CITY OF GROSSE POINTE WOODS

MEMORANDUM

Date: July 29, 2025

To: Mayor and City Council

From: Frank Schulte, City Administrator F.S.

Subject: Milk River Generator Project

At the Committee of the Whole meeting on August 4, Russ Strassburg from Tetra Tech will present the costs and details of a proposed multi-generator project for the Milk River Pumping Station. Additionally, Pat McGow from Miller Canfield will discuss the Milk River Intercounty Drainage District and the tax levies related to funding the assessments for the project.

Administration believes that issuing bonds for a future multi-generator project at the Milk River Pumping Station is a reliable emergency plan for both the facility and the residents of Grosse Pointe Woods. Currently, the city is completing a $2 million generator project to provide a third source of power for the Torrey Road Pump Station. In the event of a total power outage in the area, the Torrey Road Pump Station will continue to operate and send stormwater to the Milk River Pumping Station. However, if the Milk River Pumping Station also loses power without backup generators, the city's system would still pump to the retention area, causing it to eventually fill. Without power, this would result in a backup in the city's system.

At the next council meeting in August, I would like to recommend that council endorse the highlighted Scenario #3 provided in the pfm Summary of Finance Documents. This scenario allows the Milk River Inter County Drain Drainage Board to utilize $2 million of its $4 million fund balance for a project that costs $9,534,400. The city would be responsible for financing 63% of the project due to the proportion of stormwater and sanitary service provided to it by the Milk River Pumping Station.

By adopting pfm's Scenario #3, the city would incur an annual payment of $481,368, spread over 20 years, for 6,610 homes, resulting in an average increase of $72.82 per household or 0.5034 mills.

Director of Public Services Kowalski is currently the voting representative for both Grosse Pointe Woods and Harper Woods on the Milk River Inter County Drain Drainage Board and, if approved, could make a motion requesting Scenario #3 for the project at their August 28 board meeting.

Attachments

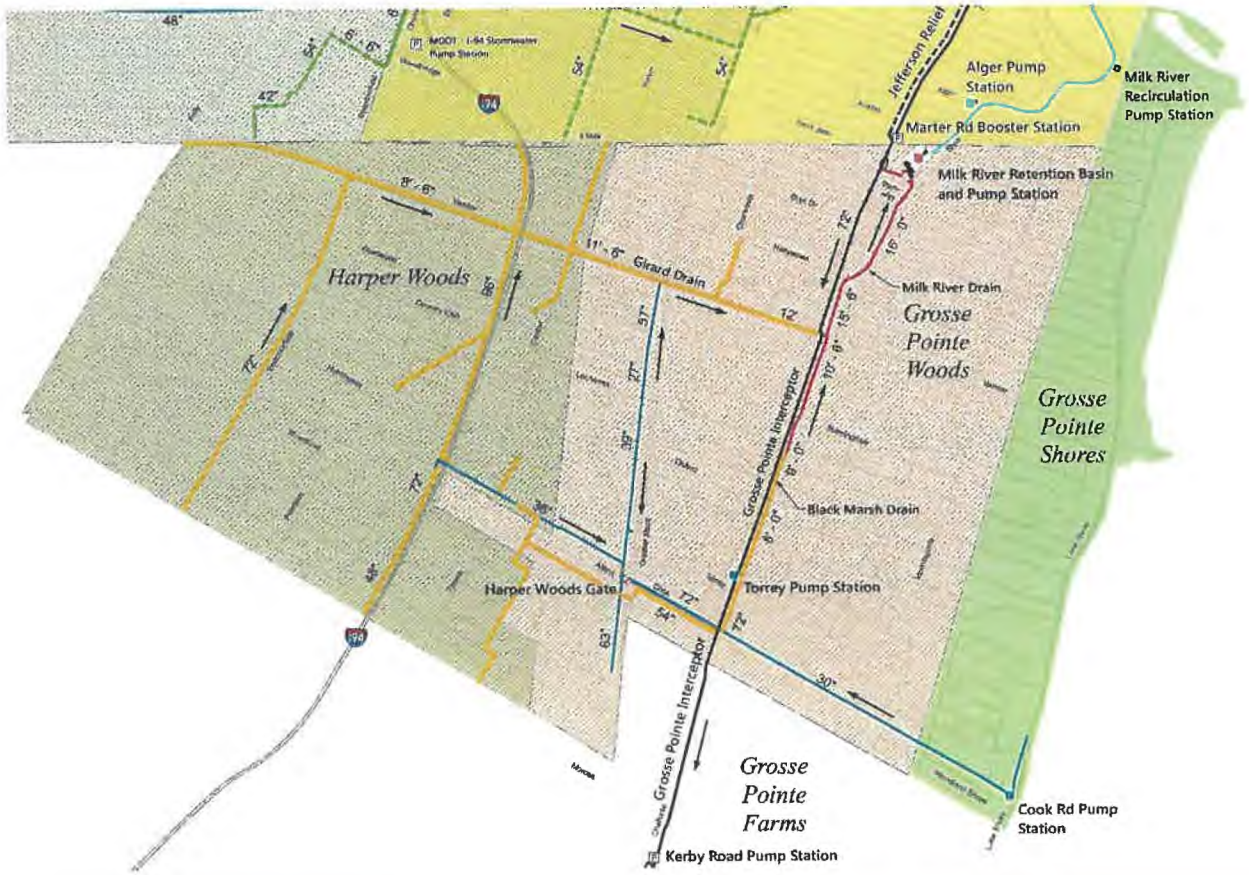
Milk River Intercounty Drain CSO Retention Treatment Basin (RTB) Facility

Standby Power Study

Presented by:

Tetra Tech

Milk River Intercounty Drain Service Area

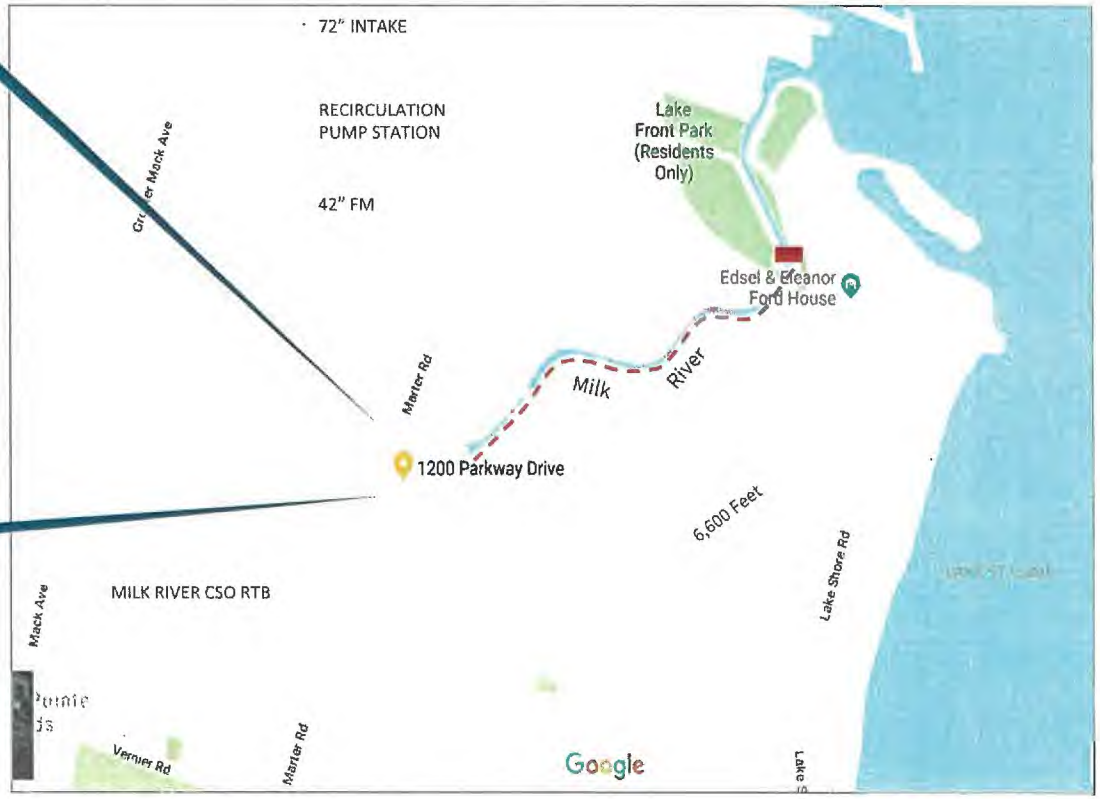


Service area includes:

- Harper Woods (all)
- Grosse Pointe Woods (all)
- Saint Clair Shores (small area)

Approximately 30,000 people (12k households)
Approximately 6 square miles or 4,000 acres

Milk River RTB Site and River



History

Facility Construction

- 1958 Pump Station Original
- 1960 Transformer #2 (64 yrs old)
- 1972 Transformer #1 (52 yrs old)

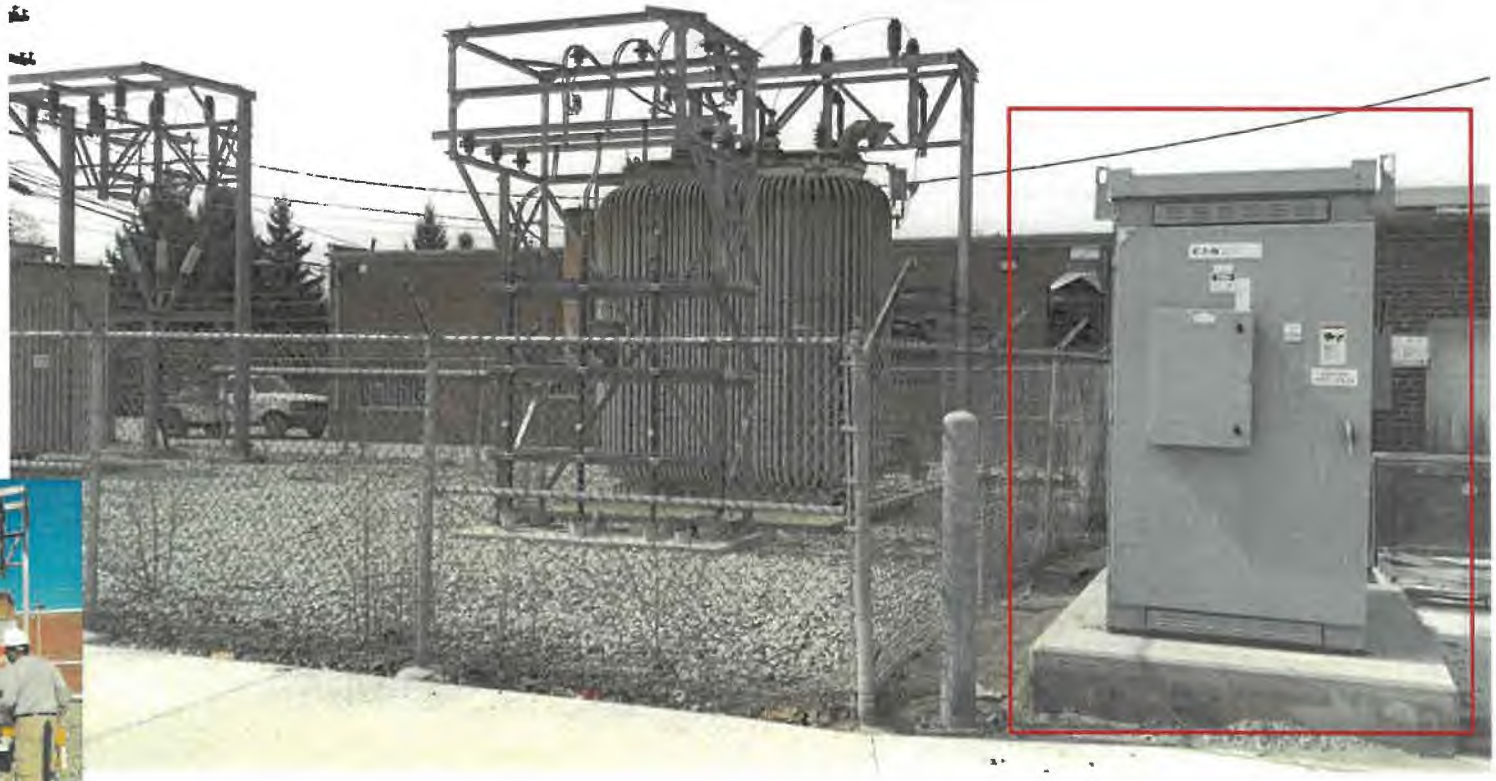
2018-22 Upgrade

- DTE Transformers unchanged
- MR-owned Switchgear at Pump Station upgraded
- Service Cabling from existing DTE transformers to PS replaced

DTE Outages

- 2003 Complete Outage (Regional)
- 2003 Trans outage (DTE)
- 2019 Trans#2 outage (DTE, 4 days)

2022 Pump Station Service Upgrades



Task 1 – Alternative Power Sources

- Alternative Power Sources considered
  - Solar, Wind, Battery, Alternate Electrical suppliers
  - Technology has progressed in recent years, not cost effective to meet demand for indefinite periods of time
  - Alternate Electrical suppliers use the same infrastructure as DTE (no advantage)
- Portable Standby Generators
  - Cannot be connected and online to meet emergency demand
  - High risk for regional outage
- Permanent Standby Generators
  - Able to provide indefinite supply of standby emergency power
  - Diesel and Natural Gas generators are most cost effective and dependable

Task 2 – Engine Generator Sizing

Table 2-1: Summary of Storm Pump Operations (April 2000 - November 2008)

Pumping Configuration	Number of Occurrences	Percent Occurrence (Based on 372 Total Occurrences)	Maximum Pumping Rate (GPM)	Cumulative % of Events Covered by the Configuration
1 S	151	40.6%	123,500	40.6%
1 L	101	27.2%	184,000	67.7%
2 L	5	1.3%	368,000	84.4%**
2 S + 1 L	14	3.8%	431,000	88.7%
2 S + 2 L	11	3.0%	615,000	96.5%
3 S + 3 L	2	0.5%	922,500	100.0%

** The percent of pump runs that could be covered by 2 large pumps in recent years (2019-2022) was roughly 98.14% resulting in a blended rate of 91.45%.

Table 2-6: Three Proposed Levels of Storm Pumping Operation
*Pumping Configurations include two sanitary pumps assumed to be running continuously

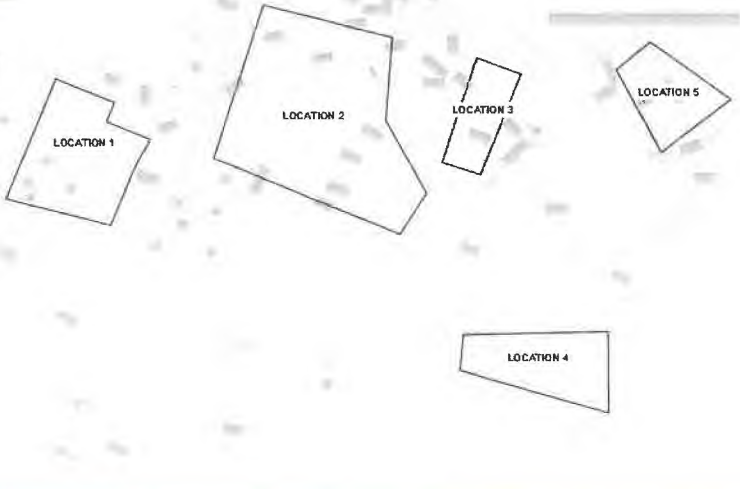
Configuration No.	Pumping Configuration*	Maximum Pumping Rate (GPM)	% Rainfall Events Covered	Megawatts Required (MW)	"Risk" of not Meeting Expected Flow
1	3 S + 3 L	932,500	100%	9.55	0%
2	2 L	378,000	84.4%**	3.38	15.6%
3	1 L	194,000	67.7%	1.69	32.3%

Table 1-3: Recommended Emergency Generator System Size

Task 3 - Generator Quantities, Siting, Connections

Table 3-2: Recommended Emergency Generator System Size

Configuration No.	Pumping Configuration	Megawatts Required (MW)	Generator Size Required (MW)	No. of Generators Required
1	3 S + 3 L	9.55	2.5	5
2	2 L	3.38	2.5	2
3	1 L	1.69	2.5	1



Task 4 – Generator Fuel Sources and Economics

- Fuel sources considered for the generator system:
  - Diesel, natural gas, and biodiesel fuel sources
  - Biodiesel removed from consideration due to limited storage life
  - Existing NG supply along Parkway road would need to be upgraded

Table 0-4: Overall Generator System Cost Estimate

	Configuration 1		Configuration 2		Configuration 3	
	Diesel	Natural Gas	Diesel	Natural Gas	Diesel	Natural Gas
30-Year Present Value*	$18,031,808	$25,368,396	$9,547,217	$12,544,605	$6,723,609	$8,279,185

*Assumes a 6% interest rate and one-24 hour operation per year
As seen in Table 0-4, the estimated 30-year present value of the natural gas systems are roughly 25%-40% more than the corresponding diesel systems.

Task 5 – Generator Power Distribution and Management

Key Notes:

- SCADA and PLC additions will be required
- Transfer Switch (ATS v MTS)
- Power Distribution and Paralleling equipment
- Integration with the existing PS distribution equipment
- Estimated ballpark cost $3M (refine during detailed design)
- Equipment production and lead times are 12-24 months following shop drawing approval

Task 6 – Storm Pump Configurations (more recent data)

Table 6-1: Summary of Storm Pump Operations from June 2019 through January 2023

Pumping Configuration	Number of Occurrences	Percent Occurrence (Based on 269 Total Occurrences)	Maximum Pumping Rate (GPM)	Cumulative % of Events Covered by the Configuration
1 S	153	56.88%	123,500	56.88%
1 L	93	34.57%	184,000	91.45%
2 S	9	3.35%	247,000	94.80%
1 S + 1 L	9	3.35%	307,500	98.14%
2 L	0	0.00%	368,000	98.14%
3 S	3	1.12%	370,500	99.26%
2 S + 1 L	1	0.37%	431,000	99.63%
1 S + 2 L	0	0.00%	491,500	99.63%
4 S	1	0.37%	494,000	100.00%

Recommendations/Options

- Generator Configuration #2 is recommended (install two 2.5MW units) to cover roughly 90%* of the storm events with two large pumps.
  - Costs: $7M (CAPEX) + $184k/yr (OPEX)

- If capital is limited, the Board could opt to install Configuration #3 to cover roughly 83%* of the storm events with plan to expand to add a 2nd generator at a future date.
  - Costs: $5.4M (CAPEX) + $92k/yr (OPEX)

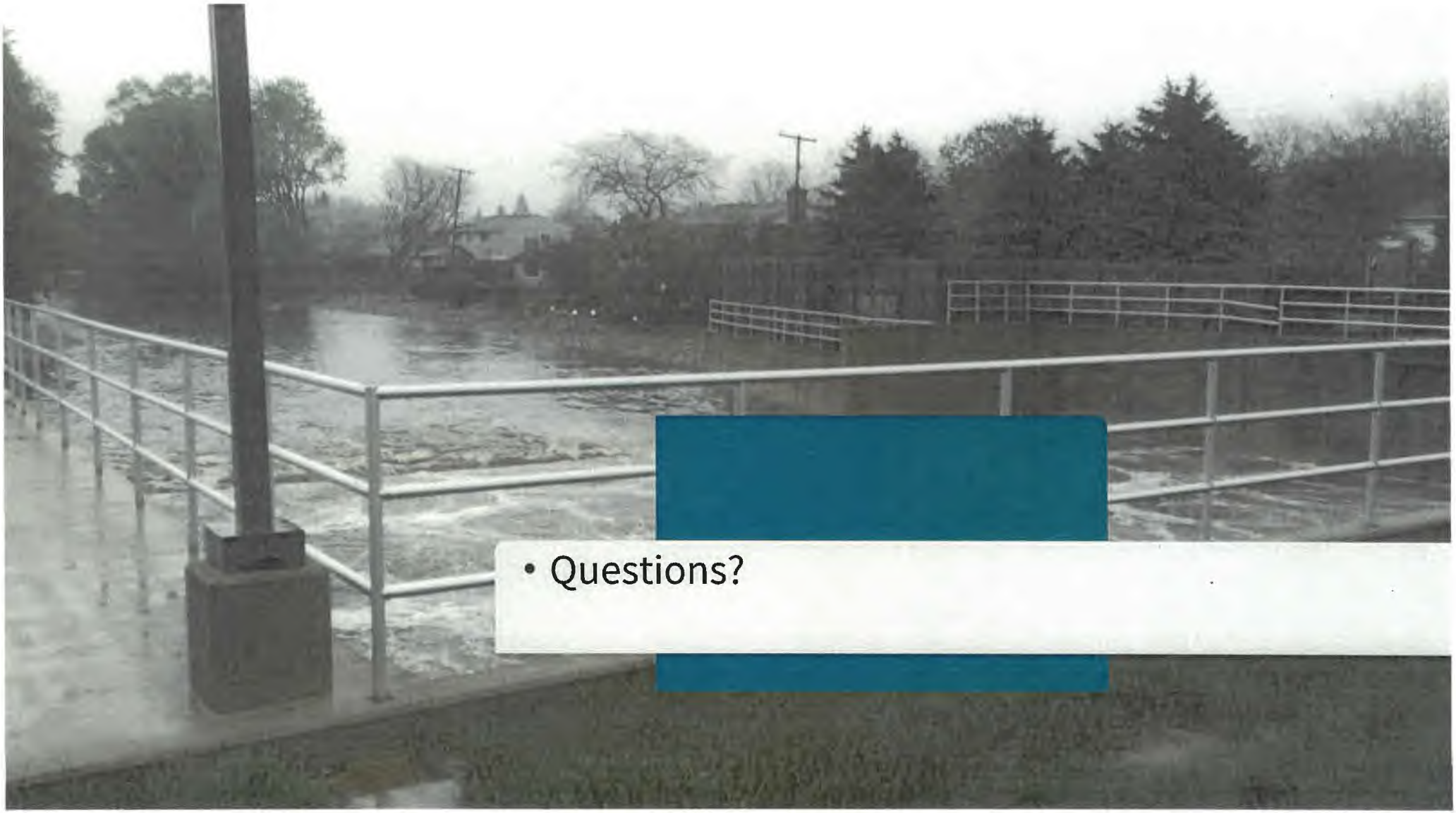
* percentage based on blended rate from combining the 2000-2008 data with the 2019-2023 data

Cost Breakdown

		2-Generator Configuration (90% storm coverage) [1]	1-Generator Configuration (83% storm coverage) [1]
CapEx	One-Time Est. Cost:	$7,000,000	$5,400,000
	% breakdown[2]		
Grosse Pointe Woods	50.50%	$3,535,000.00	$2,727,000.00
Harper Woods	45.11%	$3,157,700.00	$2,435,940.00
St. Clair Shores	0.31%	$21,700.00	$16,740.00
County of Wayne	1.21%	$84,700.00	$65,340.00
State of Michigan	2.87%	$200,900.00	$154,980.00
OpEx	Annual Est. Cost:	$184,000	$92,000
	% breakdown[3]		
Grosse Pointe Woods	60.50%	$111,320.00	$55,660.00
Harper Woods	35.11%	$64,602.40	$32,301.20
St. Clair Shores	0.42%	$772.80	$386.40
County of Wayne	1.67%	$3,072.80	$1,536.40
State of Michigan	2.30%	$4,232.00	$2,116.00

Notes:

1. Storm event coverage percentage based on historical RTB event data. See Generator Study for details.
2. Percentages based on FY2025 Priority 1B Assessment
3. Percentages based on FY2025 SEMSD O&M Assessment



- Questions?

Founded in 1852
by Sidney Davy Miller

MILLER CANFIELD

MICHIGAN: Ann Arbor
Detroit • Grand Rapids
Kalamazoo • Lansing
Saginaw • Troy
FLORIDA: Naples
ILLINOIS: Chicago
NEW YORK: New York
CANADA: Toronto • Windsor
CHINA: Shanghai
POLAND: Gdynia
Warsaw • Wrocław

DONALD W. KEIM
TEL (313) 496-7517
FAX (313) 496-8450
E-MAIL keim@millercanfield.com

Miller, Canfield, Paddock and Stone, P.L.C.
150 West Jefferson, Suite 2500
Detroit, Michigan 48226
TEL (313) 963-6420
FAX (313) 496-7500
www.millercanfield.com

April 8, 2009

Mr. Mark Wollenweber
City Administrator
City of Grosse Pointe Woods
20025 Mack Plaza
Grosse Pointe Woods, MI 48236-2397

Re: Milk River Intercounty Drain

Dear Mr. Wollenweber:

You have asked our opinion regarding the taxes levied by the City of Grosse Pointe Woods (the "City") to pay certain assessments spread upon the City by the Milk River Intercounty Drainage District (the "Drainage District"). Examples of the invoices for these assessments are attached.

In rendering this opinion we are assuming with your concurrence that the Drainage District is an intercounty drainage district as that term is used in Act 40, Public Acts of Michigan, 1956, as amended (the "Drain Code"), and that the City is being assessed "at-large" as a public corporation pursuant to one or more assessment rolls that comply with the provisions of Section 526 of the Drain Code.

Tax To Pay Assessment For Payment Of Debt Service

We are advised that the City proposes to levy an ad valorem tax to pay the Drainage District's assessments of the City that have been made according to certain of the attached example invoices for the purposes of paying principal of and interest on bonds issued by the Drainage District. You have asked whether this tax is subject to the tax rate limitations contained in the City's Charter and in Act 279, Public Acts of Michigan, 1909, as amended (the "Home Rule City Act"). You have also asked whether this tax may be levied without the prior approval of the electors of the City.

Based upon the assumptions set forth above, in our opinion Chapter 21 of the Drain Code authorizes the City to levy a tax in an amount necessary to pay the assessments described in the preceding paragraph. We are further of the opinion that this

tax is not subject to the tax rate limitations of the City's Charter and the Home Rule City Act and that the tax may be levied without prior approval of the City's electors.

Tax To Pay Assessment For Payment of Administration, Operation And Maintenance Of Milk River Drain

We are also advised that the City proposes to levy an ad valorem tax to pay the Drainage District's assessments which have been made according to an attached example invoice for the purpose of paying the City's share of the costs of administering, operating and maintaining the drain commonly known as the Milk River Drain. You have asked whether this tax is subject to the tax rate limitations contained in the City's Charter and the Home Rule City Act. You have also asked whether this tax may be levied without the prior approval of the electors of the City.

Based upon the assumptions set forth above, in our opinion Chapter 21 of the Drain Code authorizes the City to levy a tax in an amount necessary to pay the assessments described in the preceding paragraph. We are further of the opinion that this tax is not subject to the tax rate limitations of the City's Charter and the Home Rule City Act and that the tax may be levied without prior approval of the City's electors.

We remind you that the City's authority to levy these taxes is limited to the amounts necessary to pay the assessments as they come due, taking into account estimated delinquencies.

We also caution that there have not been any authoritative interpretations of the specific issues discussed in this letter by either the Michigan Supreme Court or the Michigan Court of Appeals. As a result, a court asked to rule on the questions posed in this letter would not be bound by controlling legal authority. While we believe our analysis of the issues is sound in view of existing precedent, there can be no assurance that a court asked to decide issues pertaining to these questions may not choose to follow another line of reasoning, in which case the court could reach a different result.

This letter is for your use only and may not be reproduced or relied upon by any other entity or party without our prior written consent.

Very truly yours,

Miller, Canfield, Paddock and Stone, P.L.C.

By: /s/ Donald W. Keim
Donald W. Keim

Attachments

cc: DeeAnn Irby
Don Berschback, Esq.

44160937.1/036806.00021

pfm

$10,490,000
MILK RIVER INTERCOUNTY DRAIN DRAINAGE DISTRICT
2025 DRAINAGE DISTRICT BONDS

SUMMARY OF FINANCING OPTIONS

Scenario	Use of Funds on Hand	Assessment Amount	Less: Estimated Prepaid Assessments[1]	Net Amount to be Financed	Est. Bond Interest Rate	Bond Term	First Principal Payment Date[2]	Average Annual Bond Payment	Total Debt Service Payments	Avg Payment Allocation		
										Harper Woods	Grosse Pointe Woods	St. Clair Shores
1	$1,000,000	$10,928,564	($433,864)	$10,494,700	5.000%	20 yrs	6/1/2026	$839,525	$16,790,500	$306,943	$528,910	$3,672
2	$1,500,000	$10,428,564	($414,014)	$10,014,550	5.000%	20 yrs	6/1/2026	$801,503	$16,030,063	$293,041	$504,956	$3,505
3	$2,000,000	$9,928,564	($394,164)	$9,534,400	5.000%	20 yrs	6/1/2026	$762,947	$15,258,938	$278,945	$480,665	$3,337
1b	$1,000,000	$10,928,564	($433,864)	$10,494,700	4.800%	15 yrs	6/1/2026	$991,645	$14,874,680	$362,560	$624,748	$4,337
2b	$1,500,000	$10,428,564	($414,014)	$10,014,550	4.800%	15 yrs	6/1/2026	$946,753	$14,201,300	$346,147	$596,465	$4,141
3b	$2,000,000	$9,928,564	($394,164)	$9,534,400	4.800%	15 yrs	6/1/2026	$901,129	$13,516,940	$329,466	$567,722	$3,941

1 Assume the State of Michigan DOT and Wayne County Roads prepay their apportionment of cost.

2 The existing debt payments are due April 1st and October 1st. The principal payment dates can be adjusted as desired prior to issuance.

KB
6/24/2025

NOTE: The cash flow and payment figures assume the units assessed will pay their allocated percentage of the bond payments at the same rate on the bonds. The figures would increase if charged 1% over the rate on the bonds, and/or a different assessment methodology. Bond interest rates shown include a buffer above the current interest rates.

pfm

556 Briarwood Circle
Suite 333
Ann Arbor, MI 48108

734-994-9700
734-994-9710 fax
www.pfm.com

MILK RIVER INTERCOUNTY DRAIN DRAINAGE DISTRICT
2025 DRAINAGE DISTRICT BONDS

2025 DRAINAGE DISTRICT BONDS - SCENARIO 3

Unit Apportioned	Apport-ionment	Tentative Apportionment of Completion Cost	**ESTIMATED** 2025 Prepayments	Net Amt. to be Financed after Prepayments	Allocation of Bond Amount
State of Michigan (MDOT)	2.30%	$228,356.97	$228,356.97	$0.00	0.00%
Wayne County Roads	1.67%	165,807.02	165,807.02	0.00	0.00%
Harper Woods City	35.11%	3,485,918.82	0.00	3,485,918.82	36.56%
Grosse Pointe Woods City	60.50%	6,006,781.22	0.00	6,006,781.22	63.00%
St. Clair Shores City	0.42%	41,699.97	0.00	41,699.97	0.44%
TOTAL	100.00%	$9,928,564.00	$394,163.99	$9,534,400.01	100.00%

SM/KB
6.24.2025

pfm

555 Briarwood Circle
Suite 333
Ann Arbor, MI 48108

734-994-9700
734-994-9710 fax
www.pfm.com

MILK RIVER INTERCOUNTY DRAIN DRAINAGE DISTRICT
2025 DRAINAGE DISTRICT BONDS
(LIMITED TAX GENERAL OBLIGATION)

Dated Date: 09/01/25
First Interest Payment Date: 06/01/26

SCHEDULE OF ESTIMATED DEBT SERVICE AND COVERAGE - 20 YEARS - SCENARIO 3

	Annual Assessment Installments (if same as bond payments)						2025 Drainage District Bonds												
	MDOT	Wayne Co. (Roads)	Harper Woods	Grosse Pt. Woods	St. Clair Shores	Total		$9,530,000			Dated Date	9/1/2025	Amount	Existing		Assessments – Share of Existing and Proposed Debt Payments			
	2.30%	1.67%	35.11%	60.50%	0.42%	100.00%													
Average:	$0	$0	$278,945	$480,665	$3,337	$762,947													
Total Assess.:	$228,357	$165,807	$3,485,919	$6,006,781	$41,700	$9,928,564													
Assmnt Paid in Full:	228,357	165,807	0	0	0	394,164	Year of	Principal		Interest	Interest		Over or	MRIDD	Existing	Harper	Grosse	St. Clair	
Due Net Bonded:	$0	$0	$3,485,919	$6,006,781	$41,700	$9,534,400	Principal	Due	Interest	Due	Due		(Under)Avg	Debt	& Proposed	Woods	Pt. Woods	Shores	MDOT
1-Dec	0.00%	0.00%	36.56%	63.00%	0.44%	Due 1-Dec	Maturity	1-Jun	Rate	1-Jun	1-Dec	Total	762,947	Payments	Debt				
2024	0	0	0	0	0	0	2025		0.000%										
2025	0	0	279,353	481,368	3,342	764,063	2026	$175,000	5.000%	$355,188	$233,875	$764,063	1,116	2,566,125	3,330,188	1,503,838	1,756,030	3,342	66,978
2026	0	0	277,959	478,966	3,325	760,250	2027	300,000	5.000%	233,875	226,375	760,250	(2,697)	2,565,828	3,326,078	1,502,528	1,753,291	3,325	66,934
2027	0	0	277,822	478,730	3,323	759,875	2028	315,000	5.000%	226,375	218,500	759,875	(3,072)	2,569,375	3,329,250	1,504,219	1,754,702	3,323	67,005
2028	0	0	279,193	481,092	3,340	763,625	2029	335,000	5.000%	218,500	210,125	763,625	678	2,571,703	3,335,328	1,506,842	1,758,102	3,340	67,043
2029	0	0	278,416	479,754	3,331	761,500	2030	350,000	5.000%	210,125	201,375	761,500	(1,447)	2,562,922	3,324,422	1,501,305	1,752,881	3,331	66,905
2030	0	0	279,147	481,014	3,339	763,500	2031	370,000	5.000%	201,375	192,125	763,500	553	2,567,969	3,331,469	1,504,517	1,756,587	3,339	67,025
2031	0	0	277,730	478,572	3,322	759,625	2032	385,000	5.000%	192,125	182,500	759,625	(3,322)	2,566,734	3,326,359	1,502,686	1,753,386	3,322	66,965
2032	0	0	279,604	481,801	3,345	764,750	2033	410,000	5.000%	182,500	172,250	764,750	1,803	2,569,219	3,333,969	1,505,833	1,757,775	3,345	67,016
2033	0	0	279,238	481,171	3,340	763,750	2034	430,000	5.000%	172,250	161,500	763,750	803	2,570,359	3,334,109	1,506,107	1,757,632	3,340	67,031
2034	0	0	278,507	479,911	3,332	761,750	2035	450,000	5.000%	161,500	150,250	761,750	(1,197)	2,570,156	3,331,906	1,505,383	1,756,183	3,332	67,009
2035	0	0	279,193	481,092	3,340	763,625	2036	475,000	5.000%	150,250	138,375	763,625	678	2,568,609	3,332,234	1,505,442	1,756,502	3,340	66,951
2036	0	0	279,421	481,486	3,343	764,250	2037	500,000	5.000%	138,375	125,875	764,250	1,303	2,570,656	3,334,906	1,506,674	1,757,890	3,343	67,000
2037	0	0	279,193	481,092	3,340	763,625	2038	525,000	5.000%	125,875	112,750	763,625	678	2,561,344	3,324,969	1,501,322	1,753,442	3,340	66,865
2038	0	0	278,507	479,911	3,332	761,750	2039	550,000	5.000%	112,750	99,000	761,750	(1,197)	2,565,609	3,327,359	1,502,639	1,754,407	3,332	66,981
2039	0	0	279,147	481,014	3,339	763,500	2040	580,000	5.000%	99,000	84,500	763,500	553	267,406	1,030,906	450,590	576,977	3,339	0
2040	0	0	279,238	481,171	3,340	763,750	2041	610,000	5.000%	84,500	69,250	763,750	803	267,484	1,031,234	450,731	577,163	3,340	0
2041	0	0	278,781	480,384	3,335	762,500	2042	640,000	5.000%	69,250	53,250	762,500	(447)	0	762,500	278,781	480,384	3,335	0
2042	0	0	279,558	481,723	3,344	764,625	2043	675,000	5.000%	53,250	36,375	764,625	1,678	0	764,625	279,558	481,723	3,344	0
2043	0	0	279,695	481,959	3,346	765,000	2044	710,000	5.000%	36,375	18,625	765,000	2,053	0	765,000	279,695	481,959	3,346	0
2044	0	0	279,193	481,093	3,340	763,625	2045	745,000	5.000%	18,625	0	763,625	678	0	763,625	279,193	481,093	3,340	0
2045	0	0	0	0	0	0	2046	0	5.000%	0	0	0		0	0	0	0	0	0
	$0	$0	$5,578,895	$9,613,305	$66,737	$15,258,938		$9,530,000		$3,042,063	$2,686,875	$15,258,938		$36,481,500	$51,740,438	$23,077,884	$27,658,109	$66,737	$937,708