SUBJECT: Adoption of Resolution requesting the Michigan Department of Transportation (MDOT) include the existing bridge on 9 Mile Road over Thornton Creek in the State Local Bridge Program List for Replacement. If MDOT selects this bridge, the City of Novi will accept 100% of the design engineering costs and 5% of the total construction costs.

SUBMITTING DEPARTMENT: Department of Public Works, Engineering Division

CITY MANAGER APPROVAL: 

BACKGROUND INFORMATION:

The City of Novi has retained OHM Advisors to complete the 2018 Annual Bridge Inspection of 12 city-owned and maintained bridges. Two bridges were recommended to be added to the inventory, including the bridge on 9 Mile Road over Thornton Creek. OHM Advisors concluded that the bridge on 9 Mile Road over Thornton Creek is in need of removal and replacement over the next 5 to 7 years.

This bridge qualifies as a candidate for the Michigan Department of Transportation (MDOT) Local Bridge Program for replacement. MDOT is currently accepting applications for the FY 2022 Local Bridge Program, which has an estimated $35 million budget. OHM Advisors will submit an application to MDOT to include this bridge in the Local Bridge Program. If MDOT selects this bridge, the City will only be responsible for 5% of the construction costs. Currently, the application includes bridge replacement cost estimation sheets totaling $1,285,000 (see Appendix A). The City will still be responsible for 100% of the associated design engineering fees in the amount of $83,525 (6.5% of $1,285,000). The estimated construction cost that the City would be responsible for is $64,250 (5% of $1,285,000).

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 to MDOT that City Council supports the replacement of the bridge and will do all that is reasonably necessary in order 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 20, 2019).

RECOMMENDED ACTION: Adoption of Resolution requesting that the Michigan Department of Transportation (MDOT) include the existing bridge on 9 Mile Road over Thornton Creek in the State Local Bridge Program List for Replacement. If MDOT selects this bridge, the City of Novi will accept 100% of the design engineering costs and 5% of the total construction costs.
March 20, 2019

George Melistas, Senior Engineering Manager
City of Novi
Department of Public Works
Field Services Complex
26300 Lee BeGole Drive
Novi, MI  48375

Re:  MDOT Local Bridge Program – Nine Mile Over Thornton Creek

Dear Mr. Melistas:

We have received and reviewed the proposed Resolution Requesting that the Michigan Department of Transportation Include the Bridge on 9 Mile Road Over Thornton Creek in the State Local Bridge Program List for Preventative Maintenance.

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,

[Signature]

Enclosure
C:  Cortney Hanson, Clerk (w/ Enclosure)
    Jeffrey Herczeg, Director of Public Works (w/Enclosure)
    Thomas R. Schultz, Esquire (w/Enclosure)
RESOLUTION REQUESTING THAT THE MICHIGAN DEPARTMENT OF TRANSPORTATION INCLUDE THE BRIDGE ON 9 MILE ROAD OVER THORNTON CREEK 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 April 1, 2019, 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 2018 annual inspection of twelve bridges in the City, one of which was the bridge on 9 Mile Road over Thornton Creek; and

WHEREAS; based on the inspections, the Consulting Engineers prepared a 2018 Bridge Inspection Report; and

WHEREAS; the 2018 Bridge Inspection Report concludes that the bridge on 9 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 9 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 9 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 __________, 2019, 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
CULVERT INSPECTION

Inspector Name: Adam Rychwalski
Agency / Company Name: Orchard Hiltz & McCliment Inc
Insp. Freq.: 12
Insp. Date: 11/12/2018

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 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.

NBI INSPECTION

<table>
<thead>
<tr>
<th>01/01 11/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Culvert Rating (SIA-62)</td>
</tr>
<tr>
<td>2. Channel Rating (SIA-61)</td>
</tr>
<tr>
<td>3. Scour</td>
</tr>
</tbody>
</table>

AASHTO ELEMENTS

<table>
<thead>
<tr>
<th>Element Number</th>
<th>Element Name</th>
<th>Total Quantity</th>
<th>Unit</th>
<th>Good CS1</th>
<th>Fair CS2</th>
<th>Poor CS3</th>
<th>Severe CS4</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
<td>Steel Culvert</td>
<td>560</td>
<td>ft</td>
<td>60</td>
<td>350</td>
<td>140</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11%</td>
<td>62%</td>
<td>25%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Adherent 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.

Scour Countermeasure

| 830 | Plain Riprap | 400 | sq.ft | 400 | 0 | 0 | 0 |
| | | | | 100% | 0% | 0% | 0% |

new riprap at outlet in good condition

| 837 | Other Scour Protect | 20 | ft | 10 | 0 | 10 | 0 |
| | | | | 50% | 0% | 50% | 0% |

Slope paving at upstream end is crumbling and allowing for material loss around pipe.

MISCELLANEOUS

Guard Rail

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
<th>Other Items</th>
</tr>
</thead>
</table>

Form P2502 Printed on 03/18/2019
### RECOMMENDATIONS & ACTION ITEMS

<table>
<thead>
<tr>
<th>Recommendation Type</th>
<th>Priority</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culvert Repl.</td>
<td>H</td>
<td>Replace culvert due to poor condition, pipe damage, pipe alignment.</td>
</tr>
</tbody>
</table>

---

**Facility**
- **Location**: 0.5 MI W OF NOVI RD
- **Region / County**: Metro(7) / Oakland(63)
- **Owner**: City: NOVI(4890)
- **Material / Design**: 3 Steel / 19 Culvert
- **Last NBI Inspection**: 11/12/2018 / T2V1
- **Scour Evaluation**: 8 Stable Above Footing
- **Operational Status**: A Open, no restriction(A)

**Recommendation Type**
- **36A. Bridge Railings**: N
- **36B. Transitions**: N
- **36C. Approach Guardrail**: N
- **36D. Approach Guardrail Ends**: N

---

**36A. Bridge Railings**
- **Priority**: 6
- **Description**: 71. Water Adequacy

**36B. Transitions**
- **Priority**: 4
- **Description**: 72. Approach Alignment

**36C. Approach Guardrail**
- **Priority**: 9
- **Description**: Special Insp. Equipment

**36D. Approach Guardrail Ends**
- **Priority**: 1
- **Description**: Underwater Insp. Method
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 | / / /          | Oakland(23) | A Open, no restriction(A)

Region / County   | Material / Design | Last NBI Inspection | Scour Evaluation
Metro(7) / Oakland(63) | 3 Steel / 19 Culvert | 11/12/2018 / T2V1 | 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
79 - Paint Type
79 - Rail Type
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 Appr 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
53 - Median 0
51 - Width Curb to Curb 0
52 - Width Out to Out 0
112 - NBIS Length Y

Inspection Data
90 - Inspection Date 11/12/2018
91 - Inspection Freq 12
92A - Fac Crit Req/Freq N
93A - Fac Crit Insp Date 0
92B - Und Water Req/Freq N
93B - Und Water Insp Date 0
92C - Oth Spec Insp Req/Freq N
93C - Oth Spec Insp Date 0
92D - Fatigue Req/Freq N
93D - Fatigue Insp Date 0
176A - Und Water Insp Method 1
58 - Deck Rating N
58A - Deck Surface/Bottom N
59 - Superstructure Rating N
59A - Paint Rating N
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 0
116 - Lift Brdg 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
10R - Best 3m Unclr-Rt 0
PR Number 0
Control Section 0
11 - Mile Point 0
12 - Base Highway Network 0
13 - LRS Route-Subroute 0
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 Ptv Type/Width 4 24
42A - Service Type On 1
42B - Service Type Under 1
47L - Left Horizontal Clear 99 99
47R - Right Horizontal Clear 24.0
53 - Min Vert Clr Ov Deck 99 99
100 - STRAHHNET 0
102 - Traffic Direct 2
109 - Truck % 0
110 - Truck Network 0
114 - Future ADT 3950
115 - Year Future ADT Freeway 2034

Structure Appraisal
36A - Bridge Railing N
36B - Rail Transition N
36C - Approach Rail N
36D - Rail Termination N
67 - Structure Evaluation 0
68 - Deck Geometry 0
69 - Underclearance 6
71 - Waterway Adequacy 4
72 - Approach Alignment 0
103 - Temporary Structure 0
113 - Scour Criticality 8

Proposed Improvements
75 - Type of Work 0
76 - Length of Improvement 0
94 - Bridge Cost 0
95 - Roadway Cost 0
96 - Total Cost 0
97 - Year of Cost Estimate 0

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

Load Rating and Posting
31 - Design Load 0
41 - Oper, Posted, Closed A
63 - Fed Oper Rtg Method 0
64F - Fed Oper Rtg Load 1.67
64MA - Mich Oper Rtg Method 0
64MB - Mich Oper Rtg 0
64MC - Mich Oper Truck 0
65 - Inv Rtg Method 0
66 - Inventory Load 0
70 - Posting 0
141 - Posted Loading 0
193 - Overload Class A N

Form 1717A (01/2002)  Printed on 03/18/2019  Page 1 of 1
2a. Situation 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
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

George Melistas  
Engineering Senior Manager  
City of Novi  
Field Services Complex  
Department of Public Services  
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.

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 8,300 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 east of the structure on 9 mile road. Fire and police stations also use it to reach the homes and businesses in the area for emergencies.

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 would lose business because of the additional travel time it would take to reach their location. The light industrial companies would have costs associated with longer delivery routes. Both of these impacts could result in economic harm to the area due to lost jobs. Local residents would also have to change their commuting routes. The increased route for all traffic will add to pollution, fuel costs, and lost productive time in traffic. Emergency services would also take longer to reach the neighborhoods as they would have to detour around the bridge. 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.

5. **Estimated Rehabilitation Costs**

<table>
<thead>
<tr>
<th>Structure Replacement</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Road Construction</td>
<td>$307,000.00</td>
</tr>
<tr>
<td>B. Structure Construction</td>
<td>$978,000.00</td>
</tr>
<tr>
<td>Total (A &amp; B)</td>
<td>$1,285,000.00</td>
</tr>
</tbody>
</table>

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
**FISCAL YEAR:** 2022

**ENGINEER:** KSO

**LOCATION:** 9 MILE ROAD over THORNTON CREEK

**TOTAL CONSTRUCTION BUDGET:** $1,285,000

---

### NEW BRIDGE

- **Single or Multiple Spans, Grade Separation:**
  - Quant.: SFT
  - Unit Cost: $220.00/SFT
- **Single Span, Over Water Length < 100ft:**
  - Quant.: FT
  - Unit Cost: $20.00/FT
- **Multiple Spans, Over Water Length > 100ft:**
  - Quant.: FT
  - Unit Cost: $220.00/FT
- **Precast Culvert:**
  - Quant.: SYD
  - Unit Cost: $2,000.00/SYD
- **Excavation and Backfill:**
  - Quant.: CYD
  - Unit Cost: $50.00/CYD

**TOTAL CONSTRUCTION BUDGET:** $560,000

---

### NEW STRUCTURE

- **New Structure, Grade Separation:**
  - Quant.: SYD
  - Unit Cost: $160.00/SYD
- **New Structure, Over Water:**
  - Quant.: SYD
  - Unit Cost: $200.00/SYD

**TOTAL CONSTRUCTION BUDGET:** $50,000

---

### WIDENING

- **Structure Widening:**
  - Quant.: FT
  - Unit Cost: $270.00/FT

**TOTAL CONSTRUCTION BUDGET:** $270,000

---

### NEW DECK

- **New Bridge Deck & Barrier:**
  - Quant.: SYD
  - Unit Cost: $75.00/SYD

**TOTAL CONSTRUCTION BUDGET:** $20,000

---

### DEMOLITION

- **Entire Structure, Grade Separation:**
  - Quant.: SYD
  - Unit Cost: $33.00/SYD
- **Entire Structure, Over Water:**
  - Quant.: SYD
  - Unit Cost: $46.00/SYD

**TOTAL CONSTRUCTION BUDGET:** $20,000

---

### DECK REPAIR / TREATMENTS

- **Bridge Railing Replacement:**
  - Quant.: FT
  - Unit Cost: $400.00/FT
- **Concrete Brush Block / Curb Patch:**
  - Quant.: FT
  - Unit Cost: $20.00/FT
- **Concrete Barrier Patch:**
  - Quant.: SYD
  - Unit Cost: $60.00/SYD
- **Concrete Deck Patch:**
  - Quant.: SYD
  - Unit Cost: $30.00/SYD
- **Deep Overlay:**
  - Quant.: SYD
  - Unit Cost: $37.00/SYD
- **Epoxy Overlay:**
  - Quant.: SYD
  - Unit Cost: $30.00/SYD
- **Expansion Joint Replacement:**
  - Quant.: SYD
  - Unit Cost: $30.00/SYD
- **Expansion Joint Repair (incl. removal):**
  - Quant.: FT
  - Unit Cost: $550.00/FT
- **Full Depth Patch:**
  - Quant.: SYD
  - Unit Cost: $65.00/SYD
- **Healer / Sealer:**
  - Quant.: SYD
  - Unit Cost: $15.00/SYD
- **HMA Overlay with WP-membrane:**
  - Quant.: SYD
  - Unit Cost: $52.00/SYD
- **Overlayer Removal:**
  - Quant.: SYD
  - Unit Cost: $16.00/SYD
- **Rehab Bridge Joints:**
  - Quant.: SYD
  - Unit Cost: $16.00/SYD
- **Shallow Overlay:**
  - Quant.: FT
  - Unit Cost: $22.00/FT

**TOTAL CONSTRUCTION BUDGET:** $560,000

---

### STRUCTURE REPAIR

- **Bearing Replacement / Replacement (incl. temporary supports):**
  - Quant.: EA
  - Unit Cost: $5,000.00/EA
- **Heat Strengthening (incl. clean and coat):**
  - Quant.: EA
  - Unit Cost: $50,000.00/EA
- **Pavt - Complete (incl. clean & coat):**
  - Quant.: SYD
  - Unit Cost: $20.00/SYD
- **Paint - Partial / Spot / Zone (incl. clean & coat):**
  - Quant.: FT
  - Unit Cost: $40.00/FT
- **PCI Beam End Blockout (incl. temporary supports):**
  - Quant.: EA
  - Unit Cost: $7,200.00/EA
- **Pin & Hanger Replacement (incl. temporary supports):**
  - Quant.: EA
  - Unit Cost: $7,000.00/EA
- **Structural Steal Repair (based on 8ft length, for stiffeners use $1,200 ea):**
  - Quant.: EA
  - Unit Cost: $3,000.00/EA

**TOTAL CONSTRUCTION BUDGET:** $190,000

---

### SUBSTRUCTURE REPAIR

- **Substructure Patching:**
  - Quant.: CFT
  - Unit Cost: $200.00/CFT
- **Substructure Replacement (incl. temporary supports, excavation):**
  - Quant.: SYD
  - Unit Cost: $140.00/SYD
- **Substructure Horizontal Surface Sealer:**
  - Quant.: SYD
  - Unit Cost: $15.00/SYD
- **Temporary Supports:**
  - Quant.: SYD
  - Unit Cost: $2,000.00/EA

**TOTAL CONSTRUCTION BUDGET:** $150,000

---

### MISCELLANEOUS

- **Articulating Concrete Block System (ACB):**
  - Quant.: SYD
  - Unit Cost: $200.00/SYD
- **Concrete Surface Coating:**
  - Quant.: SYD
  - Unit Cost: $24.00/SYD
- **Culvert Cleanout:**
  - Quant.: FT
  - Unit Cost: $30.00/FT
- **Epoxy Crack Injection:**
  - Quant.: FT
  - Unit Cost: $40.00/FT
- **HMA Overlay with WP-membrane:**
  - Quant.: SYD
  - Unit Cost: $10.00/SYD
- **Riprap (assume 10ft distance around perimeter of substructure):**
  - Quant.: SYD
  - Unit Cost: $160.00/SYD
- **Silane Treatment (penetrating sealer for concrete surfaces):**
  - Quant.: SYD
  - Unit Cost: $5.30/SYD
- **Slope Protection Repairs:**
  - Quant.: SYD
  - Unit Cost: $100.00/SYD
- **Other (Excurs Counter Measures):**
  - Quant.: SYD
  - Unit Cost: $15,000.00/SYD

**TOTAL CONSTRUCTION BUDGET:** $680,000

---

### ROAD WORK

- **Approach Pavement, 12’’ RC:**
  - Quant.: SYD
  - Unit Cost: $175.00/SYD
- **Approach Curb & Gutter:**
  - Quant.: SYD
  - Unit Cost: $54.00/FT
- **Guardsrail:**
  - Quant.: EA
  - Unit Cost: $1,500.00/EA
- **Guardsrail Terminal:**
  - Quant.: EA
  - Unit Cost: $2,000.00/EA
- **Roadway Approach Work:**
  - Quant.: SYD
  - Unit Cost: $69,300

**TOTAL CONSTRUCTION BUDGET:** $69,300

---

### TRAFFIC CONTROL

- **Part Width Construction:**
  - Quant.: SYD
  - Unit Cost: $50,000.00/SYD
- **Crosswalks:**
  - Quant.: EA
  - Unit Cost: $300,000.00/EA
- **Temporary Traffic Signals:**
  - Quant.: EA
  - Unit Cost: $25,000.00/EA
- **TW Flagging:**
  - Quant.: SYD
  - Unit Cost: $50,000.00/SYD
- **Detour:**
  - Quant.: SYD
  - Unit Cost: $50,000.00/SYD

**TOTAL CONSTRUCTION BUDGET:** $100,000

---

### RELATED ROAD/TRAFFIC CONSTRUCTION BUDGET

**TOTAL CONSTRUCTION BUDGET:** $213,300

---

**INFLATION:**

(assume 3% per year, beginning in 2020)

**TOTAL CONSTRUCTION BUDGET:** $1,285,000

---

**NOTE:** (Does not include PE or CE)
RESOLUTION REQUESTING THAT THE MICHIGAN DEPARTMENT OF TRANSPORTATION INCLUDE THE BRIDGE ON 9 MILE ROAD OVER THORNTON CREEK IN THE STATE LOCAL BRIDGE PROGRAM LIST FOR REPLACEMENT

WHEREAS; OHM Advisors, Consulting Engineers for the City of Novi, completed the 2018 annual inspection of twelve bridges in the City, one of which was the bridge on 9 Mile Road over Thornton Creek; and

WHEREAS; based on the inspections, the Consulting Engineers prepared a 2018 Bridge Inspection Report; and

WHEREAS; the 2018 Bridge Inspection Report concludes that the bridge on 9 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 9 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 9 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 __________, 2019, 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