

CITY OF NOVI CITY COUNCIL
MARCH 23, 2026

SUBJECT: Adoption of a Resolution requesting the Michigan Department of Transportation (MDOT) include the existing bridge on Nine Mile Road at Center Street over Thornton Creek in the State Local Bridge Program List for Replacement.

SUBMITTING DEPARTMENT: Department of Public Works, Engineering Division

KEY HIGHLIGHTS:

- The Nine Mile Bridge at Center Street is a dual corrugated metal pipe arch culvert that is in overall poor condition.
- If awarded funding, the MDOT Local Bridge Program will cover 95% of the construction cost, with the city being responsible for 5% of construction and all design and construction engineering costs.

BACKGROUND INFORMATION:

City engineering consultant, OHM Advisors, completed an annual inspection of the Nine Mile bridge at Center Street over Thornton Creek in September 2024. The bridge is recommended for replacement through the Michigan Department of Transportation (MDOT) Local Bridge Program due to the structure being in poor condition. Although not a traditional bridge, due to the significant skew of the culverts, they span the centerline of the road at a length that categorizes them as a bridge per MDOT standards.

MDOT is currently accepting applications for the FY 2029 Local Bridge Program, and staff are submitting the Nine Mile Road at Center Street bridge. If the bridge is selected, the City would be responsible for 5% of the construction costs. The construction costs are estimated at \$3,177,522. The City would be responsible for 100% of the associated design engineering fees in the amount of \$198,595 (6.25% of \$3,177,522), and the construction engineering fees in the amount of \$135,045 (4.25% of \$3,177,522). The City has successfully received funding for other bridge projects through this program. The project is currently in the Capital Improvement Plan.

The estimated construction cost the City would be responsible for is \$158,876 (5% of \$3,177,522). As part of the application process, the applicant is required to provide a current resolution, signed, and dated, from the governing board supporting the

project. The adoption of the proposed resolution would demonstrate support from the City to MDOT for the replacement of the bridge and that the City will make the reasonable effort necessary to accomplish this effort. Any application not containing a signed resolution will be considered incomplete and will be rejected.

The City Attorney has reviewed the resolution and sees no legal impediment (Beth Saarela, March 11, 2026).

RECOMMENDED ACTION: Adoption of a Resolution requesting the Michigan Department of Transportation (MDOT) includes the existing bridge on Nine Mile Road at Center Street over Thornton Creek in the State Local Bridge Program List for Replacement. If MDOT selects the bridge, the City of Novi will accept 100% of the design and construction engineering costs and 5% of the total construction cost.

CITY OF NOVI

COUNTY OF OAKLAND, MICHIGAN

RESOLUTION REQUESTING THAT THE MICHIGAN DEPARTMENT OF TRANSPORTATION INCLUDE THE BRIDGE ON NINE MILE ROAD OVER THORNTON CREEK (Str# 14274) IN THE STATE LOCAL BRIDGE PROGRAM LIST FOR REPLACEMENT

Minutes of a Meeting of the City Council of the City of Novi, County of Oakland, Michigan, held in the City Hall of said City on March 23, 2026, at 7 o'clock P.M. Prevailing Eastern Time.

PRESENT: Councilmembers _____

ABSENT: Councilmembers _____

The following preamble and Resolution were offered by Councilmember _____ and supported by Councilmember _____.

WHEREAS; OHM Advisors, Consulting Engineers for the City of Novi, completed the 2024 annual inspection of twelve bridges in the City; and

WHEREAS; based on the 2024 inspection, OHM Advisors prepared a 2024 Bridge Inspection Report for the bridge on Nine Mile Road over Thornton Creek; and

WHEREAS; the 2024 Bridge Inspection Report concludes that the bridge on Nine Mile Road over Thornton Creek is in need of replacement; and

WHEREAS; based on the findings and recommendations of OHM Advisors, the DPW Director recommends that City Council authorize OHM Advisors to submit the LAP Bridge Applications to the Michigan Department of Transportation for the bridge on Nine Mile Road over Thornton Creek on the Local Bridge Program for Replacement funding; and

WHEREAS; the City of Novi's cost participation amount would be 5% of the total cost and 100% of the design and construction engineering cost; and

WHEREAS; the Mayor and City Clerk are authorized to execute said resolution.

NOW THEREFORE, IT IS THEREFORE RESOLVED that the City of Novi is actively seeking financial participation to replace the bridge on Nine Mile Road over Thornton Creek and authorizes OHM Advisors to submit the LAP Bridge application to the Michigan Department of Transportation to include this bridge on the State Local Bridge Program

List for Replacement, to make application for financial assistance from the State of Michigan and Federal Government and to do those things reasonably necessary or required in order to accomplish the replacement of this bridge.

AYES:

NAYS:

RESOLUTION DECLARED ADOPTED.

Cortney Hanson, City Clerk

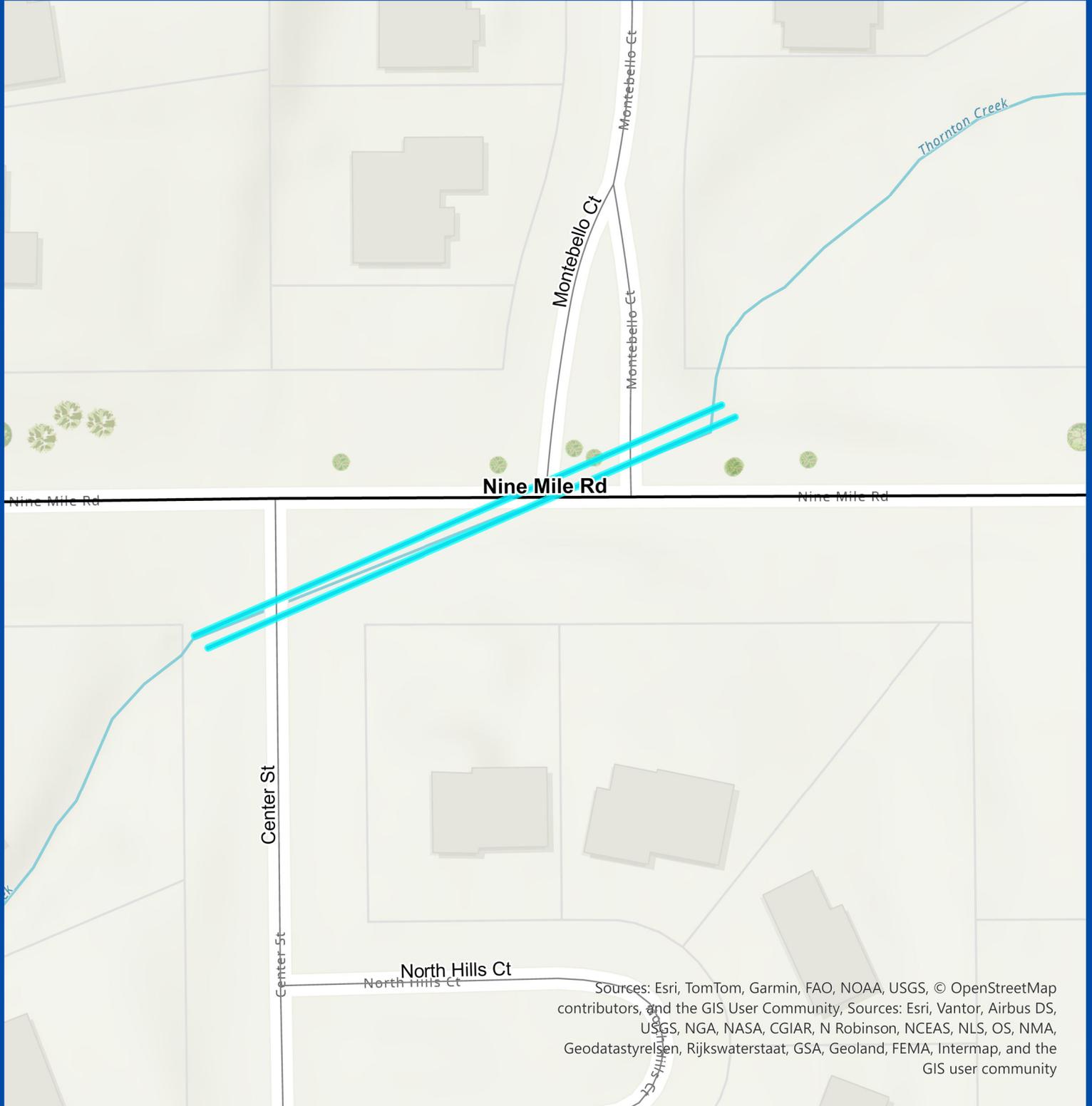
CERTIFICATION

I hereby certify that the foregoing is a true and complete copy of a resolution adopted by the City Council of the City of Novi, County of Oakland, and State of Michigan, at a regular meeting held this _____ day of _____, 2026, and that public notice of said meeting was given pursuant to and in full compliance with Act No. 267, Public Acts of Michigan, 1976, and that the minutes of said meeting have been kept and made available to the public as required by said Act.

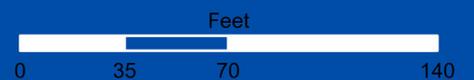
Cortney Hanson, City Clerk
City of Novi

Nine Mile/Center Bridge

Location Map



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Sources: Esri, Vantor, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, and the GIS user community



Map Author: Croy
Map Print Date: Mar 2026

ELIZABETH KUDLA SAARELA
esaarela@rsjalaw.com

2755 Executive Drive, Suite 250
Farmington Hills, Michigan 48331
P 248.489.4100 | F 248.489.1726
rsjalaw.com



ROSATI | SCHULTZ
JOPPICH | AMTSBUECHLER

March 11, 2026

Ben Croy, City Engineer
City of Novi
Department of Public Works
Field Services Complex
26300 Lee BeGole Drive
Novi, MI 48375

Re: MDOT Local Bridge Program –The Bridge on Nine Mile Road Over Thornton Creek (Str# 14274)

Dear Mr. Croy:

You have indicated that the City will be submitting its application for participation in MDOT's Local Bridge Program using the same Resolution as approved for the 2020 submittal. We previously reviewed and approve use of the proposed Resolution Requesting that the Michigan Department of Transportation Include the Bridge on Nine Mile Road Over Thornton Creek (Str# 14274) in the State Local Bridge Program List. The Resolution is provided for the limited purpose of acknowledging that the City agrees pay 5% of the total bridge replacement cost and 100% of the design and construction engineering cost in the event that a grant is awarded by MDOT.

Based on the limited purpose of the Resolution, we see no legal impediment to City Council approving the enclosed version of the Resolution.

If you have any questions regarding the above, please do not hesitate to contact me.

Very truly yours,

ROSATI SCHULTZ JOPPICH
& AMTSBUECHLER PC

Elizabeth Kudla Saarela

Enclosure

C: Cortney Hanson, Clerk (w/Enclosure)
Jeffrey Herczeg, Director of Public Works (w/Enclosure)
Rebecca Runkel, Project Engineer (w/Enclosure)
Thomas R. Schultz, Esquire (w/Enclosure)

CITY OF NOVI

COUNTY OF OAKLAND, MICHIGAN

RESOLUTION REQUESTING THAT THE MICHIGAN DEPARTMENT OF TRANSPORTATION INCLUDE THE BRIDGE ON NINE MILE ROAD OVER THORNTON CREEK (Str# 14274) IN THE STATE LOCAL BRIDGE PROGRAM LIST FOR REPLACEMENT

Minutes of a Meeting of the City Council of the City of Novi, County of Oakland, Michigan, held in the City Hall of said City on March 23, 2026, at 7 o'clock P.M. Prevailing Eastern Time.

PRESENT: Councilmembers _____

ABSENT: Councilmembers _____

The following preamble and Resolution were offered by Councilmember _____ and supported by Councilmember _____.

WHEREAS; OHM Advisors, Consulting Engineers for the City of Novi, completed the 2024 annual inspection of twelve bridges in the City; and

WHEREAS; based on the 2024 inspection, OHM Advisors prepared a 2024 Bridge Inspection Report for the bridge on Nine Mile Road over Thornton Creek; and

WHEREAS; the 2024 Bridge Inspection Report concludes that the bridge on Nine Mile Road over Thornton Creek is in need of replacement; and

WHEREAS; based on the findings and recommendations of OHM Advisors, the DPW Director recommends that City Council authorize OHM Advisors to submit the LAP Bridge Applications to the Michigan Department of Transportation for the bridge on Nine Mile Road over Thornton Creek on the Local Bridge Program for Replacement funding; and

WHEREAS; the City of Novi's cost participation amount would be 5% of the total cost and 100% of the design and construction engineering cost; and

WHEREAS; the Mayor and City Clerk are authorized to execute said resolution.

NOW THEREFORE, IT IS THEREFORE RESOLVED that the City of Novi is actively seeking financial participation to replace the bridge on Nine Mile Road over Thornton Creek and authorizes OHM Advisors to submit the LAP Bridge application to the Michigan Department of Transportation to include this bridge on the State Local Bridge Program

List for Replacement, to make application for financial assistance from the State of Michigan and Federal Government and to do those things reasonably necessary or required in order to accomplish the replacement of this bridge.

AYES:

NAYS:

RESOLUTION DECLARED ADOPTED.

Cortney Hanson, City Clerk

CERTIFICATION

I hereby certify that the foregoing is a true and complete copy of a resolution adopted by the City Council of the City of Novi, County of Oakland, and State of Michigan, at a regular meeting held this _____ day of _____, 2026, and that public notice of said meeting was given pursuant to and in full compliance with Act No. 267, Public Acts of Michigan, 1976, and that the minutes of said meeting have been kept and made available to the public as required by said Act.

Cortney Hanson, City Clerk
City of Novi

2b. Detour Map



9 Mile Rd to Novi Rd
To 10 Mile Rd
To Taft Rd
To 9 Mile Rd

Detour Length: 3.97 Miles

3. Photographs



South end



North pipe damage



Typical pipe condition at water line



North pipe damage



South pipe out of round



Patch and surface condition at kink in neighborhood entrance

4. Application Requirements for 9 Mile Road over Thornton Creek

A. Local Agency Contact Person

Ben Croy, PE
City Engineer
City of Novi
26300 Lee BeGole Drive
Novi, MI 48375

B. The purpose of this application is for the replacement of the bridge for 9 Mile Road over Thornton Creek. The City of Novi will commit to providing 5% of the construction cost for local match on this project.

C. Economic Importance of the Structure

This structure is located approximately 2.8 miles west and 1 mile north of the interchange of I-275 and 8 Mile Road. 9 Mile Road is an east west road in Novi, servicing various neighborhoods, commercial and light industrial businesses, and schools in the area. The structure sees approximately 10,100 vehicles a day according to SEMCOG traffic counts.

9 Mile Road is used by the Novi School District for busing to its elementary, middle, and high schools. Novi High School is approximately 1 mile north of the structure and Thornton Creek Elementary is approximately 1 mile west of the structure on 9 mile road. Novi Fire Department Station 3 is located approximately 0.25 miles west of the structure and uses this roadway as one of its main routes to access areas to the east in times of emergency.

Many light industrial businesses are located adjacent to the CSX railroad 1 mile east of the structure on 9 Mile Road. A commercial area is also located 0.5 miles east of the structure at the intersection of 9 Mile and Novi Roads.

The current structure is a twin barrel 64 inch wide by 42 inch tall corrugated metal pipe arch culvert. The two barrels are separated by 1 foot. The structure is at a severe skew of 64 degrees underneath 9 Mile Road. It also has a kink on the north side due to an extension being placed to re-route the culvert for a new subdivision entrance. The condition of the structure is poor and has approximately one foot of cover over the culvert. The two barrels have considerable damage resulting in the pipes being pushed inwards with large areas of rust due to minimal amount of cover. Additional areas are out of round and have been bent. There is significant rust at the waterline in areas. The bankfull width of the Thornton Creek is also wider than the existing structure which can result in erosion around the structure and overtopping.

Due to the poor condition, existing damage and bankfull width, it is recommended that it be removed and replaced. To increase the cover over the

culverts to extend their life additional roadwork should be completed to raise the road.

D. If there is a current detour, what does it affect?

Currently the bridge is open to traffic and there is no detour.

E. If the structure were to be closed, what would the detour affect?

If the structure were to be closed, the commercial and light industrial areas on 9 Mile Road would be impacted due to traffic having to be detoured. The commercial area could be impacted due to rerouting of traffic. The light industrial companies would have costs associated with longer delivery routes. These impacts could result in economic strain. Local residents would also have to change their commuting routes. This culvert crosses in front of the only entrance to the Montebello subdivision and thus structure closure may result in geometric changes needed to the entrance to allow for 2-way traffic and deliveries. Emergency services, specifically the fire department, would take longer to reach the neighborhoods as they would have to detour around the bridge which serves as a primary connection between the east-west. As every second matters in an emergency, this could lead to public safety concerns. School buses would have to change their routes to be less efficient, costing the school district money. As schools are already struggling with funding, this would further stress the school's budgets.

F. The structure is not currently closed.

G. Maintenance of the Structure

No known work has been done to the structure. This structure is difficult to perform maintenance on due to the size and material.

5. Estimated Rehabilitation Costs

Structure Replacement	
A. Road Construction	\$ 306,022.00
B. Structure Construction	\$ 2,871,500.00
Total (A & B)	\$ 3,177,522.00

For a breakdown of Construction costs, see Appendix A.

6. Priority List

1. 9 Mile Road

7. Resolution

The resolution is attached in Appendix B.

8. Previous Applications

It is understood that all previous applications have been discarded and that this application will be used to select funding.

APPENDIX A

Exhibit A

BRIDGE COST ESTIMATE WORKSHEET
- CPM, REHAB, REPLACE -

REV. 02/5/2025

Anticipated year of construction: 2025

Min. annual inflation limit: 3.00%

Max. annual inflation limit: 9.00%

OWNER: Novi

REGION: Metro

TSC: Oakland

LOCATION: 9 MILE ROAD over THORNTON CREEK

PRIMARY WORK ACTIVITY

OTHER WORK:

PR: 633603 MP: 0.56

LENGTH Out to Out Curb to Curb
26.6 24 0

DECK AREA: 638 SFT

CLEAR ROADWAY: 0 FT

DATE: 2/5/2025

ENGINEER: AJR

STRUCTURE ID: 14274

BRIDGE ID: 0

STR. TYPE: 3 Steel 19 Culvert

NEW BRIDGE	WORK ACTIVITY	MDOT Bridge Design Guides (increase deck area based on design standards and hydraulic requirements)	QUANTITY	UNIT	UNIT COST		TOTAL (Price projection to 2029)	
					Model Predicted	Used		
	Single or Multiple Spans, Grade Separation	(add demo, approach, MOT)		SFT	533	533	/SFT	
	Single Span, Over Water	Length < 100ft (add demo, approach, MOT)		SFT	626	626	/SFT	
	Multiple Spans, Over Water	Length > 100ft (add demo, approach, MOT)		SFT	564	564	/SFT	
	Precast Culvert	Length < 40ft (add demo, approach, MOT)	3,080.0	SFT	677	677	/SFT	
	Railroad	(add demo, approach, MOT)		SFT	491	491	/SFT	
NEW SUPERSTRUCTURE								
	New Superstructure, Grade Separation	(incl. remove exist deck/super; add MOT & approach)		SFT	420	420	/SFT	
	New Superstructure, Over Water	(incl. remove exist deck/super; add MOT & approach)		SFT	278	278	/SFT	
	New Superstructure, Combined	(incl. remove exist deck/super; add MOT & approach)		SFT	291	291	/SFT	
WIDENING								
	Structure Widening, _____ ft	(incl. deck/super/sub widening, add approach transition)		SFT	1056	1056	/SFT	
NEW DECK								
	New Bridge Deck & Barrier	(incl. remove exist deck/railing, add approach, MOT)		SFT	168	168	/SFT	
DEMOLITION								
	Entire Structure, Grade Separation			SFT	48	48	/SFT	
	Other (culvert removal)		1.0	LSUM		50000	LSUM	
	Entire Structure, Over Water			SFT	119	119	/SFT	
DECK REPAIR / TREATMENTS								
	Bridge Railing Replacement	(incl. removal and replacement)		FT	2066	2066	/FT	
	Concrete Brush Block / Curb Patch	(incl. hand chipping and formwork)		FT	67	67	/FT	
	Concrete Barrier Patch	(incl. hand chipping and formwork)		SFT	160	160	/SFT	
	Concrete Deck Patch	(incl. hand chipping)		SFT	87	87	/SFT	
	Deep Overlay	(incl. joint repl & hydro)		SFT	57	57	/SFT	
	Epoxy Overlay	(incl. warranty)		SYD	73	73	/SYD	
	Expansion Joint Gland Replacement	(remove and replace elastomeric gland)		FT	202	202	/FT	
	Expansion Joint Replacement	(incl. removal)		FT	1217	1217	/FT	
	Full Depth Patch			SFT	163	163	/SFT	
	Healer / Sealer	(penetrates cracks in bridge deck)		SYD	26	26	/SYD	
	HMA Overlay with WP membrane			SYD	140	140	/SYD	
	Overlay Removal			SYD	34	34	/SYD	
	(Latex Concrete Surface Removal)			SYD	34	34	/SYD	
	(Epoxy Overlay Removal)			SYD	28	28	/SYD	
	(HMA Surface Removal)			SYD	21	21	/SYD	
	Reseal Bridge Joints			FT	44	44	/FT	
	Shallow Overlay	(incl. joint repl & hydro)		SFT	50	50	/SFT	
SUPERSTRUCTURE REPAIR								
	Bearing Realignment / Replacement	(incl. temporary supports)		EA	7020	7020	EA	
	Heat Straightening	(incl. clean and coat)		EA	115028	115028	EA	
	Pack Rust Repair	(greater than 3/8" separation)		FT	764	764	/FT	
	Paint - Complete	(incl. clean & coat)		SFT	41	41	/SFT	
	Paint - Partial / Spot / Zone	(incl. clean & coat - \$20k minimum)		SFT	54	54	/SFT	
	PCI Beam End Blockout	(incl. temporary supports)		EA	13262	13262	EA	
	Pin & Hanger Replacement	(incl. temporary supports)		EA	17834	17834	EA	
	Structural Steel Repair	(based on lift repair length)		EA	9983	9983	EA	
	Structural Steel Repair - Stiffener	(includes each side of beam)		EA	3335	3335	EA	
SUBSTRUCTURE REPAIR								
	Substructure Patching	(measured x 2) replace if repair area > 30%		CFT	476	476	/CFT	
	Substructure Replacement	(incl. temporary supports, excavation)		CFT	565	565	/CFT	
	Substructure Horizontal Surface Sealer			SYD	117	117	/SYD	
	Temporary Supports	(add Structural Steel Repair - Stiffener for ea steel beam)		EA	7864	7864	EA	
MISCELLANEOUS								
	Articulating Concrete Block System (ACB)			SYD	422	422	/SYD	
	Concrete Surface Coating			SYD	62	62	/SYD	
	Culvert Cleanout			FT	61	61	/FT	
	Epoxy Crack Injection	(structural crack repair)		FT	93	93	/FT	
	Metal Mesh Panels	(48" width, max 6'-6" length)		SFT	44	44	/SFT	
	Pressure Relief Joint	(use when approach concrete roadway exceeds 1,000ft)		FT	199	199	/FT	
	Riprap	(assume 10ft distance around perimeter of substructure)	44.4	SYD	487	487	/SYD	
	Silane Treatment	(penetrating sealer for concrete surfaces)		SFT	6	6	/SFT	
	Slope Protection Repairs			SYD	316	316	/SYD	
	Other				0	0		
STRUCTURE CONSTRUCTION BUDGET							\$2,158,162	
ROAD WORK								
	Approach Pavement, 12" RC	(incl. removal; add curb, gutter, guardrail) 40' ea. end		SYD	1067	1067	/SYD	
	Approach Curb & Gutter	(incl. removal) 40' ea. quadrant		FT	36	36	/FT	
	Guardrail Anchorage to Bridge	(each quadrant)		EA	4780	4780	/EA	
	Guardrail	(incl. removal) < 200ft beyond reference line		FT	41	41	/FT	
	Guardrail Terminal	(each quadrant)		EA	3900	3900	/EA	
	Roadway Approach Work	(beyond approach pavement)	1.0	LSUM		\$150,000.00	LSUM	
	Utilities		1.0	LSUM		\$50,000.00	LSUM	
TRAFFIC CONTROL								
	Part Width Construction	Unit Cost to be determined by Region or TSC Traffic & Safety		LSUM			LSUM	
	Crossovers			EA			/EA	
	Temporary Traffic Signals			set			/set	
	RR Flagging			LSUM			LSUM	
	Detour		1.0	LSUM		\$30,000.00	LSUM	
RELATED ROAD/TRAFFIC CONSTRUCTION BUDGET							\$230,000	
CONTINGENCY								
	(10% - 20%) (use higher contingency for small projects)		15	%		\$2,388,161.89	\$358,224	
	(estimate at 10%)		10	%		\$2,746,386.17	\$274,639	
MOBILIZATION								
(Does not include PE or CE, includes inflation)								
(Refer to programming guidelines or Suggested PE & CE tab in Bridge Cost Estimating Worksheet for CE, PE & PE-S)								
TOTAL CONSTRUCTION BUDGET								\$3,177,522
5.18 % Equivalent Inflation Inflation Budget: included above								
15 % CE CE BUDGET: \$476,628								
12 % PE PE BUDGET: \$381,303								

APPENDIX B



February 26, 2025

Mr. Ben Croy, City Engineer
City of Novi
26300 Lee BeGole Drive
Novi, MI 48375

**RE: 2024 Novi Bridge Inspection
Completed Inspections and Recommendations**

Dear Mr. Croy:

OHM has completed the 2024 Bridge Inspections for the twelve City-owned bridges. Below is a summary of each structure with recommendations. To maximize the life of each structure, the maintenance repairs should be completed in the next 6-24 months.

The City has applied funding through the MDOT Local Bridge Program for the 9-Mile Rd structure over Thornton Creek at N. Center Street and Ashbury Drive over Middle Rouge River in the past few years. Those bridges have not been successful in receiving funding. Last year the City applied for Ashbury but did not apply for 9-Mile. If the City would like to re-apply for Ashbury in the 2025 call for projects, the application on file can be updated and resubmitted with relatively little effort. It is possible sheet pile will need intermediate maintenance work in the next few years as well.

Meadowbrook Rd over Courter Ditch STR# 8246

- ✘ No work recommended at this time.

Willowbrook Drive over Courter Ditch STR# 8247

- ✘ Seal tops of joint filler fiber at back of curb/sidewalk interface on the bridge.
- ✘ Grind top of sidewalk to smooth transition into approach walk or replace approach walk flags.

Cranbrooke Drive over Courter Ditch STR# 8248

- ✘ Seal gap in end joint and seal cracks in deck.

West Park Drive over CSX Railroad STR# 12769

- ✘ Fill washout in the southwest corner at the end of the newly poured wall.

Ashbury Drive over Middle Rouge River STR# 13828

- ✘ Replace sheet pile abutment facing with concrete facing
- ✘ HMA overlay the deck, apply waterproofing underneath the overlay.
- ✘ This structure is on a 12 month inspection cycle due to sheep pile abutment facing condition.

Ashbury Drive North over Thornton Creek STR# 13860

- ✘ Remove debris from upstream channel.

9-Mile Rd over Walled Lake Branch of Middle Rouge River STR# 13858

- ✘ No work recommended at this time.

Island Lake Drive over Novi Lyons Drain STR# 13861

- ✘ No work Recommended at this time.

Shoreline Drive over Unnamed Tributary STR# 13862

- ✘ No work recommended at this time.



Wixom Rd over Unnamed Tributary STR# 13859

- ▼ No work recommended at this time.

9-Mile Rd over Thornton Creek at Novi Road STR# 14275

- ▼ There is a small tear in the east pipe that should be plugged with grout the next time a project is scheduled for the area.

9-Mile Rd over Thornton Creek at N. Center Street STR# 14274

- ▼ This structure is a dual CMP arch culvert in overall poor condition. The culverts have pack rust along the water line and several areas of pack rust and deterioration at riveted seams. There are a few areas of deformed pipe under the pavement. A partial video survey was completed 2017 however due to large debris in the pipe a complete survey was not obtained.
- ▼ This structure is currently on a 12 month inspection cycle due to its condition of the portions that are visible.
- ▼ It is recommended that this culvert be scheduled for replacement in the next 3-5 years and monitored annually until replaced.

Copies of the inspection reports as well as inspection pictures are available digitally upon request. We have submitted the necessary documentation to MDOT and no further action is required on your part.

Please contact me if you have any questions or require additional information.

Sincerely,
OHM Advisors



Adam Rychwalski, PE

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14274		CULVERT SAFETY INSPECTION REPORT		
Facility 9 MILE ROAD	Latitude / Longitude 42.4519 / -83.4841	MDOT Structure ID 634489000010C02	Structure Condition Poor Condition(4)	
Feature THORNTON CREEK	Length / Width / Spans 26.6 / 0 / 2	Owner City: NOVI(4890)		
Location 0.5 MI W OF NOVI RD	Built / Recon. / Paint / Ovly. 1970 / / /	TSC Oakland(23)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Oakland(63)	Material / Design 3 Steel / 19 Culvert	Last NBI Inspection 09/30/2024 / 261X	Scour Evaluation 8 Stable Above Footing	

CULVERT INSPECTION **261X**

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Adam Rychwalski	Orchard, Hiltz & McCliment Inc	12	09/30/2024

GENERAL NOTES

Adjacent CMP arch pipe approximately 280' long each at heavy skew to 9 Mile road. Heavy corrosion and deterioration in first 40-70 feet of each pipe from inlet. Pipe shape change from CMP arch to CMP ellipse leaving exposed joint. Several blind taps with heavy corrosion at taps. Rust and scaling along the waterline for full length with the exception of the last 30 feet or so which appears to be new pipe. Large area of deflected pipe in east pipe at approximately 166' in from inlet. detailed inspection is difficult without robotics due to low rise of pipe. Deflection in north pipe approximately 25 feet from inlet and in south pipe approximately 24 feet from inlet. Assisted by Nick Aukerman (2022).

NBI INSPECTION

	09/22	09/23	09/24	
1. Culvert Rating (SIA-62)	4	4	4	(09/24) (09/23) (09/22)
2. Channel (SIA-61)	6	6	6	Upstream and downstream ends are aligned with channel. there is a 45 degree kink in the pipe approximately 30' from outlet. upstream end has rock ladder controlling stream profile. (09/24) Upstream and downstream ends are aligned with channel. there is a 45 degree kink in the pipe approximately 30' from outlet. upstream end has rock ladder controlling stream profile. (09/23) Upstream and downstream ends are aligned with channel. there is a 45 degree kink in the pipe approximately 30' from outlet. upstream end has rock ladder controlling stream profile. (09/22)
3. Scour	7	7	7	armoring at both ends. no scour noted. full invert on pipe throughout. (09/24) armoring at both ends. no scour noted. full invert on pipe throughout. (09/23) armoring at both ends. no scour noted. full invert on pipe throughout. (09/22)

AASHTO ELEMENTS **(English Units)**

Element Number	Element Name	Total Quantity	Unit	Good CS1	Fair CS2	Poor CS3	Severe CS4
Culvert							
240	Steel Culvert	560	ft	60 11%	350 62%	140 25%	10 2%

Adjacent CMP arch pipe approximately 280' long each at heavy skew to 9 Mile road. Heavy corrosion and deterioration in first 40-70 feet of each pipe from inlet. Pipe shape change from CMP arch to CMP ellipse leaving exposed joint subject to attacking water from normal flow. Several blind taps with heavy corrosion at taps. Rust and scaling along the waterline for full length with the exception of the last 30 feet or so which appears to be new pipe. Large area of deflected pipe in east pipe at approximately 166' in from inlet. detailed inspection is difficult without robotics due to low rise of pipe. Robotic inspection is still difficult due to small riprap that has washed into pipe. Deflection in north pipe approximately 25 feet from inlet and in south pipe approximately 24 feet from inlet.

Scour Countermeasure

830	Plain Riprap	400	sq.ft	400 100%	0 0%	0 0%	0 0%
new riprap at outlet in good condition. New riprap and slope paving at inlet in good condition.							
837	Other Scour Protect	20	ft	20 100%	0 0%	0 0%	0 0%
Slope paving at upstream end has been replaced.							

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14274

CULVERT SAFETY INSPECTION REPORT

Facility 9 MILE ROAD	Latitude / Longitude 42.4519 / -83.4841	MDOT Structure ID 634489000010C02	Structure Condition Poor Condition(4)	
Feature THORNTON CREEK	Length / Width / Spans 26.6 / 0 / 2	Owner City: NOVI(4890)		
Location 0.5 MI W OF NOVI RD	Built / Recon. / Paint / Ovly. 1970 / / /	TSC Oakland(23)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Oakland(63)	Material / Design 3 Steel / 19 Culvert	Last NBI Inspection 09/30/2024 / 261X	Scour Evaluation 8 Stable Above Footing	

MISCELLANEOUS

Guard Rail

Item	Rating
36A. Bridge Railings	N
36B. Transitions	N
36C. Approach Guardrail	N
36D. Approach Guardrail Ends	N

Other Items

Item	Rating
71. Water Adequacy	6
72. Approach Alignment	4
Special Insp. Equipment	9
Underwater Insp. Method	1

RECOMMENDATIONS & ACTION ITEMS

Recommendation Type	Priority	Description
Detailed Insp.	L	Clean and televise both pipes.
Culvert Repl.	L	Replace culvert due to poor condition, pipe damage, pipe alignment.

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14274

STRUCTURE INVENTORY AND APPRAISAL

Facility 9 MILE ROAD	Latitude / Longitude 42.4519 / -83.4841	MDOT Structure ID 634489000010C02	Structure Condition Poor Condition(4)	
Feature THORNTON CREEK	Length / Width / Spans 26.6 / 0 / 2	Owner City: NOVI(4890)		
Location 0.5 MI W OF NOVI RD	Built / Recon. / Paint / Ovly. 1970 / / /	TSC Oakland(23)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Oakland(63)	Material / Design 3 Steel / 19 Culvert	Last NBI Inspection 09/30/2024 / 261X	Scour Evaluation 8 Stable Above Footing	

Bridge History, Type, Materials

27 - Year Built	1970
106 - Year Reconstructed	
202 - Year Painted	
203 - Year Overlay	
43 - Main Span Bridge Type	3 19
44 - Appr Span Bridge Type	
77 - Steel Type	
78 - Paint Type	
79 - Rail Type	0
80 - Post Type	
107 - Deck Type	N
108A - Wearing Surface	6
108B - Membrane	N
108C - Deck Protection	0

Structure Dimensions

34 - Skew	64
35 - Struct Flared	N
45 - Num Main Spans	2
46 - Num Apprs Spans	0
48 - Max Span Length	12.2
49 - Structure Length	26.6
50A - Width Left Curb/SW	0
50B - Width Right Curb/SW	0
33 - Median	0
51 - Width Curb to Curb	0
52 - Width Out to Out	0
112 - NBIS Length	Y

Inspection Data

90 - Inspection Date	09/30/2024
91 - Inspection Freq	12
92A - Frac Crit Req/Freq	N
93A - Frac Crit Insp Date	
92B - Und Water Req/Freq	N
93B - Und Water Insp Date	
92C - Oth Spec Insp Req/Freq	N
93C - Oth Spec Insp Date	
92D - Fatigue Req/Freq	N
93D - Fatigue Insp Date	
176A - Und Water Insp Method	1
58 - Deck Rating	N
58A/B - Deck Surface/Bottom	
59 - Superstructure Rating	N
59A - Paint Rating	
60 - Substructure Rating	N
61 - Channel Rating	6
62 - Culvert Rating	4

Navigation Data

38 - Navigation Control	
39 - Vertical Clearance	0
40 - Horizontal Clearance	0
111 - Pier Protection	
116 - Lift Brgd Vert Clear	0

Route Carried By Structure(ON Record)

5A - Record Type	1
5B - Route Signing	5
5C - Level of Service	1
5D - Route Number	00000
5E - Direction Suffix	0
10L - Best 3m Unclr-Lt	0 0
10R - Best 3m Unclr-Rt	0 0
PR Number	
Control Section	
11 - Mile Point	0
12 - Base Highway Network	0
13 - LRS Route-Subroute	0000006336 03
19 - Detour Length	4
20 - Toll Facility	3
26 - Functional Class	16
28A - Lanes On	2
29 - ADT	8260
30 - Year of ADT	2014
32 - Appr Roadway Width	24
32A/B - Ap Pvt Type/Width	4 24
42A - Service Type On	1
47L - Left Horizontal Clear	0.0
47R - Right Horizontal Clear	24.0
53 - Min Vert Clr Ov Deck	99 99
100 - STRAHNET	0
102 - Traffic Direct	2
109 - Truck %	0
110 - Truck Network	0
114 - Future ADT	9500
115 - Year Future ADT	2034
Freeway	0

Structure Appraisal

36A - Bridge Railing	N
36B - Rail Transition	N
36C - Approach Rail	N
36D - Rail Termination	N
67 - Structure Evaluation	4
68 - Deck Geometry	N
69 - Underclearance	N
71 - Waterway Adequacy	6
72 - Approach Alignment	4
103 - Temporary Structure	
113 - Scour Criticality	8

Miscellaneous

37 - Historical Significance	5
98A - Border Bridge State	
98B - Border Bridge %	0
101 - Parallel Structure	N
EPA ID	
Stay in Place Forms	
143 - Pin & Hanger Code	0
148 - No. of Pin & Hangers	0

Route Under Structure (UNDER Record)

5A - Record Type	
5B - Route Signing	
5C - Level of Service	
5D - Route Number	
5E - Direction Suffix	
10L - Best 3m Unclr-Lt	
10R - Best 3m Unclr-Rt	
PR Number	
Control Section	
11 - Mile Point	
12 - Base Highway Network	
13 - LRS Route-Subroute	
19 - Detour Length	
20 - Toll Facility	
26 - Functional Class	
28B - Lanes Under	
29 - ADT	
30 - Year of ADT	
42B - Service Type Under	5
47L - Left Horizontal Clear	
47R - Right Horizontal Clear	
54A - Left Feature	
54B - Left Underclearance	99 99
54C - Right Feature	
54D - Right Clearance	99 99
Under Clearance Year	0
55A - Reference Feature	N
55B - Right Horiz Clearance	0
56 - Left Horiz Clearance	0
100 - STRAHNET	
102 - Traffic Direct	
109 - Truck %	
110 - Truck Network	
114 - Future ADT	
115 - Year Future ADT	
Freeway	

Proposed Improvements

75 - Type of Work	
76 - Length of Improvement	
94 - Bridge Cost	
95 - Roadway Cost	
96 - Total Cost	
97 - Year of Cost Estimate	

Load Rating and Posting

31 - Design Load	0
41 - Open, Posted, Closed	A
63 - Fed Oper Rtg Method	6
64F - Fed Oper Rtg Load	2.03
64MA - Mich Oper Rtg Method	6
64MB - Mich Oper Rtg	3.61
64MC - Mich Oper Truck	19
65 - Inv Rtg Method	6
66 - Inventory Load	1.22
70 - Posting	5
141 - Posted Loading	
193 - Overload Class	A N

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14274

WORK RECOMMENDATIONS

Facility 9 MILE ROAD	Latitude / Longitude 42.4519 / -83.4841	MDOT Structure ID 634489000010C02	Structure Condition Poor Condition(4)	
Feature THORNTON CREEK	Length / Width / Spans 26.6 / 0 / 2	Owner City: NOVI(4890)		
Location 0.5 MI W OF NOVI RD	Built / Recon. / Paint / Ovly. 1970 / / /	TSC Oakland(23)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Oakland(63)	Material / Design 3 Steel / 19 Culvert	Last NBI Inspection 09/30/2024 / 261X	Scour Evaluation 8 Stable Above Footing	

WORK RECOMMENDATIONS

261X

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14275

WORK RECOMMENDATIONS

Facility 9 MILE ROAD	Latitude / Longitude 42.4522 / -83.4729	MDOT Structure ID 634489000010C03	Structure Condition Good Condition(7)	
Feature THORNTON CREEK	Length / Width / Spans 21.5 / 104 / 2	Owner City: NOVI(4890)		
Location 0.06 MI E OF NOVI RD	Built / Recon. / Paint / Ovly. 1990 / / /	TSC Oakland(23)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Oakland(63)	Material / Design 3 Steel / 19 Culvert	Last NBI Inspection 09/30/2024 / 2RDO	Scour Evaluation 8 Stable Above Footing	

WORK RECOMMENDATIONS

2RDO