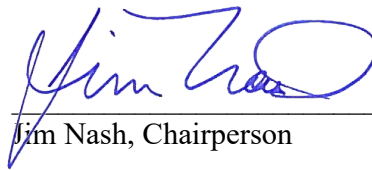


Jim Nash, Chairperson

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

I, the undersigned, do hereby certify that the foregoing is a true and complete copy of the minutes of the Drainage Board for the Northwest Oakland Sanitary Sewer Drain, Oakland County, Michigan, held on the 25th day of March 2025, and that the minutes are on file in the office of the Oakland County Water Resources Commissioner and are available to the public.

I further certify that the notice of the meeting was posted at least 18 hours in advance of the meeting at the office of the Oakland County Water Resources Commissioner which is the principal office of the Drainage Board for the Northwest Oakland Sanitary Sewer Drain Drainage District.



Jim Nash, Chairperson

Dated: March 25, 2025

MEMO TO: Mr. Jim Nash, Chairman
of the Drainage Board for the NORTHWEST OAKLAND SANITARY DRAIN

FROM: Shawn Phelps, Chief of Fiscal Services
OCWRC Accounting

HP for Shawn Phelps

DATE: April 22, 2025

SUBJECT: Request for Board approval of payment of the following invoices:

Date	Ref No.	Paid To	For	Amount
	SINV00327488	Dickinson Wright PLLC	Invoice # 2025059 - Legal Services - 03/31/25 - Prj # 1-7469	\$ 1,100.00
	SINV00324550	ROWE Professional Services Company	Invoice # 0117322 - Engineering & Survey - Prj#1-7469	89,936.54
	SINV00332138	ROWE Professional Services Company	Invoice # 0117754 - Engineering & Survey - Prj#1-7469	106,755.77
			Total Project 1-7469	\$ 197,792.31
			Grand Total	\$ 197,792.31