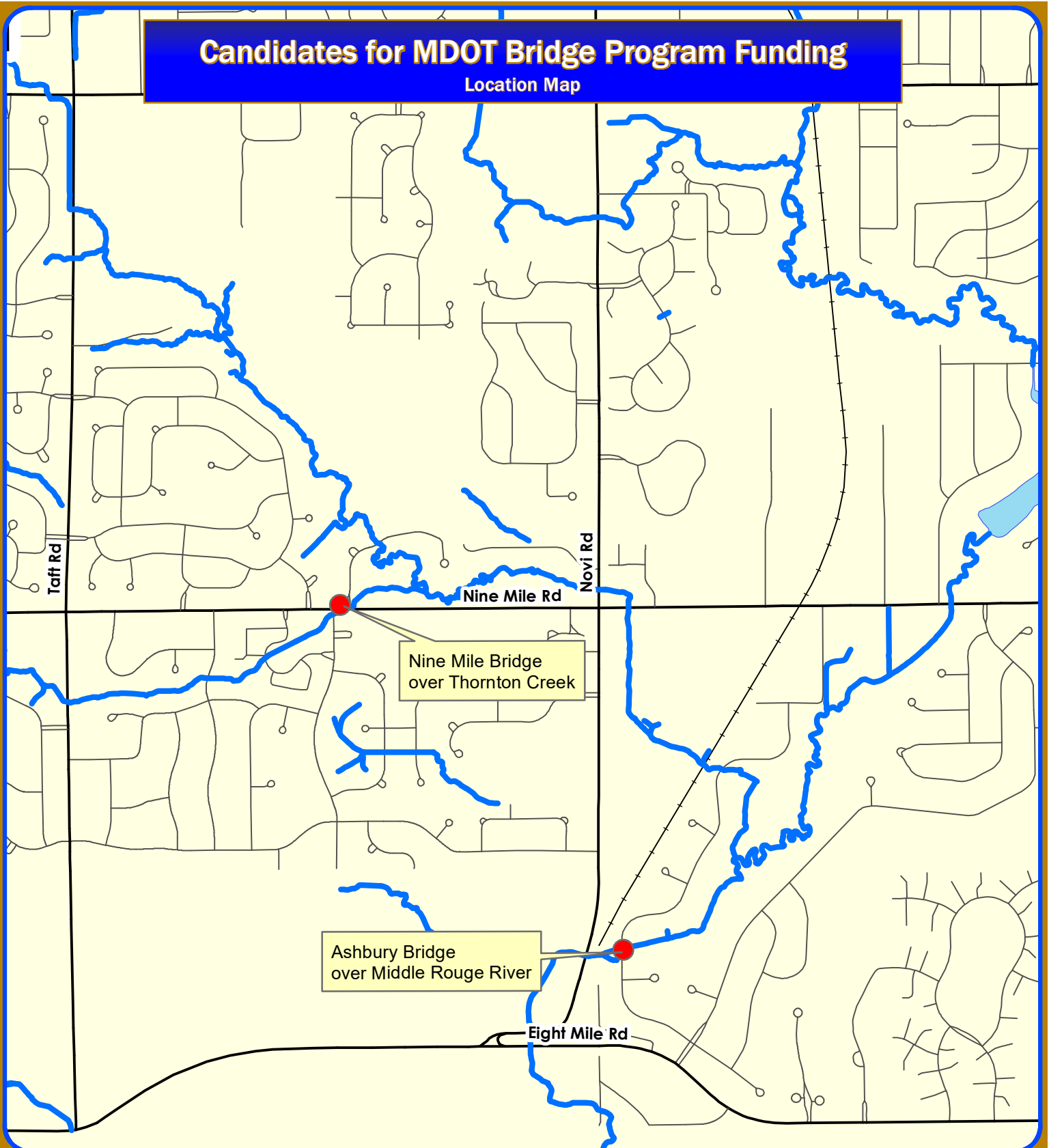


Candidates for MDOT Bridge Program Funding

Location Map



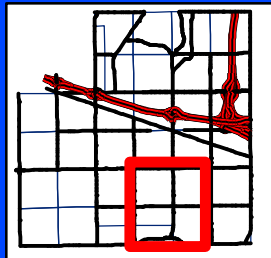
Map Author: Ben Croy
Date: 3/9/2023
Project: Bridge Candidates
Version: v1.0

Amended By:
Date:
Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

● Proposed Bridge Candidate



City of Novi

Engineering Division
Department of Public Works
26300 Lee BeGole Drive
Novi, MI 48375
cityofnovi.org

Feet
0 270 540 1,080 1,620

1 inch = 1,334 feet



Exhibit 4 - Cost Estimating Worksheet

2023

BRIDGE COST ESTIMATE WORKSHEET

REV. 01/31/2023

- CPM, REHAB, REPLACE -

DATE: 3/13/2023

ENGINEER: AJR

OWNER: NOVI
REGION: Metro
TSC: OaklandFISCAL YEAR: 2026
PR: 633603 MP: 5.699LENGTH 26.6
Out to Out WIDTH 0.0
Curb to Curb WIDTH 24.0

STRUCTURE ID: 14274

BRIDGE ID: N/A

LOCATION: 9 MILE ROAD over THORNTON CREEK
PRIMARY WORK ACTIVITY Culvert Replacement
OTHER WORK:DECK AREA: N/A SFT
CLEAR ROADWAY: 638 SFT
STR. TYPE: Steel Culvert

WORK ACTIVITY	MDOT Bridge Design Guides	QUANTITY	UNIT	UNIT COST	TOTAL
NEW BRIDGE (increase deck area based on design standards and hydraulic requirements)					
Single or Multiple Spans, Grade Separation	(add demo, approach, MOT)		SFT	\$415.00/SFT	
Single Span, Over Water	Length < 100ft (add demo, approach, MOT)		SFT	\$500.00/SFT	
Multiple Spans, Over Water	Length > 100ft (add demo, approach, MOT)		SFT	\$450.00/SFT	
Precast Culvert	Length < 40ft (add demo, approach, MOT)	3,360.0	SFT	\$540.00/SFT	\$1,814,400.00
NEW SUPERSTRUCTURE					
New Superstructure, Grade Separation	(incl. remove exist deck/super; add MOT & approach)		SFT	\$295.00/SFT	
New Superstructure, Over Water	(incl. remove exist deck/super; add MOT & approach)		SFT	\$300.00/SFT	
WIDENING					
Structure Widening, _____ ft	(incl. deck/super/sub widening, add approach transition)		SFT	\$630.00/SFT	
NEW DECK					
New Bridge Deck & Barrier	(incl. remove exist deck/railing, add approach, MOT)		SFT	\$150.00/SFT	
DEMOLITION					
Entire Structure, Grade Separation			SFT	\$75.00/SFT	
Entire Structure, Over Water			SFT	\$95.00/SFT	
Other (Culvert Removal)		1.0	LSUM	\$30,000.00/LSUM	\$30,000.00
DECK REPAIR / TREATMENTS					
Bridge Railing Replacement	(incl. removal and replacement)		FT	\$750.00/FT	
Concrete Brush Block / Curb Patch	(incl. hand chipping and formwork)		FT	\$29.00/FT	
Concrete Barrier Patch	(incl. hand chipping and formwork)		SFT	\$85.00/SFT	
Concrete Deck Patch	(incl. hand chipping)		SFT	\$68.00/SFT	
Deep Overlay	(incl. joint repl & hydro)		SFT	\$46.00/SFT	
Epoxy Overlay	(incl. warranty)		SYD	\$48.00/SYD	
Expansion Joint Gland Replacement	(remove and replace elastomeric gland)		FT	\$125.00/FT	
Expansion Joint Replacement	(incl. removal)		FT	\$860.00/FT	
Full Depth Patch			SFT	\$140.00/SFT	
Healer / Sealer	(penetrates cracks in bridge deck)		SYD	\$30.00/SYD	
HMA Overlay with WP membrane			SYD	\$60.00/SYD	
Overlay Removal	(Epoxy: \$22/syd Latex: \$26/syd HMA: \$7/syd)		SYD	\$22.00/SYD	
Reseal Bridge Joints			FT	\$28.00/FT	
Shallow Overlay	(incl. joint repl & hydro)		SFT	\$46.00/SFT	
SUPERSTRUCTURE REPAIR					
Bearing Realignment / Replacement	(incl. temporary supports)		EA	\$6,450.00/EA	
Heat Straightening	(incl. clean and coat)		EA	\$57,000.00/EA	
Pack Rust Repair	(greater than 3/8" separation)		FT	\$1,150.00/FT	
Paint - Complete	(incl. clean & coat)		SFT	\$30.00/SFT	
Paint - Partial / Spot / Zone	(incl. clean & coat - \$20k minimum)		SFT	\$60.00/SFT	
PCI Beam End Blockout	(incl. temporary supports)		EA	\$7,200.00/EA	
Pin & Hanger Replacement	(incl. temporary supports)		EA	\$17,000.00/EA	
Structural Steel Repair	(based on 6ft repair length)		EA	\$4,000.00/EA	
Structural Steel Repair - Stiffener	(includes each side of beam)		EA	\$1,500.00/EA	
SUBSTRUCTURE REPAIR					
Substructure Patching	(measured x 2) replace if repair area > 30%		CFT	\$360.00/CFT	
Substructure Replacement	(incl. temporary supports, excavation)		CFT	\$375.00/CFT	
Substructure Horizontal Surface Sealer			SYD	\$75.00/SYD	
Temporary Supports	(add Structural Steel Repair - Stiffener for ea steel beam)		EA	\$4,000.00/EA	
MISCELLANEOUS					
Articulating Concrete Block System (ACB)			SYD	\$320.00/SYD	
Concrete Surface Coating			SYD	\$47.00/SYD	
Culvert Cleanout			FT	\$125.00/FT	
Epoxy Crack Injection	(structural crack repair)		FT	\$70.00/FT	
Metal Mesh Panels	(48" width, max 6'-6" length)		SFT	\$28.00/SFT	
Pressure Relief Joint	(use when approach concrete roadway exceeds 1,000ft)		FT	\$110.00/FT	
Riprap	(assume 10ft distance around perimeter of substructure)		SYD	\$275.00/SYD	
Silane Treatment	(penetrating sealer for concrete surfaces)		SFT	\$7.00/SFT	
Slope Protection Repairs			SYD	\$150.00/SYD	
Other	(Scour Countermeasures)	1.0	LSUM	\$25,000.00/LSUM	\$25,000.00
STRUCTURE CONSTRUCTION BUDGET					\$1,869,400
ROAD WORK					
Approach Pavement, 12" RC	(incl. removal; add curb, gutter, guardrail) 40' ea. end		SYD	\$230.00/SYD	
Approach Curb & Gutter	(incl. removal) 40' ea. quadrant		FT	\$57.00/FT	
Guardrail Anchorage to Bridge	(each quadrant)		EA	\$2,540.00/EA	
Guardrail	(incl. removal) < 200ft beyond reference line		FT	\$41.00/FT	
Guardrail Terminal	(each quadrant)		EA	\$3,900.00/EA	
Roadway Approach Work	(beyond approach pavement)	1.0	LSUM	\$200,000.00/LSUM	\$200,000.00
Utilities		1.0	LSUM	\$30,000.00/LSUM	\$30,000.00
TRAFFIC CONTROL Unit Cost to be determined by Region or TSC Traffic & Safety					
Part Width Construction			LSUM		LSUM
Crossovers			EA		/EA
Temporary Traffic Signals			set		/set
RR Flagging			LSUM		LSUM
Detour		1.0	LSUM	\$75,000.00/LSUM	\$75,000.00
RELATED ROAD/TRAFFIC CONSTRUCTION BUDGET					\$305,000
CONTINGENCY	(10% - 20%) (use higher contingency for small projects)	20	%	\$2,174,000.00	\$435,000
MOBILIZATION	(estimate at 10%)	10	%	\$2,609,000.00	\$261,000
INFLATION	(assume 4% per year, beginning in 2024)	12	%	\$2,870,000.00	\$344,000

(Does not include PE or CE)

TOTAL CONSTRUCTION BUDGET **\$3,214,000**

Approximate City Out of Pocket Costs	APPROXIMATE CITY RESPONSIBILITY OF CONSTRUCTION COST (5% OF CONSTRUCTION)	\$160,700
	15 % CE	INSPECTION BUDGET \$462,100
	10 % PE	DESIGN BUDGET \$321,400

Exhibit 4 - Cost Estimating Worksheet

2023

BRIDGE COST ESTIMATE WORKSHEET

REV. 01/31/2023

- CPM, REHAB, REPLACE -

DATE: 3/13/2023

ENGINEER: AJR

OWNER: NOVI
REGION: Metro
TSC: OaklandFISCAL YEAR: 2026
PR: #N/A MP: #N/ALENGTH 46.1
WIDTH 44.4
Curb to Curb WIDTH 28.0STRUCTURE ID: 13828
BRIDGE ID: N/ALOCATION: ASHBURY DRIVE over MIDDLE BR ROUGE RIVER
PRIMARY WORK ACTIVITY Bridge Replacement
OTHER WORK:DECK AREA: 2,047 SFT
CLEAR ROADWAY: 1,291 SFTSTR. TYPE: Prestressed Concrete
Box Beam or Girders - Mu

WORK ACTIVITY	MDOT Bridge Design Guides	QUANTITY	UNIT	UNIT COST	TOTAL
NEW BRIDGE (increase deck area based on design standards and hydraulic requirements)					
Single or Multiple Spans, Grade Separation	(add demo, approach, MOT)		SFT	\$415.00/SFT	
Single Span, Over Water	Length < 100ft (add demo, approach, MOT)	2,046.8	SFT	\$500.00/SFT	\$1,023,420.00
Multiple Spans, Over Water	Length > 100ft (add demo, approach, MOT)		SFT	\$450.00/SFT	
Precast Culvert	Length < 40ft (add demo, approach, MOT)		SFT	\$540.00/SFT	
NEW SUPERSTRUCTURE					
New Superstructure, Grade Separation	(incl. remove exist deck/super; add MOT & approach)		SFT	\$295.00/SFT	
New Superstructure, Over Water	(incl. remove exist deck/super; add MOT & approach)		SFT	\$300.00/SFT	
WIDENING					
Structure Widening, _____ ft	(incl. deck/super/sub widening, add approach transition)		SFT	\$630.00/SFT	
NEW DECK					
New Bridge Deck & Barrier	(incl. remove exist deck/railing, add approach, MOT)		SFT	\$150.00/SFT	
DEMOLITION					
Entire Structure, Grade Separation			SFT	\$75.00/SFT	
Entire Structure, Over Water		2,046.8	SFT	\$95.00/SFT	\$194,449.80
DECK REPAIR / TREATMENTS					
Bridge Railing Replacement	(incl. removal and replacement)		FT	\$750.00/FT	
Concrete Brush Block / Curb Patch	(incl. hand chipping and formwork)		FT	\$29.00/FT	
Concrete Barrier Patch	(incl. hand chipping and formwork)		SFT	\$85.00/SFT	
Concrete Deck Patch	(incl. hand chipping)		SFT	\$68.00/SFT	
Deep Overlay	(incl. joint repl & hydro)		SFT	\$46.00/SFT	
Epoxy Overlay	(incl. warranty)		SYD	\$48.00/SYD	
Expansion Joint Gland Replacement	(remove and replace elastomeric gland)		FT	\$125.00/FT	
Expansion Joint Replacement	(incl. removal)		FT	\$860.00/FT	
Full Depth Patch			SFT	\$140.00/SFT	
Healer / Sealer	(penetrates cracks in bridge deck)		SYD	\$30.00/SYD	
HMA Overlay with WP membrane			SYD	\$60.00/SYD	
Overlay Removal	(Epoxy: \$22/syd Latex: \$26/syd HMA: \$7/syd)		SYD	\$22.00/SYD	
Reseal Bridge Joints			FT	\$28.00/FT	
Shallow Overlay	(incl. joint repl & hydro)		SFT	\$46.00/SFT	
SUPERSTRUCTURE REPAIR					
Bearing Realignment / Replacement	(incl. temporary supports)		EA	\$6,450.00/EA	
Heat Straightening	(incl. clean and coat)		EA	\$57,000.00/EA	
Pack Rust Repair	(greater than 3/8" separation)		FT	\$1,150.00/FT	
Paint - Complete	(incl. clean & coat)		SFT	\$30.00/SFT	
Paint - Partial / Spot / Zone	(incl. clean & coat - \$20k minimum)		SFT	\$60.00/SFT	
PCI Beam End Blockout	(incl. temporary supports)		EA	\$7,200.00/EA	
Pin & Hanger Replacement	(incl. temporary supports)		EA	\$17,000.00/EA	
Structural Steel Repair	(based on 6ft repair length)		EA	\$4,000.00/EA	
Structural Steel Repair - Stiffener	(includes each side of beam)		EA	\$1,500.00/EA	
SUBSTRUCTURE REPAIR					
Substructure Patching	(measured x 2) replace if repair area > 30%		CFT	\$360.00/CFT	
Substructure Replacement	(incl. temporary supports, excavation)		CFT	\$375.00/CFT	
Substructure Horizontal Surface Sealer			SYD	\$75.00/SYD	
Temporary Supports	(add Structural Steel Repair - Stiffener for ea steel beam)		EA	\$4,000.00/EA	
MISCELLANEOUS					
Articulating Concrete Block System (ACB)			SYD	\$320.00/SYD	
Concrete Surface Coating			SYD	\$47.00/SYD	
Culvert Cleanout			FT	\$125.00/FT	
Epoxy Crack Injection	(structural crack repair)		FT	\$70.00/FT	
Metal Mesh Panels	(48" width, max 6'-6" length)		SFT	\$28.00/SFT	
Pressure Relief Joint	(use when approach concrete roadway exceeds 1,000ft)		FT	\$110.00/FT	
Riprap	(assume 10ft distance around perimeter of substructure)	188.9	SYD	\$275.00/SYD	\$51,944.44
Silane Treatment	(penetrating sealer for concrete surfaces)		SFT	\$7.00/SFT	
Slope Protection Repairs			SYD	\$150.00/SYD	
Other					

STRUCTURE CONSTRUCTION BUDGET \$1,269,814

ROAD WORK					
Approach Pavement, 12" RC	(incl. removal; add curb, gutter, guardrail) 40' ea. end	248.9	SYD	\$230.00/SYD	\$57,244.44
Approach Curb & Gutter	(incl. removal) 40' ea. quadrant	160.0	FT	\$57.00/FT	\$9,120.00
Guardrail Anchorage to Bridge	(each quadrant)	4.0	EA	\$2,540.00/EA	\$10,160.00
Guardrail	(incl. removal) < 200ft beyond reference line		FT	\$41.00/FT	
Guardrail Terminal	(each quadrant)	4.0	EA	\$3,900.00/EA	\$15,600.00
Roadway Approach Work	(beyond approach pavement)	1.0	LSUM	\$75,000.00/LSUM	\$75,000.00
Utilities			LSUM		
TRAFFIC CONTROL Unit Cost to be determined by Region or TSC Traffic & Safety					
Part Width Construction			LSUM		
Crossovers			EA	/EA	
Temporary Traffic Signals			set	/set	
RR Flagging			LSUM		
Detour		1.0	LSUM	\$30,000.00/LSUM	\$30,000.00

RELATED ROAD/TRAFFIC CONSTRUCTION BUDGET \$197,124

CONTINGENCY	(10% - 20%) (use higher contingency for small projects)	20	%	\$1,467,000.00	\$293,000
MOBILIZATION	(estimate at 10%)	10	%	\$1,760,000.00	\$176,000
INFLATION	(assume 4% per year, beginning in 2024)	12	%	\$1,936,000.00	\$232,000

(Does not include PE or CE)

TOTAL CONSTRUCTION BUDGET \$2,168,000

Approximate City Out of Pocket Costs	APPROXIMATE CITY RESPONSIBILITY OF CONSTRUCTION COST (5% OF CONSTRUCTION)	\$108,400
	15 % CE	INSPECTION BUDGET \$325,200
	10 % PE	DESIGN BUDGET \$216,800

ELIZABETH KUDLA SAARELA
esaarela@rsjalaw.com

27555 Executive Drive, Suite 250
Farmington Hills, Michigan 48331
P 248.489.4100 | F 248.489.1726
rsjalaw.com



ROSATI | SCHULTZ
JOPPICH | AMTSBUECHLER

March 9, 2023

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 – Asbury Bridge over Middle Rouge River

Dear Mr. Croy:

You have indicated that the City will be resubmitting its application for participation in MDOT's 2023 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 Asbury Bridge over the Middle Rouge River 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 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)
Thomas R. Schultz, Esquire (w/Enclosure)

ELIZABETH KUDLA SAARELA
esaarela@rsjalaw.com

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Farmington Hills, Michigan 48331
P 248.489.4100 | F 248.489.1726
rsjalaw.com



ROSATI | SCHULTZ
JOPPICH | AMTSBUECHLER

March 9, 2023

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 – 9 Mile Road Over Thornton Creek

Dear Mr. Croy:

You have indicated that the City will be resubmitting its application for participation in MDOT's 2023 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 9 Mile Road Over Thornton Creek 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 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)
Thomas R. Schultz, Esquire (w/Enclosure)

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14274

CULVERT SAFETY INSPECTION REPORT

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4519 / -83.4841	634489000010C02	Poor Condition(4)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	26.6 / 0 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.5 MI W OF NOVI RD	1970 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / AZ6H	8 Stable Above Footing	

CULVERT INSPECTION

AZ6H

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Adam Rychwalski	Orchard, Hiltz & McCliment Inc	12	09/15/2022

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

	09/20	09/21	09/22	
1. Culvert Rating (SIA-62)	4	4	4	(09/22) (09/21) (09/20)
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. (09/22) 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. (09/21) 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. (09/20)
3. Scour	7	7	7	armoring at both ends. no scour noted. full invert on pipe throughout. (09/22) armoring at both ends. no scour noted. full invert on pipe throughout. (09/21) armoring at both ends. no scour noted. full invert on pipe throughout. (09/20)

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	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4519 / -83.4841	634489000010C02	Poor Condition(4)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	26.6 / 0 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.5 MI W OF NOVI RD	1970 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / AZ6H	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
Culvert Repl.	H	Replace culvert due to poor condition, pipe damage, pipe alignment.

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14274

STRUCTURE INVENTORY AND APPRAISAL

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4519 / -83.4841	634489000010C02	Poor Condition(4)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	26.6 / 0 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.5 MI W OF NOVI RD	1970 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / AZ6H	8 Stable Above Footing	

Bridge History, Type, Materials		Route Carried By Structure(ON Record)		Route Under Structure (UNDER Record)	
27 - Year Built	1970	5A - Record Type	1	5A - Record Type	
106 - Year Reconstructed		5B - Route Signing	5	5B - Route Signing	
202 - Year Painted		5C - Level of Service	1	5C - Level of Service	
203 - Year Overlay		5D - Route Number	00000	5D - Route Number	
43 - Main Span Bridge Type	3 19	5E - Direction Suffix	0	5E - Direction Suffix	
44 - Appr Span Bridge Type		10L - Best 3m Unclr-Lt	0 0	10L - Best 3m Unclr-Lt	
77 - Steel Type		10R - Best 3m Unclr-Rt	0 0	10R - Best 3m Unclr-Rt	
78 - Paint Type		PR Number		PR Number	
79 - Rail Type	0	Control Section		Control Section	
80 - Post Type		11 - Mile Point	0	11 - Mile Point	
107 - Deck Type	N	12 - Base Highway Network	0	12 - Base Highway Network	
108A - Wearing Surface	6	13 - LRS Route-Subroute	0000006336 03	13 - LRS Route-Subroute	
108B - Membrane	N	19 - Detour Length	4	19 - Detour Length	
108C - Deck Protection	0	20 - Toll Facility	3	20 - Toll Facility	
Structure Dimensions		26 - Functional Class	16	26 - Functional Class	
34 - Skew	64	28A - Lanes On	2	28B - Lanes Under	
35 - Struct Flared	N	29 - ADT	8260	29 - ADT	
45 - Num Main Spans	2	30 - Year of ADT	2014	30 - Year of ADT	
46 - Num Apprs Spans	0	32 - Appr Roadway Width	24	42B - Service Type Under	5
48 - Max Span Length	12.2	32A/B - Ap Pvt Type/Width	4 24	47L - Left Horizontal Clear	
49 - Structure Length	26.6	42A - Service Type On	1	47R - Right Horizontal Clear	
50A - Width Left Curb/SW	0	47L - Left Horizontal Clear	0.0	54A - Left Feature	
50B - Width Right Curb/SW	0	47R - Right Horizontal Clear	24.0	54B - Left Underclearance	99 99
33 - Median	0	53 - Min Vert Clr Ov Deck	99 99	54C - Right Feature	
51 - Width Curb to Curb	0	100 - STRAHNET	0	54D - Right Clearance	99 99
52 - Width Out to Out	0	102 - Traffic Direct	2	Under Clearance Year	0
112 - NBIS Length	Y	109 - Truck %	0	55A - Reference Feature	N
Inspection Data		110 - Truck Network	0	55B - Right Horiz Clearance	0
90 - Inspection Date	09/15/2022	114 - Future ADT	9500	56 - Left Horiz Clearance	0
91 - Inspection Freq	12	115 - Year Future ADT	2034	100 - STRAHNET	
92A - Frac Crit Req/Freq	N	Freeway	0	102 - Traffic Direct	
93A - Frac Crit Insp Date		Structure Appraisal		109 - Truck %	
92B - Und Water Req/Freq	N	36A - Bridge Railing	N	110 - Truck Network	
93B - Und Water Insp Date		36B - Rail Transition	N	114 - Future ADT	
92C - Oth Spec Insp Req/Freq	N	36C - Approach Rail	N	115 - Year Future ADT	
93C - Oth Spec Insp Date		36D - Rail Termination	N	Freeway	
92D - Fatigue Req/Freq	N	67 - Structure Evaluation	4	Proposed Improvements	
93D - Fatigue Insp Date		68 - Deck Geometry	N	75 - Type of Work	
176A - Und Water Insp Method	1	69 - Underclearance	N	76 - Length of Improvement	
58 - Deck Rating	N	71 - Waterway Adequacy	6	94 - Bridge Cost	
58A/B - Deck Surface/Bottom		72 - Approach Alignment	4	95 - Roadway Cost	
59 - Superstructure Rating	N	103 - Temporary Structure		96 - Total Cost	
59A - Paint Rating		113 - Scour Criticality	8	97 - Year of Cost Estimate	
60 - Substructure Rating	N	Miscellaneous		Load Rating and Posting	
61 - Channel Rating	6	37 - Historical Significance	5	31 - Design Load	0
62 - Culvert Rating	4	98A - Border Bridge State		41 - Open, Posted, Closed	A
Navigation Data		98B - Border Bridge %	0	63 - Fed Oper Rtg Method	6
38 - Navigation Control		101 - Parallel Structure	N	64F - Fed Oper Rtg Load	2.03
39 - Vertical Clearance	0	EPA ID		64MA - Mich Oper Rtg Method	6
40 - Horizontal Clearance	0	Stay in Place Forms		64MB - Mich Oper Rtg	3.61
111 - Pier Protection		143 - Pin & Hanger Code	0	64MC - Mich Oper Truck	19
116 - Lift Brdg Vert Clear	0	148 - No. of Pin & Hangers	0	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	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4519 / -83.4841	634489000010C02	Poor Condition(4)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	26.6 / 0 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.5 MI W OF NOVI RD	1970 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / AZ6H	8 Stable Above Footing	

WORK RECOMMENDATIONS

AZ6H

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14275

CULVERT SAFETY INSPECTION REPORT

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4522 / -83.4729	634489000010C03	Good Condition(7)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	21.5 / 104 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.06 MI E OF NOVI RD	1990 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / KM5A	8 Stable Above Footing	

CULVERT INSPECTION

KM5A

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Adam Rychwalski	Orchard, Hiltz & McCliment Inc	24	09/15/2022

GENERAL NOTES

Dual CMP arch pipe. Pipe in overall good to fair condition with minor puncture under westbound lane. Assisted by Nick Aukerman (2022).

NBI INSPECTION

	11/18	09/20	09/22	
1. Culvert Rating (SIA-62)	7	7	7	(09/22) (09/20) (11/18)
2. Channel (SIA-61)	5	5	5	Main channel is in east bore with stream entering from northeast. west bore is mainly an overflow. Debris has been cleared from the west bore. Stream conditions do not appear to affect the pipe. (09/22) Main channel is in east bore with stream entering from northeast. west bore is mainly an overflow as debris has built up between the pipes up to approximately bankful height. debris dam causes approximate 1.5' waterfall 30' downstream. stream conditions do not appear to affect the pipe. (09/20) Main channel is in east bore with stream entering from northeast. west bore is mainly an overflow as debris has built up between the pipes up to approximately bankful height. debris dam causes approximate 1.5' waterfall 30' downstream. stream conditions do not appear to affect the pipe. (11/18)
3. Scour	6	6	6	no natural bottom at upstream end of pipe but no scour noted. (09/22) no natural bottom at upstream end of pipe but no scour noted. (09/20) no natural bottom at upstream end of pipe but no scour noted. (11/18)

AASHTO ELEMENTS

(English Units)

Element Number	Element Name	Total Quantity	Unit	Good CS1	Fair CS2	Poor CS3	Severe CS4
Culvert							
240	Steel Culvert	240	ft	220 92%	20 8%	0 0%	0 0%
861	Culvert Wingwall	2	(EA)	2 100%	0 0%	0 0%	0 0%
863	Culvert Headwall	1	(EA)	1 100%	0 0%	0 0%	0 0%

MISCELLANEOUS

Guard Rail		Other Items	
<u>Item</u>	<u>Rating</u>	<u>Item</u>	<u>Rating</u>
36A. Bridge Railings	N	71. Water Adequacy	8
36B. Transitions	N	72. Approach Alignment	6
36C. Approach Guardrail	N	Special Insp. Equipment	
36D. Approach Guardrail Ends	N	Underwater Insp. Method	1

RECOMMENDATIONS & ACTION ITEMS

Recommendation Type	Priority	Description
Modified by: RYCHWALSIA4444 on 09/15/2022	Printed on 09/15/2022	Page 1 of 2

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14275

CULVERT SAFETY INSPECTION REPORT

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4522 / -83.4729	634489000010C03	Good Condition(7)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	21.5 / 104 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.06 MI E OF NOVI RD	1990 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / KM5A	8 Stable Above Footing	
Other	L	plug puncture hole in culvert with grout during the next project in the area.		

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14275

STRUCTURE INVENTORY AND APPRAISAL

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4522 / -83.4729	634489000010C03	Good Condition(7)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	21.5 / 104 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.06 MI E OF NOVI RD	1990 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / KM5A	8 Stable Above Footing	

Bridge History, Type, Materials		Route Carried By Structure(ON Record)		Route Under Structure (UNDER Record)	
27 - Year Built	1990	5A - Record Type	1	5A - Record Type	
106 - Year Reconstructed		5B - Route Signing	5	5B - Route Signing	
202 - Year Painted		5C - Level of Service	1	5C - Level of Service	
203 - Year Overlay		5D - Route Number	00000	5D - Route Number	
43 - Main Span Bridge Type	3 19	5E - Direction Suffix	0	5E - Direction Suffix	
44 - Appr Span Bridge Type		10L - Best 3m Unclr-Lt	0 0	10L - Best 3m Unclr-Lt	
77 - Steel Type		10R - Best 3m Unclr-Rt	0 0	10R - Best 3m Unclr-Rt	
78 - Paint Type		PR Number		PR Number	
79 - Rail Type	0	Control Section		Control Section	
80 - Post Type		11 - Mile Point	0	11 - Mile Point	
107 - Deck Type	N	12 - Base Highway Network	0	12 - Base Highway Network	
108A - Wearing Surface	6	13 - LRS Route-Subroute	0000006336 03	13 - LRS Route-Subroute	
108B - Membrane	N	19 - Detour Length	0	19 - Detour Length	
108C - Deck Protection	0	20 - Toll Facility	3	20 - Toll Facility	
Structure Dimensions		26 - Functional Class	16	26 - Functional Class	
34 - Skew	0	28A - Lanes On	4	28B - Lanes Under	
35 - Struct Flared	N	29 - ADT	11126	29 - ADT	
45 - Num Main Spans	2	30 - Year of ADT	2012	30 - Year of ADT	
46 - Num Apprs Spans	0	32 - Appr Roadway Width	52	42B - Service Type Under	5
48 - Max Span Length	10	32A/B - Ap Pvt Type/Width	4 52	47L - Left Horizontal Clear	
49 - Structure Length	21.5	42A - Service Type On	1	47R - Right Horizontal Clear	
50A - Width Left Curb/SW	0	47L - Left Horizontal Clear	0.0	54A - Left Feature	
50B - Width Right Curb/SW	8	47R - Right Horizontal Clear	27.5	54B - Left Underclearance	99 99
33 - Median	0	53 - Min Vert Clr Ov Deck	99 99	54C - Right Feature	
51 - Width Curb to Curb	52	100 - STRAHNET	0	54D - Right Clearance	99 99
52 - Width Out to Out	104	102 - Traffic Direct	2	Under Clearance Year	0
112 - NBIS Length	Y	109 - Truck %	0	55A - Reference Feature	N
Inspection Data		110 - Truck Network	0	55B - Right Horiz Clearance	0
90 - Inspection Date	09/15/2022	114 - Future ADT	12800	56 - Left Horiz Clearance	0
91 - Inspection Freq	24	115 - Year Future ADT	2032	100 - STRAHNET	
92A - Frac Crit Req/Freq	N	Freeway	0	102 - Traffic Direct	
93A - Frac Crit Insp Date		Structure Appraisal		109 - Truck %	
92B - Und Water Req/Freq	N	36A - Bridge Railing	N	110 - Truck Network	
93B - Und Water Insp Date		36B - Rail Transition	N	114 - Future ADT	
92C - Oth Spec Insp Req/Freq	N	36C - Approach Rail	N	115 - Year Future ADT	
93C - Oth Spec Insp Date		36D - Rail Termination	N	Freeway	
92D - Fatigue Req/Freq	N	67 - Structure Evaluation	7	Proposed Improvements	
93D - Fatigue Insp Date		68 - Deck Geometry	4	75 - Type of Work	
176A - Und Water Insp Method	1	69 - Underclearance	8	76 - Length of Improvement	
58 - Deck Rating	N	71 - Waterway Adequacy	N	94 - Bridge Cost	
58A/B - Deck Surface/Bottom		72 - Approach Alignment	6	95 - Roadway Cost	
59 - Superstructure Rating	N	103 - Temporary Structure		96 - Total Cost	
59A - Paint Rating		113 - Scour Criticality	8	97 - Year of Cost Estimate	
60 - Substructure Rating	N	Miscellaneous		Load Rating and Posting	
61 - Channel Rating	5	37 - Historical Significance	5	31 - Design Load	5
62 - Culvert Rating	7	98A - Border Bridge State		41 - Open, Posted, Closed	A
Navigation Data		98B - Border Bridge %	0	63 - Fed Oper Rtg Method	6
38 - Navigation Control		101 - Parallel Structure	N	64F - Fed Oper Rtg Load	3.59
39 - Vertical Clearance	0	EPA ID		64MA - Mich Oper Rtg Method	6
40 - Horizontal Clearance	0	Stay in Place Forms		64MB - Mich Oper Rtg	6.38
111 - Pier Protection		143 - Pin & Hanger Code	0	64MC - Mich Oper Truck	19
116 - Lift Brdg Vert Clear	0	148 - No. of Pin & Hangers	0	65 - Inv Rtg Method	6
				66 - Inventory Load	2.15
				70 - Posting	5
				141 - Posted Loading	
				193 - Overload Class	A N

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 14275

WORK RECOMMENDATIONS

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
9 MILE ROAD	42.4522 / -83.4729	634489000010C03	Good Condition(7)	
Feature	Length / Width / Spans	Owner		
THORNTON CREEK	21.5 / 104 / 2	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
0.06 MI E OF NOVI RD	1990 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	3 Steel / 19 Culvert	09/15/2022 / KM5A	8 Stable Above Footing	

WORK RECOMMENDATIONS

KM5A

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828

BRIDGE SAFETY INSPECTION REPORT

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition
ASHBURY DRIVE	42.4427 / -83.4728	635489000067B01	Poor Condition(4)
Feature	Length / Width / Spans	Owner	
MIDDLE BR ROUGE RIVER	46.1 / 44.4 / 1	City: NOVI(4890)	
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status
CHASE FARMS SUBDIVISION	1991 / / /	Oakland(23)	A Open, no restriction(A)
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation
Metro(7) / Oakland(63)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	09/15/2022 / 9LGY	8 Stable Above Footing



NBI INSPECTION

9LGY

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Adam Rychwalski	Orchard, Hiltz & McCliment Inc	12	09/15/2022

GENERAL NOTES

Assisted by Nick Aukerman.

DECK

	09/18	09/20	09/22	
1. Surface (SIA-58A)	6	6	6	HMA surface with sealed longitudinal crack at centerline. Two other sealed longitudinal cracks near mid span. Previously unsealed crack have been sealed. SE quad has break up of HMA at east curb line. General scaling of HMA surface along west curb line. (09/22) HMA surface with sealed longitudinal crack at centerline. Two other sealed longitudinal cracks near mid span. A few unsealed cracks. SE quad has break up of HMA at east curb line. General scaling of HMA surface along west curb line. (09/20) HMA surface with sealed longitudinal crack at centerline. Two other sealed longitudinal cracks near mid span. A few unsealed cracks. SE quad has break up of HMA at east curb line. (09/18)
2. Expansion Joints	7	7	7	Sealed cracks at reference lines. Sealant sinking in areas but still intact. Some drying of HPJS. (09/22) Sealed cracks at reference lines. Sealant sinking in areas but still intact. Some drying of HPJS. (09/20) Sealed cracks at reference lines. Sealant sinking in areas but still intact. (09/18)
3. Other Joints	N	N	N	(09/22) (09/20) (09/18)
4. Railings	7	7	7	Concrete rail with painted timber insets and wood rail on top. Concrete has some vertical cracks at 5-6' spacing. Timber has been recently replaced. (09/22) Concrete rail with painted timber insets and wood rail on top. Concrete has some vertical cracks at 5-6' spacing. Timber has been recently replaced. (09/20) Concrete rail with painted timber insets and metal rail on top. Concrete has some vertical cracks at 5-6' spacing. Timber and metal with no deficiencies. (09/18)
5. Sidewalks or Curbs	7	7	7	A few longitudinal and transverse cracks on sidewalk. (09/22) A few longitudinal and transverse cracks on sidewalk. (09/20) A few longitudinal and transverse cracks on sidewalk. (09/18)
6. Deck Bottom Surface (SIA-58B)	N	N	N	Side-by-side box beams. Leaking between all beams. Stalactites present at most beam lines and leachate at all of them. (09/22) Side-by-side box beams. Leaking between all beams. Stalactites present at most beam lines and leachate at all of them. (09/20) Side-by-side box beams. Leaking between all beams. Stalactites present at most beam lines and leachate at all of them. (09/18)
7. Deck (SIA-58)	6	6	6	Surface has some cracking and there is leaking between all beams. Top of beams exposed at sidewalk face near midspan on both sides of bridge. (09/22) Surface has some cracking and there is leaking between all beams. (09/20) Surface has some cracking and there is leaking between all beams. (09/18)
8. Drainage				(09/22) (09/20) (09/18)

SUPERSTRUCTURE

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828

BRIDGE SAFETY INSPECTION REPORT

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition
ASHBURY DRIVE	42.4427 / -83.4728	635489000067B01	Poor Condition(4)
Feature	Length / Width / Spans	Owner	
MIDDLE BR ROUGE RIVER	46.1 / 44.4 / 1	City: NOVI(4890)	
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status
CHASE FARMS SUBDIVISION	1991 / / /	Oakland(23)	A Open, no restriction(A)
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation
Metro(7) / Oakland(63)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	09/15/2022 / 9LGY	8 Stable Above Footing



09/18 09/20 09/22

9. Stringer (SIA-59)	7	7	7	Leaching between beams but no distress to beams. Few cracks on fascias at 4' spacing with leaching. (09/22) Leaching between beams but no distress to beams. Few cracks on fascias at 4' spacing with leaching. (09/20) Leaching between beams but no distress to beams. Few cracks on fascias at 4' spacing with leaching. (09/18)
10. Paint (SIA-59A)	N	N	N	(09/22) (09/20) (09/18)
11. Section Loss	N	N	N	(09/22) (09/20) (09/18)
12. Bearings	7	7	7	Not visible but not no signs of issues. Appear to be functioning as intended. (09/22) Not visible but not no signs of issues. Appear to be functioning as intended. (09/20) Not visible but not no signs of issues. Appear to be functioning as intended. (09/18)

SUBSTRUCTURE

09/18 09/20 09/22

13. Abutments (SIA-60)	5	5	4	Pack rust and scaling at base and top near beams is evident on both abutments and has progressed since the previous inspection. Some vertical cracks in concrete pile cap. Evidence of leaking from ends. Holes in sheet piling of north abutment near the middle of the base. Pack rust and scaling on north abutment is allowing water through but no material. Section loss is minor and there is leaching between the sheets of the southern abutment sheet piling. (09/22) Steel sheet piling has pack rust at base and at top near beams. Section loss is minor and there is leaching between the sheets. Some vertical cracks in concrete pile cap. Evidence of leaking from ends. (09/20) Steel sheet piling has pack rust at base and at top near beams. Section loss is minor and there is leaching between the sheets. Some vertical cracks in concrete pile cap. (09/18)
14. Piers (SIA-60)	N	N	N	(09/22) (09/20) (09/18)
15. Slope Protection	N	N	N	(09/22) (09/20) (09/18)
16. Channel (SIA-61)	6	6	6	Banks eroded ~2' high along the waterline. vegetation sloughing into channel. Main channel is relatively flat (09/22) Banks eroded ~2' high along the waterline. vegetation sloughing into channel. Main channel is relatively flat (09/20) Banks eroded ~2' high along the waterline. vegetation sloughing into channel. Main channel is relatively flat (09/18)
17. Scour Inspection	7	7	7	No scour evident. Flat rocky bottom. (09/22) No scour evident. Flat rocky bottom. (09/20) No scour evident. (09/18)

APPROACH

09/18 09/20 09/22

18. Approach Pavement	7	7	7	Sealed longitudinal rack in north approach. No cracks in south approach. General wear in HMA. (09/22) Sealed longitudinal rack in north approach. No cracks in south approach. General wear in HMA. (09/20) Sealed longitudinal rack in north approach. No cracks in south approach. (09/18)
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MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828

BRIDGE SAFETY INSPECTION REPORT

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition
ASHBURY DRIVE	42.4427 / -83.4728	635489000067B01	Poor Condition(4)
Feature	Length / Width / Spans	Owner	
MIDDLE BR ROUGE RIVER	46.1 / 44.4 / 1	City: NOVI(4890)	
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status
CHASE FARMS SUBDIVISION	1991 / / /	Oakland(23)	A Open, no restriction(A)
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation
Metro(7) / Oakland(63)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	09/15/2022 / 9LGY	8 Stable Above Footing



19. Approach 7 7 7 Sidewalk and curb have recently been replaced in all quadrants. (09/22)
Shoulders Sidewalk and curb have recently been replaced in all quadrants. (09/20)
Sidewalks Sidewalk and curb have recently been replaced in all quadrants. (09/18)

20. Approach Gentle grassed slopes with no erosion. (09/22)
Slopes Gentle grassed slopes with no erosion. (09/20)
 Gentle grassed slopes with no erosion. (09/18)

21. Utilities (09/22)
 (09/20)
 (09/18)

22. Drainage (09/22)
Culverts (09/20)
 (09/18)

MISCELLANEOUS

Guard Rail

<u>Item</u>	<u>Rating</u>
36A. Bridge Railings	1
36B. Transitions	0
36C. Approach Guardrail	0
36D. Approach Guardrail Ends	0

Other Items

<u>Item</u>	<u>Rating</u>
71. Water Adequacy	8
72. Approach Alignment	8
Temporary Support	0 No Temporary Supports
High Load Hit (M)	No
Special Insp. Equipment	2
Underwater Insp. Method	1

False Decking (Timber) Removed to Complete Inspection

N/A - No False Decking

Critical Feature Inspections (SIA-92)

	<u>Freq</u>	<u>Date</u>
92A. Fracture Critical		
92B. Underwater		
92C. Other Special		
92D. Fatigue Sensitive		

STR 13828		STRUCTURE INVENTORY AND APPRAISAL		
Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
ASHBURY DRIVE	42.4427 / -83.4728	635489000067B01	Poor Condition(4)	
Feature	Length / Width / Spans	Owner		
MIDDLE BR ROUGE RIVER	46.1 / 44.4 / 1	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
CHASE FARMS SUBDIVISION	1991 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	09/15/2022 / 9LGY	8 Stable Above Footing	

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MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828

WORK RECOMMENDATIONS

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition
ASHBURY DRIVE	42.4427 / -83.4728	635489000067B01	Poor Condition(4)
Feature	Length / Width / Spans	Owner	
MIDDLE BR ROUGE RIVER	46.1 / 44.4 / 1	City: NOVI(4890)	
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status
CHASE FARMS SUBDIVISION	1991 / / /	Oakland(23)	A Open, no restriction(A)
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation
Metro(7) / Oakland(63)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	09/15/2022 / 9LGY	8 Stable Above Footing



WORK RECOMMENDATIONS

9LGY

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Adam Rychwalski	Orchard, Hiltz & McCliment Inc	12	09/15/2022

RECOMMENDATIONS & ACTION ITEMS

Recommendation Type	Priority	Description
Deck Patching	L	Seal cracks in surface.
HMA Overlay	L	Apply waterproofing underneath HMA overlay.
Bridge Repl.	L	