

**Manistee County Road Commission  
Plans and Specifications  
January 28, 2025**

**2025 Local County-Wide Chip Sealing**

**Project Locations**

**See Title Sheet**

# MANISTEE COUNTY ROAD COMMISSION

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PLANS OF PROPOSED IMPROVEMENTS TO

## 2025 LOCAL COUNTY-WIDE CHIP SEALING

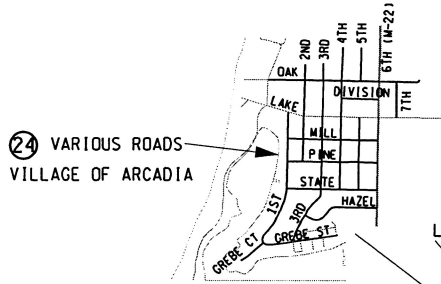
VARIOUS TOWNSHIPS

MANISTEE COUNTY

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SUPPLEMENTAL SPECIFICATIONS AS AMENDED.

PLACING OF TEMPORARY TRAFFIC CONTROL ITEMS SHALL BE DONE IN ACCORDANCE WITH THE 2011 EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS REVISED.

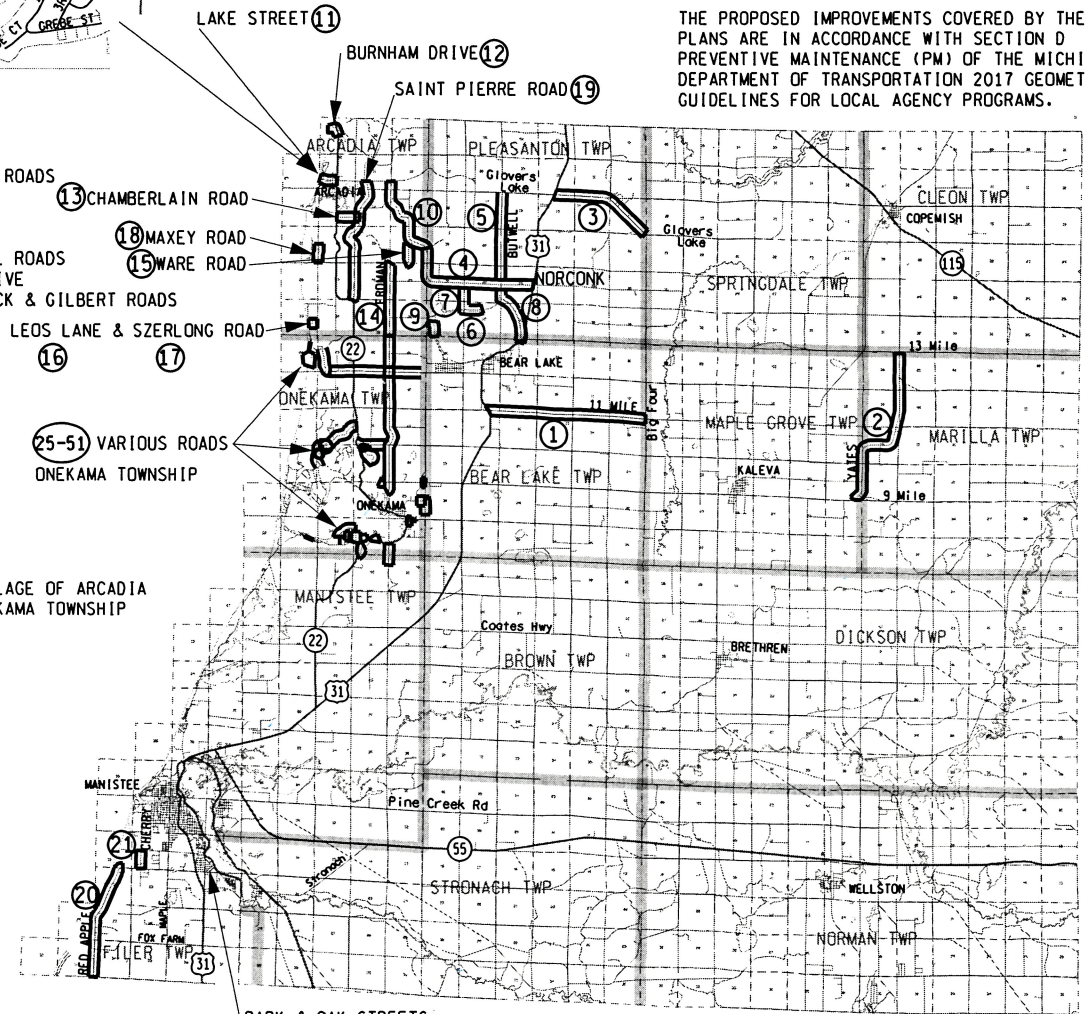
THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH SECTION D PREVENTIVE MAINTENANCE (PM) OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2017 GEOMETRIC GUIDELINES FOR LOCAL AGENCY PROGRAMS.



24 VARIOUS ROADS VILLAGE OF ARCADIA

### PROJECT LOCATIONS

- 1 11 MILE ROAD
- 2 YATES ROAD
- 3 GLOVERS LAKE ROAD
- 4 IVERSON & NORCONK ROADS
- 5 BUTWELL ROAD
- 6 BAIR ROAD
- 7 MEYERS ROAD
- 8 LAKESIDE & BUTWELL ROADS
- 9 HOPKINS FOREST DRIVE
- 10 INGERSOL, FREDERICK & GILBERT ROADS
- 11 LAKE STREET
- 12 BURNHAM DRIVE
- 13 CHAMBERLAIN ROAD
- 14 ERDMAN RD
- 15 WARE ROAD
- 16 LEOS LANE
- 17 SZERLONG ROAD
- 18 MAXEY ROAD
- 19 SAINT PIERRE ROAD
- 20 RED APPLE ROAD
- 21 CHERRY ROAD
- 22 PARK STREET
- 23 OAK STREET
- 24 VARIOUS ROADS VILLAGE OF ARCADIA
- 25-51 VARIOUS ROADS ONEKAMA TOWNSHIP



CONTRACT FOR: CHIP SEAL AND FOG SEAL

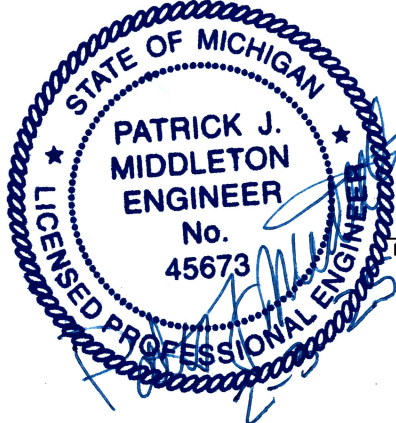
PARK & OAK STREETS  
22 23

TOTAL PROJECT LENGTH = 56.877 MILES

LOCATIONS 1-23 = 36.165 MILES  
LOCATION 24 = 4.816 MILES  
LOCATIONS 25-51 = 15.896 MILES



3 WORKING DAYS BEFORE YOU DIG  
CALL MISS DIG  
800-482-7171  
OR 811



PREPARED UNDER SUPERVISION OF

PATRICK J. MIDDLETON, P.E. 45673  
REGISTERED PROFESSIONAL ENGINEER REGISTRATION #



COUNTY ROAD COMMISSION APPROVAL

BRAD KLUCZYNSKI, MCRS MANAGER

DATE

SHEET NO.  
1

**PROJECT LOGS**  
**2025 LOCAL COUNTY-WIDE CHIP SEALING**  
**MANISTEE COUNTY**

**Specifications**

All work shall be performed in accordance with the 2020 Michigan Department of Transportation (MDOT) Standard Specifications for Construction, the project Special Provisions, plans, project log, and as directed by the Manistee County Road Commission (MCRC).

The maintenance of traffic and placement of temporary traffic control devices within the project limits on the main roadway and on intersecting roads shall be done in accordance with the 2011 edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), as revised, and the Special Provision for Maintaining Traffic.

**Description of Work**

The work at these locations involves Chip Seal and Fog Seal and maintaining traffic.

**Location of Work**

Refer to the project title sheet, strip plans, log and other included maps for roadway limits.

**Items of Work**

Place Chip and Fog seal on the entire existing HMA width (including existing HMA shoulders) from POB to POE in accordance with the applicable special provisions and as directed by the engineer.

Quantities listed as “non-mainline” include Chip and Fog on existing HMA approach roads, HMA aprons and additional width/areas for HMA curb, at turnarounds, POBs and POEs.

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 1  
11 MILE ROAD  
BEAR LAKE TOWNSHIP**

11 Mile Road from east of the centerline of US-31 thence easterly to west of the centerline of Big Four Road. This segment's length is 4.322 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>58,132</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>58,132</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>943</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>943</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>772</b>    | <b>Ea</b>  |

**LOCATION 2  
YATES ROAD  
MAPLE GROVE & MARILLA TOWNSHIPS**

Yates Road from north of the centerline of 9 Mile Road thence northerly to south of the centerline of 13 Mile Road. This segment's length is 4.772 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>65,996</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>65,996</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>1229</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>1229</b>   | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>873</b>    | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 3  
GLOVERS LAKE ROAD  
MAPLE GROVE & PLEASANTON TWP**

Glovers Lake Road from east of the centerline of US-31 thence easterly to east of Lumley Road. This segment's length is 3.003 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>38,997</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>38,997</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>0</b>      | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>0</b>      | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>442</b>    | <b>Ea</b>  |

**LOCATION 4  
IVERSON & NORCONK ROADS  
PLEASANTON TWP**

Iverson & Norconk Roads from the Arcadia Township line southeasterly to west of the centerline of US-31. This segment's length is 3.646 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>45,994</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>45,994</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>497</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>497</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>601</b>    | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 5  
BUTWELL ROAD  
PLEASANTON TWP**

Butwell Road from north of the Norconk Road centerline northerly to south of the Glovers Lake Road centerline. This segment's length is 2.501 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>33,742</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>33,742</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>733</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>733</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>420</b>    | <b>Ea</b>  |

**LOCATION 6  
BAIR ROAD  
PLEASANTON TWP**

Bair Road from east of the centerline of Meyers Road easterly to the east turnaround. This segment's length is 0.506 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>6532</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>6532</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>261</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>261</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>110</b>  | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 7  
MEYERS ROAD  
PLEASANTON TWP**

Meyers Road from the south end northerly to south of the centerline of Norconk Road. This segment's length is 0.742 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>9529</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>9529</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>252</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>252</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>80</b>   | <b>Ea</b>  |

**LOCATION 8  
LAKESIDE & BUTWELL ROADS  
PLEASANTON TWP**

Lakeside Road from north of the centerline of US-31 northerly to Butwell Road. Butwell Road from Lakeside Road northerly to south of the centerline of Norconk Road. This segment's length is 1.778 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>22,131</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>22,131</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>313</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>313</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>364</b>    | <b>Ea</b>  |

**PROJECT LOGS**  
**2025 LOCAL COUNTY-WIDE CHIP SEALING**  
**MANISTEE COUNTY**

**LOCATION 9**  
**HOPKINS FOREST DRIVE**  
**PLEASANTON TWP**

Hopkins Forest Drive from north of the centerline of 13 Mile Road northerly. This segment's length is 0.333 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b> | <b>4100</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>          | <b>4100</b> | <b>Syd</b> |

**LOCATION 10**  
**INGERSOL, FREDERICK & GILBERT ROADS**  
**ARCADIA TWP**

Ingersol, Frederick & Gilbert Roads from the Arcadia Township line northerly to south of the centerline of Glovers Lake Road. This segment's length is 2.446 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>31,576</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>31,576</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>506</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>506</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>525</b>    | <b>Ea</b>  |



**PROJECT LOGS**  
**2025 LOCAL COUNTY-WIDE CHIP SEALING**  
**MANISTEE COUNTY**

**LOCATION 11**  
**LAKE STREET**  
**ARCADIA TWP**

Lake Street from the west end easterly to west of the centerline of M-22. This segment's length is 0.475 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>6134</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>6134</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>2392</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>2392</b> | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>84</b>   | <b>Ea</b>  |

**LOCATION 12**  
**BURNHAM DRIVE**  
**ARCADIA TWP**

Burnham Drive from the south end to the north end. This segment's length is 0.414 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>     | <b>5830</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>              | <b>5830</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b> | <b>654</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>          | <b>654</b>  | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 13  
CHAMBERLAIN ROAD  
ARCADIA TWP**

Chamberlain Road from east of the centerline of M-22 to west of the centerline of St. Pierre Road. This segment's length is 0.620 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>7819</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>7819</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>128</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>128</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>67</b>   | <b>Ea</b>  |

**LOCATION 14  
ERDMAN ROAD  
ARCADIA TWP**

Erdman Road from north of the centerline of 13 Mile Road northerly to north of the centerline of Norconk Road. This segment's length is 1.870 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>23,586</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>23,586</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>634</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>634</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>211</b>    | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 15  
WARE ROAD  
ARCADIA TWP**

Ware Road from north of the centerline of Nelson Road northerly to south of the centerline of Ingersol Road. This segment's length is 0.317 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)                  | <b>5205</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                           | <b>5205</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)              | <b>90</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)                       | <b>90</b>   | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>70</b>   | <b>Ea</b>  |

**LOCATION 16  
LEOS LANE  
ARCADIA TWP**

Leos Lane from east of the centerline of Lakeview road easterly to Szerlong Road. This segment's length is 0.080 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Erosion Control, Inlet Protection, Fabric Drop</b> | <b>2</b>    | <b>Ea</b>  |
| <b>Seal, Single Chip, Modified</b> (mainline)         | <b>1407</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                  | <b>1407</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)     | <b>114</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)              | <b>114</b>  | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 17  
SZERLONG ROAD  
ARCADIA TWP**

Szerlong Road from Leos Lane northerly to the roads end. This segment's length is 0.204 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Erosion Control, Inlet Protection, Fabric Drop</b> | <b>2</b>    | <b>Ea</b>  |
| <b>Seal, Single Chip, Modified</b> (mainline)         | <b>3597</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                  | <b>3597</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)     | <b>109</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)              | <b>109</b>  | <b>Syd</b> |

**LOCATION 18  
MAXEY ROAD  
ARCADIA TWP**

Maxey Road from north of the centerline of Bischoff Road northerly to the road end. This segment's length is 0.504 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)                  | <b>7094</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                           | <b>7094</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)              | <b>197</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)                       | <b>197</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>104</b>  | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 19  
ST. PIERRE ROAD  
ARCADIA TWP**

St. Pierre Road from north of the centerline of M-22 northerly to south of the centerline of Glovers Lake Road. This segment's length is 3.559 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>46,440</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>46,440</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>903</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>903</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>802</b>    | <b>Ea</b>  |

**LOCATION 20  
RED APPLE ROAD  
FILER TWP**

Red Apple Road from north of the centerline of South County Line Road northeasterly to east of the centerline of Crabapple Road. This segment's length is 3.208 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>52,484</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>52,484</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>852</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>852</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>640</b>    | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 21  
CHERRY ROAD  
FILER TWP**

Cherry Road from north of the centerline of Red Apple Road northerly to south of the centerline of Merkey Road. This segment's length is 0.474 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>8344</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>8344</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>288</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>288</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>118</b>  | <b>Ea</b>  |

**LOCATION 22  
PARK STREET  
FILER TWP**

Park Street from northeast of the centerline of 28<sup>th</sup> Street northeasterly to southwesterly of the centerline of Filer City Road. This segment's length is 0.218 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>     | <b>2533</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>              | <b>2533</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b> | <b>720</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>          | <b>720</b>  | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 23  
OAK STREET  
FILER TWP**

Oak Street from northeast of the centerline of 28<sup>th</sup> Street northeasterly to southwesterly of the centerline of Filer City Road. This segment's length is 0.174 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>2040</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>2040</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>63</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>63</b>   | <b>Syd</b> |

**LOCATION 24  
1<sup>ST</sup>, 2<sup>ND</sup>, 3<sup>RD</sup>, 4<sup>TH</sup>, 5<sup>TH</sup> (South of Lake), 5<sup>th</sup> (North of Oak), 7<sup>th</sup>, Division, Grebe Court,  
Grebe Street, Hazel, Mill, Oak, Pine & State  
VILLAGE OF ARCADIA**

See attached Log Sheet. These roads have a total length of 4.816 miles.

Items of Work:

|   |               |            |
|---|---------------|------------|
| <b>Seal, Single Chip, Modified – Urban</b> (mainline)     | <b>54,451</b> | <b>Syd</b> |
| <b>Fog Seal, Modified - Urban</b> (mainline)              | <b>54,451</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified – Urban</b> (non-mainline) | <b>4805</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified - Urban</b> (non-mainline)          | <b>4805</b>   | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 25  
13 MILE ROAD  
ONEKAMA TOWNSHIP**

13 Mile Road from the west end thence easterly to east of the centerline of Lakeview Road. This segment's length is 0.060 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>775</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>775</b>  | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>1562</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>1562</b> | <b>Syd</b> |

**LOCATION 26  
5<sup>th</sup> STREET/MILARCH ROAD  
ONEKAMA TOWNSHIP**

5<sup>th</sup> Street/Milarch Road from east of the centerline of Milarch Road thence easterly to west of the centerline of Milarch Road. This segment's length is 0.222 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)                  | <b>2996</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                           | <b>2996</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)              | <b>0</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)                       | <b>0</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>44</b>   | <b>Ea</b>  |



**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 27  
9 MILE ROAD  
ONEKAMA TOWNSHIP**

9 Mile Road from east of the centerline of Milarch Road thence easterly to the Township Line. This segment's length is 0.109 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>1927</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>1927</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>175</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>175</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>23</b>   | <b>Ea</b>  |

**LOCATION 28  
BURTKER ROAD  
ONEKAMA TOWNSHIP**

Burtker Road from southeast of the centerline of 13 Mile Road thence southeasterly to Potter Road (easterly tangent point of the horizontal curve). This segment's length is 0.690 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>8496</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>8946</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>83</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>83</b>   | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>130</b>  | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 29  
CAMP DELIGHT ROAD  
ONEKAMA TOWNSHIP**

Camp Delight Road from north of the centerline of Crescent Beach Road thence northerly to the end of the existing HMA. This segment's length is 0.289 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline) | <b>3898</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)          | <b>3898</b> | <b>Syd</b> |

**LOCATION 30  
CEDAR GROVE  
ONEKAMA TOWNSHIP**

Cedar Grove from north of the centerline of Crescent Beach Road thence northerly to the road end. This segment's length is 0.054 miles.

Items of Work:

|   |            |            |
|---|------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>445</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>445</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>8</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>8</b>   | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 31  
CEDAR STREET  
ONEKAMA TOWNSHIP**

Cedar Street from east of the centerline of M-22 (1<sup>st</sup> Street) thence easterly to west of the centerline of Schroeder Road. This segment's length is 0.120 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline) | <b>1625</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)          | <b>1625</b> | <b>Syd</b> |

**LOCATION 32  
EASY STREET  
ONEKAMA TOWNSHIP**

Easy Street from north of the centerline of M-22 thence north-easterly to the road end. This segment's length is 0.162 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>1995</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>1995</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>293</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>293</b>  | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 33  
ELLEN ROAD  
ONEKAMA TOWNSHIP**

Ellen Road from north of the centerline of M-22 thence northerly to the end of existing HMA. This segment's length is 0.163 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>2009</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>2009</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>50</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>50</b>   | <b>Syd</b> |

**LOCATION 34  
EMERALD RIDGE TRAIL  
ONEKAMA TOWNSHIP**

Emerald Ridge Trail from the south end of existing HMA northerly to south of the centerline of Maidens Road. This segment's length is 0.613 miles.

Items of Work:

|   |               |            |
|---|---------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>10,789</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>10,789</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>619</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>619</b>    | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 35  
ERDMAN ROAD  
ONEKAMA TOWNSHIP**

Erdman Road from south of the township line northerly to south of the centerline of 13 Mile Road. This segment's length is 4.341 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)                  | <b>64,677</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                           | <b>64,677</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)              | <b>966</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)                       | <b>966</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>809</b>    | <b>Ea</b>  |

**LOCATION 36  
FARR ROAD  
ONEKAMA TOWNSHIP**

Farr Road from the east of the centerline of M-22 thence northeasterly to the road end. This segment's length is 0.579 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>8147</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>8147</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>42</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>42</b>   | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 37  
HERKELRATH ROAD  
ONEKAMA TOWNSHIP**

Herkelrath Road from north of the centerline of Portage Point Drive thence northerly to the road end. This segment's length is 0.639 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)                  | <b>8787</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                           | <b>8787</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)              | <b>253</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)                       | <b>253</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>121</b>  | <b>Ea</b>  |

**LOCATION 38  
JOSEPH ROAD  
ONEKAMA TOWNSHIP**

Joseph Road from the west limits of HMA easterly to west of the centerline of Erdman Road. This segment's length is 0.280 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)                  | <b>3783</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                           | <b>3783</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)              | <b>152</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)                       | <b>152</b>  | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>54</b>   | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 39  
KENDALL STREET  
ONEKAMA TOWNSHIP**

Kendall Street from east of the centerline of Leonard Avenue thence easterly to the road end. This segment's length is 0.138 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>1541</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>1541</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>200</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>200</b>  | <b>Syd</b> |

**LOCATION 40  
WINNOGENE STREET/LAKESHORE DRIVE  
ONEKAMA TOWNSHIP**

Winnogene Street/Lakeshore Drive from the southwest HMA limits northeasterly to west of the centerline of Reeves Street. This segment's length is 0.561 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline) | <b>5926</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)          | <b>5926</b> | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 41  
LAKEVIEW ROAD  
ONEKAMA TOWNSHIP**

Lakeview Road from the south end of existing HMA thence northerly to south of the centerline of 13 Mile Road. This segment's length is 0.312 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>3839</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>3839</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>64</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>64</b>   | <b>Syd</b> |

**LOCATION 42  
LEONARD AVENUE  
ONEKAMA TOWNSHIP**

Leonard Avenue from north of the centerline of Crescent Beach Road thence northerly to south of the centerline of Lakeshore Drive. This segment's length is 0.363 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>4471</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>4471</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>25</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>25</b>   | <b>Syd</b> |



**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 43  
MAIDENS ROAD  
ONEKAMA TOWNSHIP**

Maidens Road from east of the centerline of M-22 thence easterly to west of the centerline of Erdman Road. This segment's length is 0.949 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>11,688</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>11,688</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>499</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>499</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>179</b>    | <b>Ea</b>  |

**LOCATION 44  
MILARCH ROAD  
ONEKAMA TOWNSHIP**

Milarch Road from north of the centerline of 8 Mile Road thence northerly to the westerly tangent point of the horizontal curve. This segment's length is 0.507 miles.

Items of Work:

|  |             |            |
|--|-------------|------------|
| <b>Erosion Control, Inlet Protection, Fabric Drop</b>          | <b>1</b>    | <b>Ea</b>  |
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>7892</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>7892</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>69</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>69</b>   | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>100</b>  | <b>Ea</b>  |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 45  
POTTER ROAD  
ONEKAMA TOWNSHIP**

Potter Road from Burtker Road (easterly tangent point of the horizontal curve) thence easterly to west of the centerline of M-22, gap out M-22. And from east of the centerline of M-22 to west of the centerline of Milarch Road. This segment's length is 2.627 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>                  | <b>37,392</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>                           | <b>37,392</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b>              | <b>854</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>                       | <b>854</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>491</b>    | <b>Ea</b>  |

**LOCATION 46  
MEMORIAL DRIVE  
ONEKAMA TOWNSHIP**

Memorial Drive from east of the centerline of M-22 thence north-easterly to and including the existing HMA turnaround. This segment's length is 0.487 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified (mainline)</b>     | <b>7442</b> | <b>Syd</b> |
| <b>Fog Seal, Modified (mainline)</b>              | <b>7442</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified (non-mainline)</b> | <b>52</b>   | <b>Syd</b> |
| <b>Fog Seal, Modified (non-mainline)</b>          | <b>52</b>   | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 47  
SCHROEDER STREET  
ONEKAMA TOWNSHIP**

Schroeder Street from the south end thence northerly to south of the centerline of 8 Mile Road. This segment's length is 0.057 miles.

Items of Work:

|   |            |            |
|---|------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>772</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>772</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>81</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>81</b>  | <b>Syd</b> |

**LOCATION 48  
SMITH ROAD  
ONEKAMA TOWNSHIP**

Smith Road from Herkelrath Road thence easterly to west of the centerline of M-22. This segment's length is 1.203 miles.

Items of Work:

|  |               |            |
|--|---------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)                  | <b>18,135</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)                           | <b>18,135</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline)              | <b>685</b>    | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)                       | <b>685</b>    | <b>Syd</b> |
| <b>Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional</b> | <b>228</b>    | <b>Ea</b>  |

**PROJECT LOGS**  
**2025 LOCAL COUNTY-WIDE CHIP SEALING**  
**MANISTEE COUNTY**

**LOCATION 49**  
**SOUTHVIEW DRIVE**  
**ONEKAMA TOWNSHIP**

Southview Drive from the west end of existing HMA thence easterly to west of the centerline of Emerald Ridge Trail. This segment's length is 0.046 miles.

Items of Work:

|   |            |            |
|---|------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>810</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>810</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>605</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>605</b> | <b>Syd</b> |

**LOCATION 50**  
**VANESSA'S WAY**  
**ONEKAMA TOWNSHIP**

Vanessa's Way from east of the centerline of Herkelrath Road thence easterly to the road end. This segment's length is 0.123 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>1663</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>1663</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>165</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>165</b>  | <b>Syd</b> |

**PROJECT LOGS  
2025 LOCAL COUNTY-WIDE CHIP SEALING  
MANISTEE COUNTY**

**LOCATION 51  
WILDFLOWER LANE  
ONEKAMA TOWNSHIP**

Wildflower Lane from the southerly turnaround, around the turnaround, thence northerly to south of Smith Road. This segment's length is 0.202 miles.

Items of Work:

|   |             |            |
|---|-------------|------------|
| <b>Seal, Single Chip, Modified</b> (mainline)     | <b>2957</b> | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (mainline)              | <b>2957</b> | <b>Syd</b> |
| <b>Seal, Single Chip, Modified</b> (non-mainline) | <b>108</b>  | <b>Syd</b> |
| <b>Fog Seal, Modified</b> (non-mainline)          | <b>108</b>  | <b>Syd</b> |

Entire Project Quantities

Maintain Traffic within the project limits in accordance with the Special Provision for Maintaining Traffic.

**Traffic Control**

**1 LSUM**

**PROJECT LOGS**  
**2025 LOCAL COUNTY-WIDE CHIP SEALING**  
**MANISTEE COUNTY**

**General Log Notes:**

1. Stationing

Stationing for this project is based on high resolution aerial images and a vehicle mounted Distance Measuring Instrument (DMI) and is not necessarily accurate. The MCRC and/or Engineer will layout the items of work prior to or during construction.

2. Coordination

The contractor shall coordinate his operations with Contractors/Agencies, including the Manistee County Road Commission (MCRC), performing work on this or other projects within or adjacent to the Construction Influence Area (CIA) as defined in the Maintaining Traffic special provision.

3. Underground Utilities

For the protection of underground utilities and in conformance with Public Acts 174 of 2013, the contractor shall call (800) 482-7171 or 811 a minimum of three full working days, excluding Saturdays, Sundays, and Holidays prior to beginning each excavation. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "MISS DIG" System.

4. Soil Erosion Measures

Appropriate soil erosion and sedimentation control measures shall be in place prior to earth-disturbing activities. Place turf establishment items as soon as possible on potential erodible slopes as directed by the engineer. Critical ditch grades shall be protected with either sod or seed/mulch blankets as directed by the engineer.

5. Mobilization

Mobilization is included with the pay items and will not be paid for separately.

**PROJECT LOGS**  
**2025 LOCAL COUNTY-WIDE CHIP SEALING**  
**MANISTEE COUNTY**

**NOTES APPLYING TO ROAD STANDARD PLANS**

Where the following items are called for in the log, they are to be constructed according to the Standard Plan given below opposite each item unless otherwise indicated.

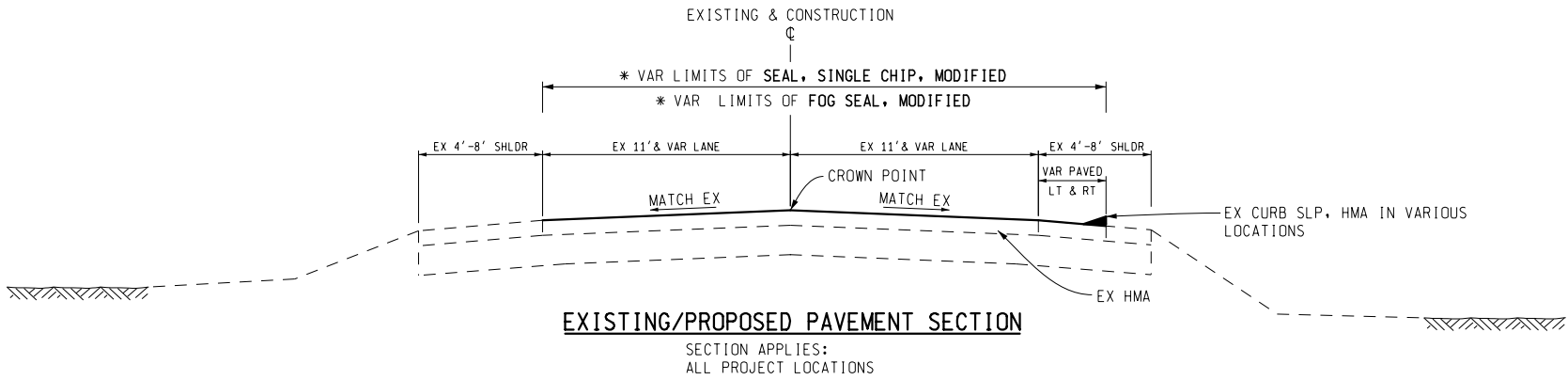
|   |        |
|---|--------|
| SOIL EROSION & SEDIMENTATION CONTROL MEASURES | R-96-E |
|---|--------|

**NOTES APPLYING TO TRAFFIC AND SAFETY STANDARD PLANS**

Where the following items are called for in the log, they are to be constructed according to the Standard Plan given below opposite each item unless otherwise indicated.

|  |                  |
|--|------------------|
| GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS | WZD-100-A (S.D.) |
| TEMPORARY TRAFFIC CONTROL DEVICES          | WZD-125-E (S.D.) |

Note: Road Standard Plans, Road Special Details (S.D.) and Traffic & Safety Standard Plans are not included in the Bid Documents. All bidders are required to obtain them from the MDOT website and utilize them if they are the selected contractor for the project.



\* SEE STRIP PLAN SHEETS OR LOG FOR CHIP & FOG SEAL WIDTHS

CHIP AND FOG ALL EXISTING HMA APPROACH ROADS AND HMA APRONS TO "L" SHOWN ON PLANS  
 L = DISTANCE FROM MAINLINE  $\text{\textcircled{C}}$  TO LIMITS OF CHIP AND FOG

AT ALL POBS, POES AND TURNAROUNDS VARIABLE WIDTH CHIP AND FOG (MATCH EXISTING HMA WIDTHS).

NO SCALE

**811** 3 WORKING DAYS BEFORE YOU DIG  
 CALL MISS DIG 800-482-7171 OR 811

**KPM ENGINEERING**  
 CIVIL ENGINEERING CONSULTANTS

2025 LOCAL COUNTY-WIDE  
 CHIP SEALING  
 TYPICAL SHEET

DATE: 1/28/2025

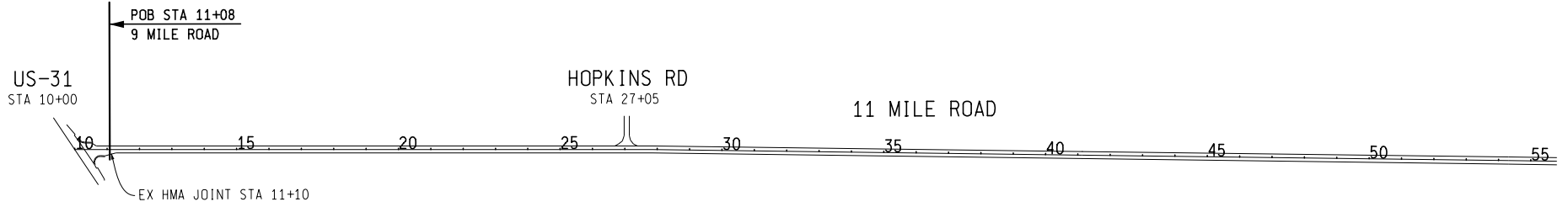
MANISTEE COUNTY  
 ROAD COMMISSION  
 8946 CHIPPEWA HWY  
 BEAR LAKE, MI 49614

|          |           |
|----------|-----------|
| DRAWN BY | SHEET NO. |
| PJM      | 31        |

1/28/2025 7:01:52 AM

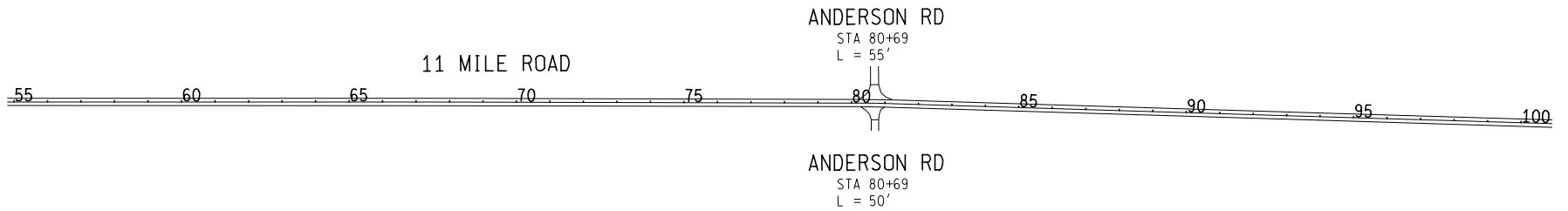


# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                    |
|-------------------------------|------------|--------------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR<br>LT |
| STA 11+08 TO 100+00           | 11'        | 0'                 |
| NOTE: 11' LANE WIDTHS         |            |                    |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                    |
|--------------------------------|-------------|--------------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR<br>RT |
| STA 11+08 TO 100+00            | 11'         | 0'                 |
| NOTE: 11' LANE WIDTHS          |             |                    |



## LOCATION 1

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE

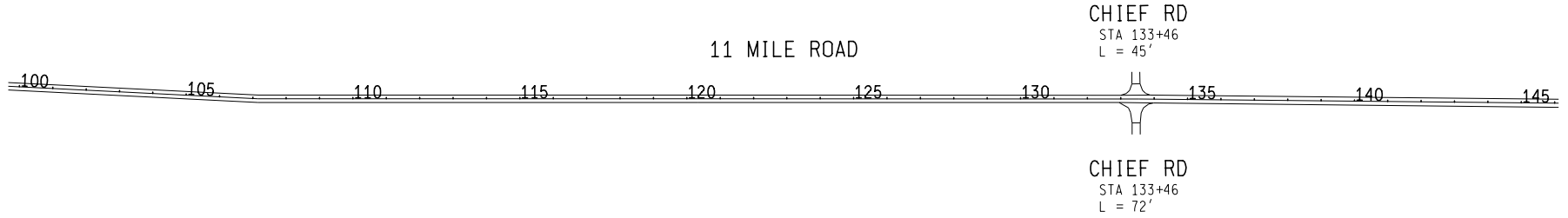


|  |                 |
|--|-----------------|
| 11 MILE ROAD<br>POB STA 11+08 TO STA 100+00<br>BEAR LAKE TWP | DATE: 1/28/2025 |
|--|-----------------|

|  |                 |
|--|-----------------|
| MANISTEE COUNTY<br>ROAD COMMISSION<br>8946 CHIPPEWA HWY<br>BEAR LAKE, MI 49614 |                 |
| DRAWN BY<br>PJM  | SHEET NO.<br>32 |

1/28/2025 7:01:56 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 100+00 TO 133+46          | 11'        | 0'              |
| STA 133+46 TO 190+00          | 12'        | 1'              |
| NOTE: 11' LANE WIDTHS         |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 11+08 TO 133+46            | 11'         | 0'              |
| STA 133+46 TO 190+00           | 12'         | 1'              |
| NOTE: 11' LANE WIDTHS          |             |                 |



NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

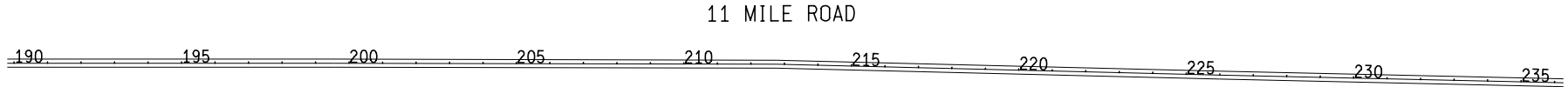
NO SCALE

**KPM ENGINEERING**  
CIVIL ENGINEERING CONSULTANTS

|   |  |  |                 |
|---|--|--|-----------------|
| LOCATION 1  |  | MANISTEE COUNTY<br>ROAD COMMISSION<br>8946 CHIPPEWA HWY<br>BEAR LAKE, MI 49614 |                 |
| 11 MILE ROAD<br>STA 100+00 TO STA 190+00<br>BEAR LAKE TWP |  |  |                 |
|   |  | DRAWN BY<br>PJM  | SHEET NO.<br>33 |

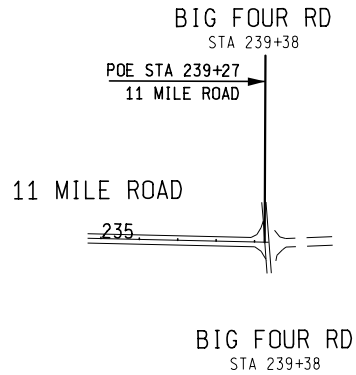
1/28/2025 7:01:56 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 190+00 TO 239+27          | 12'        | 1'              |
| NOTE: 11' LANE WIDTHS         |            |                 |

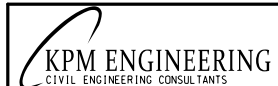
| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 190+00 TO 239+27           | 12'         | 1'              |
| NOTE: 11' LANE WIDTHS          |             |                 |



## LOCATION 1

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



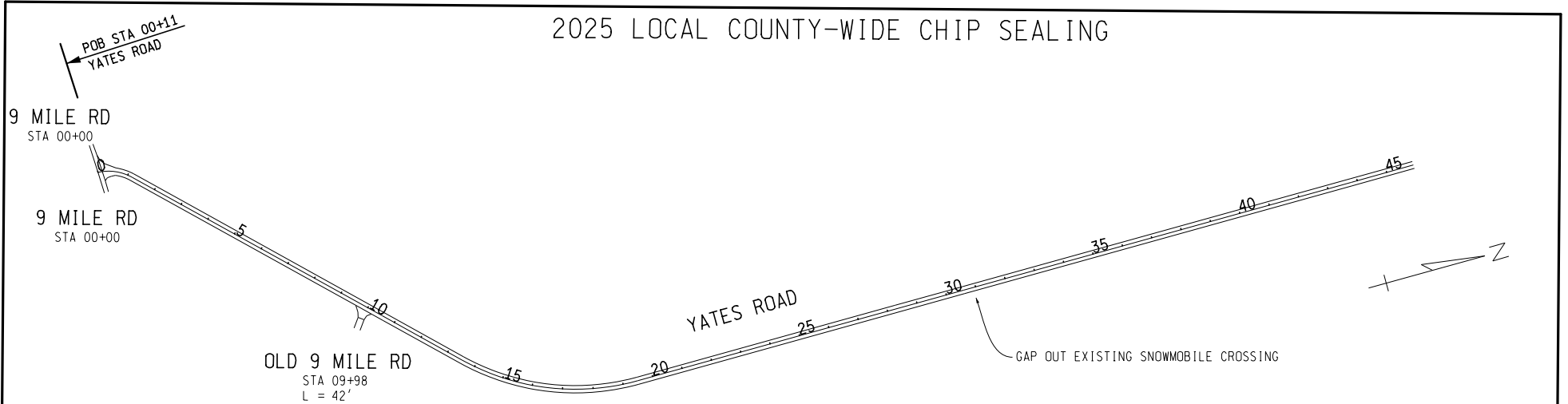
11 MILE ROAD  
STA 190+00 TO POE STA 239+27  
BEAR LAKE TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

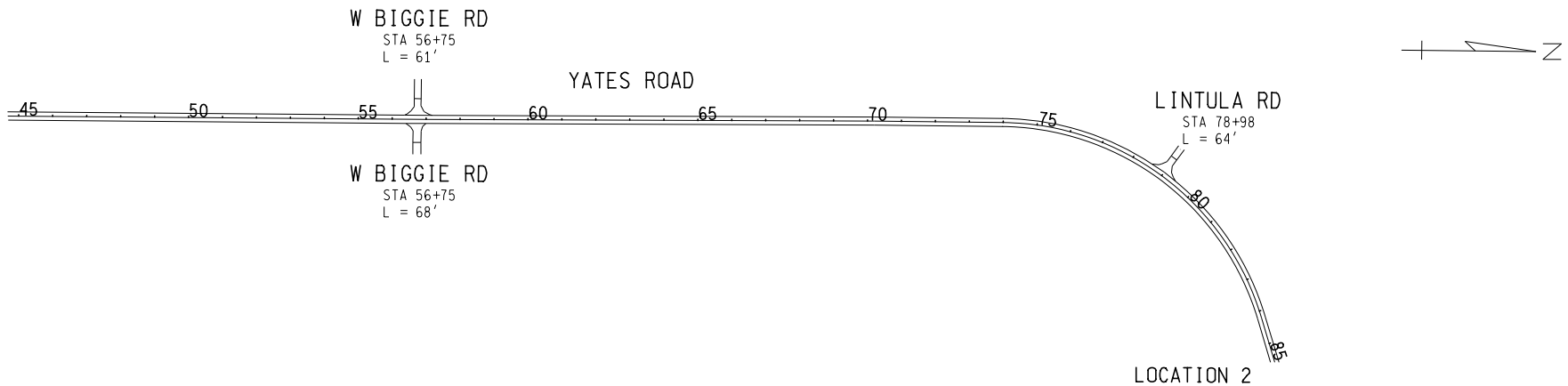
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| DRAWN BY<br>PJM | SHEET NO.<br>34 |
|-----------------|-----------------|

# 2025 LOCAL COUNTY-WIDE CHIP SEALING




| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 00+11 TO 85+00            | 12.0'      | 1'              |
| NOTE: 11.0' LANE WIDTHS       |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 00+11 TO 85+00             | 12.0'       | 1'              |
| NOTE: 11.0' LANE WIDTHS        |             |                 |



NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



3 WORKING DAYS BEFORE YOU DIG  
CALL MISS DIG  
800-482-7171  
OR 811

**KPM ENGINEERING**  
CIVIL ENGINEERING CONSULTANTS

**YATES ROAD**  
POB STA 00+11 TO STA 85+00  
MAPLE GROVE & MARILLA TWPS

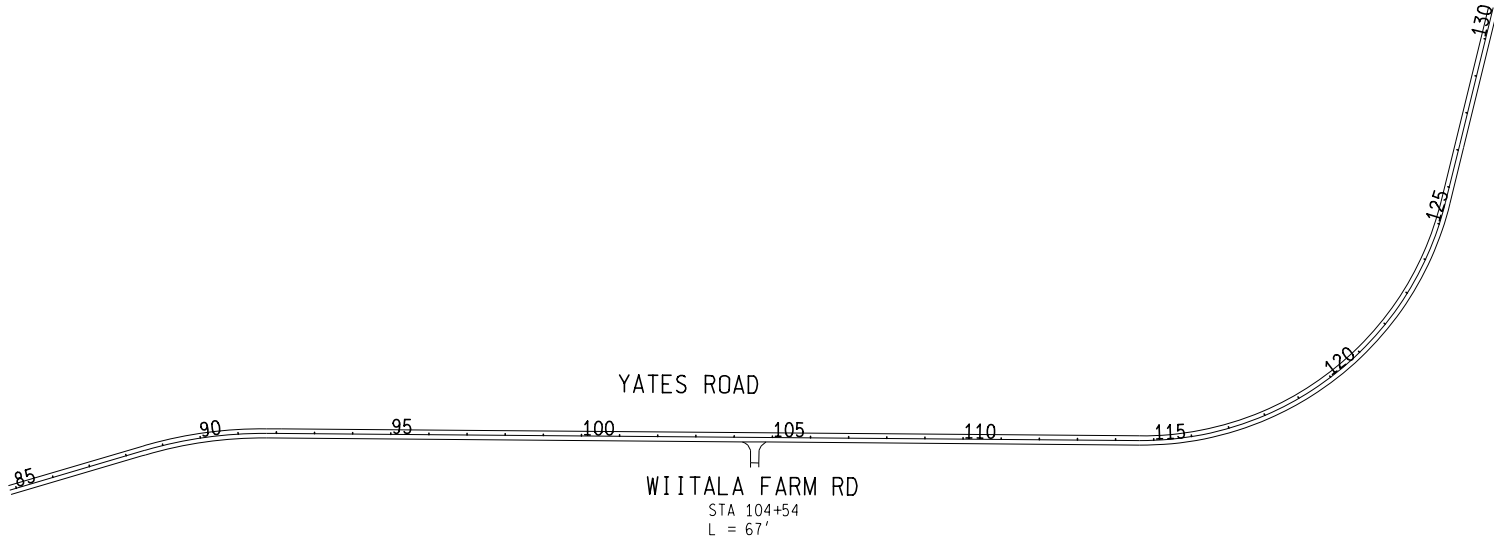
DATE: 1/28/2025

**MANISTEE COUNTY ROAD COMMISSION**  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                  |
|-----------------|------------------|
| <b>DRAWN BY</b> | <b>SHEET NO.</b> |
| PJM             | 35               |

1/28/2025 7:02:02 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



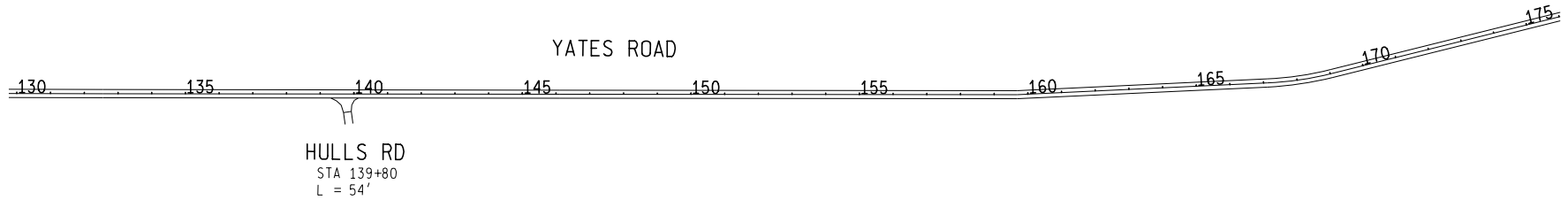
YATES ROAD

WIITALA FARM RD

STA 104+54  
L = 67'

| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 85+00 TO 175+00           | 12.0'      | 1'              |
| NOTE: 11.0' LANE WIDTHS       |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 85+00 TO 175+00            | 12.0'       | 1'              |
| NOTE: 11.0' LANE WIDTHS        |             |                 |



YATES ROAD

HULLS RD

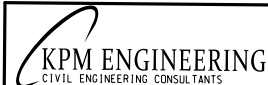
STA 139+80  
L = 54'

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



3 WORKING DAYS  
BEFORE YOU DIG  
CALL MISS DIG  
800-482-7171  
OR 811



LOCATION 2

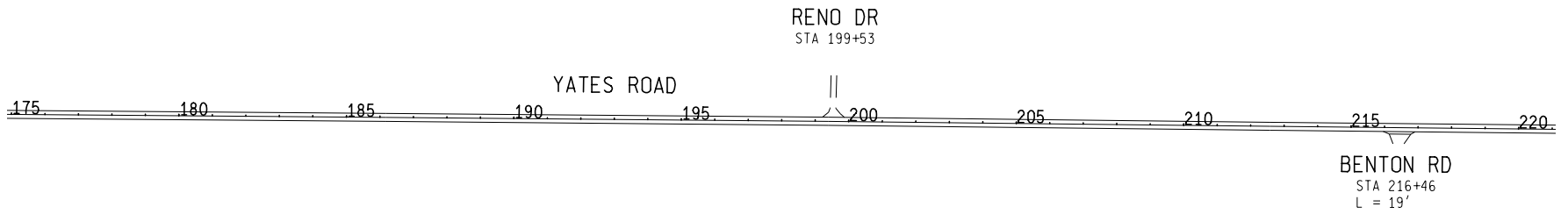
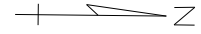
YATES ROAD  
STA 85+00 TO STA 175+00  
MARILLA TWP

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

DATE: 1/28/2025

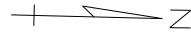
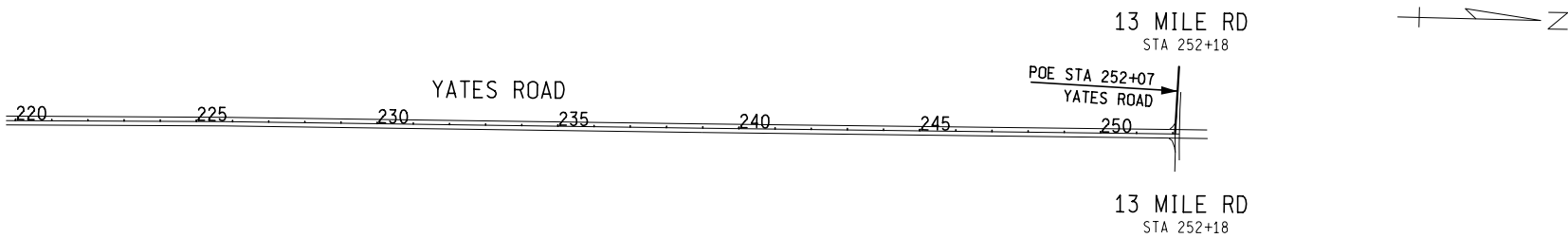
|          |           |
|----------|-----------|
| DRAWN BY | SHEET NO. |
| PJM      | 36        |

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                |
|-------------------------------|------------|----------------|
| STATIONING                    | WIDTH LEFT | EXHMA SHLDR LT |
| STA 175+00 TO 199+53          | 12.0'      | 1'             |
| STA 199+53 TO 252+07          | 11.0'      | 0'             |
| NOTE: 11.0' LANE WIDTHS       |            |                |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                |
|--------------------------------|-------------|----------------|
| STATIONING                     | WIDTH RIGHT | EXHMA SHLDR RT |
| STA 175+00 TO 199+53           | 12.0'       | 1'             |
| STA 199+53 TO 252+07           | 11.0'       | 0'             |
| NOTE: 11.0' LANE WIDTHS        |             |                |



## LOCATION 2

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



3 WORKING DAYS  
BEFORE YOU DIG  
CALL MISS DIG  
800-482-7171  
OR 811

**KPM ENGINEERING**  
CIVIL ENGINEERING CONSULTANTS

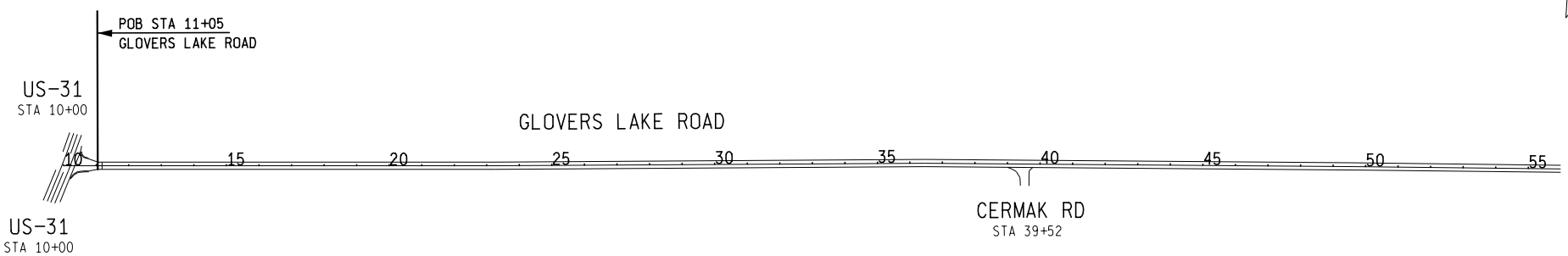
YATES ROAD  
STA 175+00 TO POE STA 252+07  
MMARILLA TWP

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

DATE: 1/28/2025

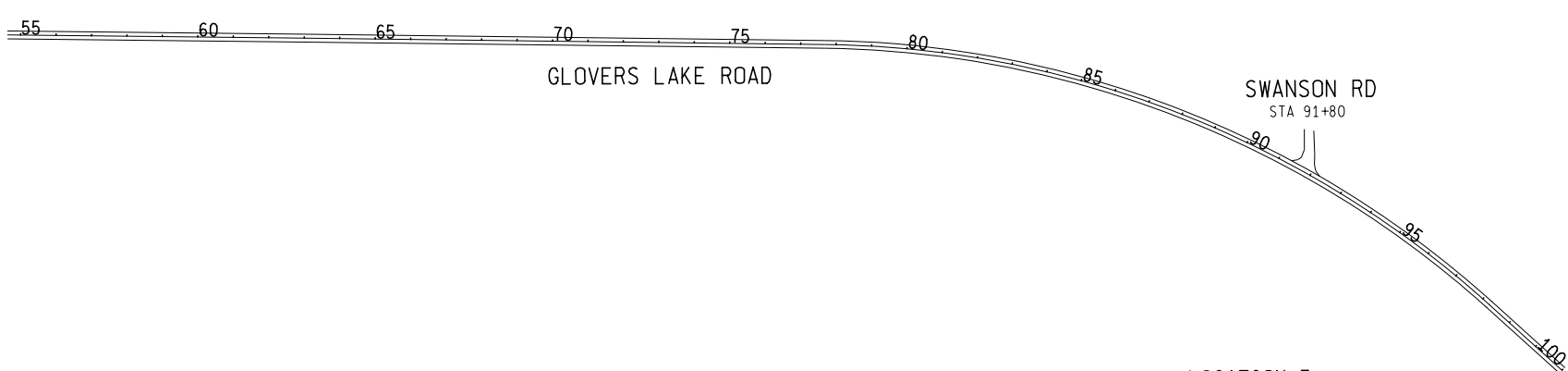
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|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>37 |
|-----------------|-----------------|

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                |
|-------------------------------|------------|----------------|
| STATIONING                    | WIDTH LEFT | EXHMA SHLDR LT |
| STA 11+05 TO 100+00           | 11'        | 0'             |
| NOTE: 11' LANE WIDTHS         |            |                |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                |
|--------------------------------|-------------|----------------|
| STATIONING                     | WIDTH RIGHT | EXHMA SHLDR RT |
| STA 11+05 TO 100+00            | 11'         | 0'             |
| NOTE: 11' LANE WIDTHS          |             |                |



## LOCATION 3

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE

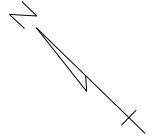


|  |                 |
|--|-----------------|
| GLOVERS LAKE ROAD<br>POB STA 11+05 TO STA 100+00<br>PLEASANTON TWP | DATE: 1/28/2025 |
|--|-----------------|

|  |                 |
|--|-----------------|
| MANISTEE COUNTY<br>ROAD COMMISSION<br>8946 CHIPPEWA HWY<br>BEAR LAKE, MI 49614 |                 |
| DRAWN BY<br>PJM  | SHEET NO.<br>38 |

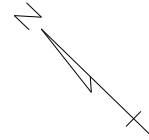
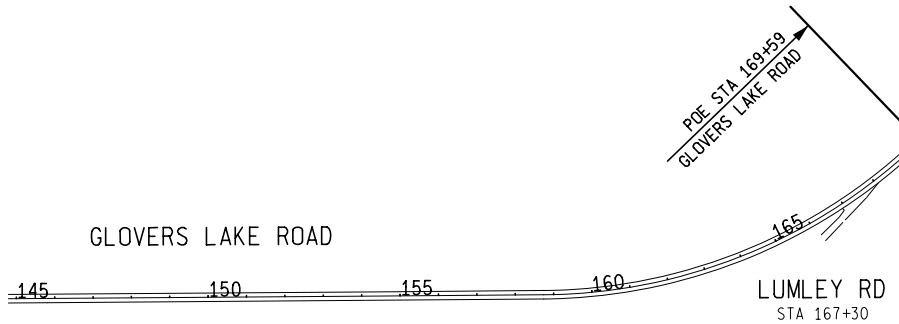
1/28/2025 7:02:08 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT    |       |              |
|----------------------------------|-------|--------------|
| STATIONING                       | WIDTH | EX HMA SHLDR |
|                                  | LEFT  | LT           |
| STA 100+00 TO 158+73             | 11'   | 0'           |
| STA 158+73 TO 169+59 (Hor Curve) | 12'   | 1'           |
| NOTE: 11' LANE WIDTHS            |       |              |

| CHIP AND FOG SEAL WIDTHS RIGHT   |       |              |
|----------------------------------|-------|--------------|
| STATIONING                       | WIDTH | EX HMA SHLDR |
|                                  | RIGHT | RT           |
| STA 100+00 TO 158+73             | 11'   | 0'           |
| STA 158+73 TO 169+59 (Hor Curve) | 12'   | 1'           |
| NOTE: 11' LANE WIDTHS            |       |              |



## LOCATION 3

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



GLOVERS LAKE ROAD  
STA 100+00 TO POE STA 169+59  
PLEASANTON TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>39 |
|-----------------|-----------------|

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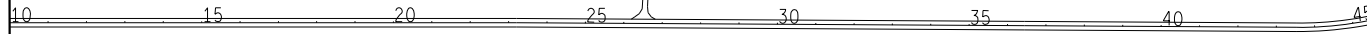


# 2025 LOCAL COUNTY-WIDE CHIP SEALING



POB STA 10+00  
NORCONK ROAD

STA 10+00 = PC OF HORIZONTAL CURVE TO NORTH  
(460' +/- SOUTH OF LARGE CMP CROSS CULVERT)



ALKIRE RD  
STA 26+55

IVERSON ROAD

NORCONK RD  
STA 54+72  
L = 32'

| CHIP AND FOG SEAL WIDTHS LEFT |            |              |
|-------------------------------|------------|--------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR |
|                               |            | LT           |
| STA 10+00 TO 100+00           | 10.75'     | 0'           |
| NOTE: 10.75' LANE WIDTHS      |            |              |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |              |
|--------------------------------|-------------|--------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR |
|                                |             | RT           |
| STA 10+00 TO 100+00            | 10.75'      | 0'           |
| NOTE: 10.75' LANE WIDTHS       |             |              |

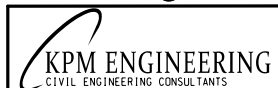


BABCOCK RD  
STA 66+61

NORCONK ROAD

## LOCATION 4

NO SCALE



IVERSON & NORCONK ROAD  
POB STA 10+00 TO STA 100+00  
PLEASANTON TWP

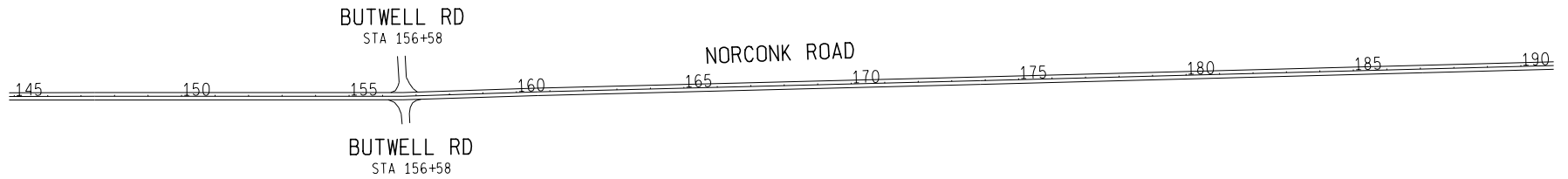
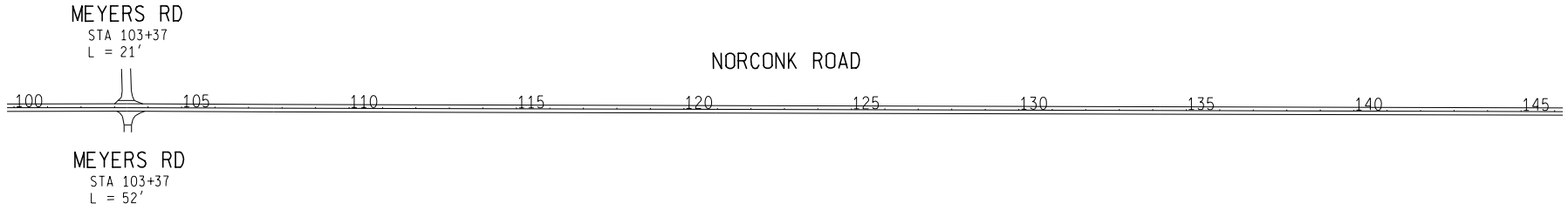
DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>40 |
|-----------------|-----------------|

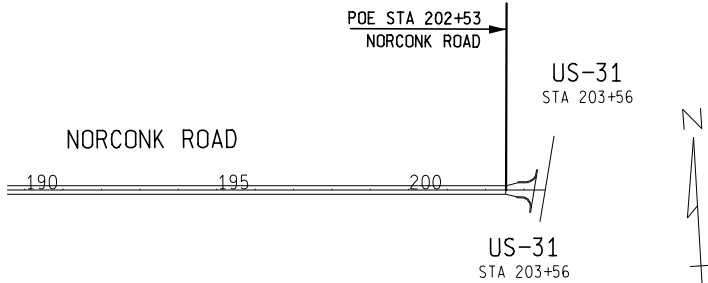
NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 100+00 TO 202+53          | 10.75'     | 0'              |
| NOTE: 10.75' LANE WIDTHS      |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 100+00 TO 202+53           | 10.75'      | 0'              |
| NOTE: 10.75' LANE WIDTHS       |             |                 |



NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



## LOCATION 4

NORCONK ROAD  
STA 100+00 TO POE STA 202+53  
BEAR LAKE TWP

DATE: 1/28/2025

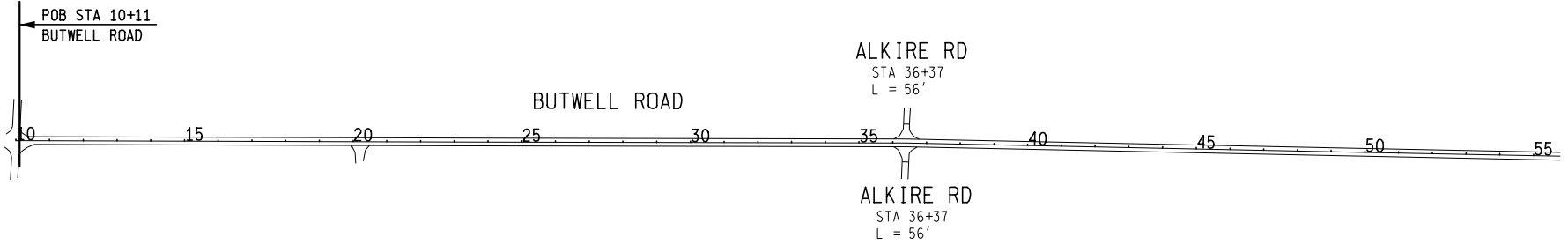
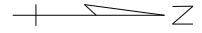
MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>41 |
|-----------------|-----------------|

1/28/2025 12:02:41

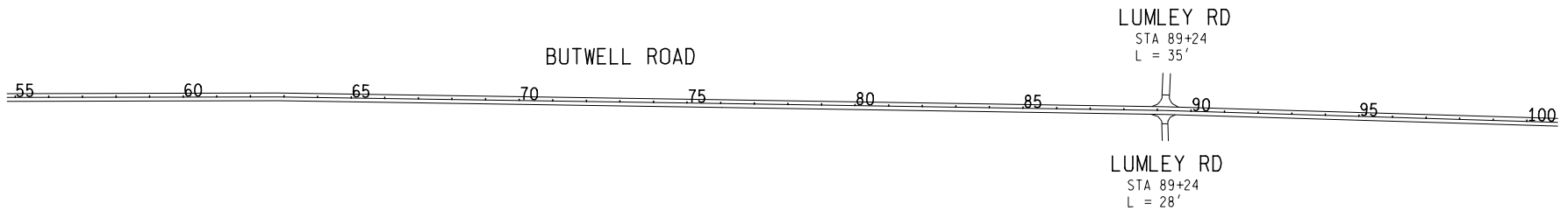
# 2025 LOCAL COUNTY-WIDE CHIP SEALING

NORCONK RD  
STA 10+00



| CHIP AND FOG SEAL WIDTHS LEFT |            |                |
|-------------------------------|------------|----------------|
| STATIONING                    | WIDTH LEFT | EXHMA SHLDR LT |
| STA 10+11 TO 100+00           | 11.5'      | 0.5'           |
| NOTE: 11' LANE WIDTHS         |            |                |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                |
|--------------------------------|-------------|----------------|
| STATIONING                     | WIDTH RIGHT | EXHMA SHLDR RT |
| STA 10+11 TO 100+00            | 11.5'       | 0.5'           |
| NOTE: 11' LANE WIDTHS          |             |                |



LUMLEY RD  
STA 89+24  
L = 35'

LUMLEY RD  
STA 89+24  
L = 28'

## LOCATION 5

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



3 WORKING DAYS  
BEFORE YOU DIG  
CALL MISS DIG  
800-482-7171  
OR 811

**KPM ENGINEERING**  
CIVIL ENGINEERING CONSULTANTS

BUTWELL ROAD  
POB STA 10+11 TO STA 100+00  
PLEASANTON TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|          |           |
|----------|-----------|
| DRAWN BY | SHEET NO. |
| PJM      | 42        |

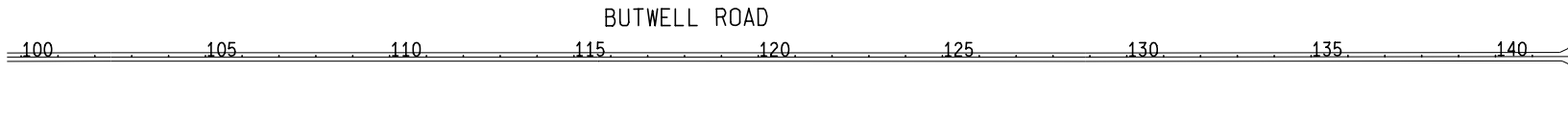
1/28/2025 1:02:14 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



GLOVERS LAKE  
RD  
STA 142+28

POE STA 142+14  
BUTWELL ROAD

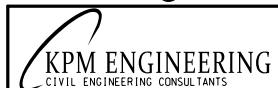


| CHIP AND FOG SEAL WIDTHS LEFT |            |              |
|-------------------------------|------------|--------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR |
|                               |            | LT           |
| STA 100+00 TO 142+14          | 11.5'      | 0.5'         |
| NOTE: 11' LANE WIDTHS         |            |              |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |              |
|--------------------------------|-------------|--------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR |
|                                |             | RT           |
| STA 100+00 TO 142+14           | 11.5'       | 0.5'         |
| NOTE: 11' LANE WIDTHS          |             |              |

## LOCATION 5

NO SCALE



NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

BUTWELL ROAD  
STA 100+00 TO POE STA 142+14  
PLEASANTON TWP

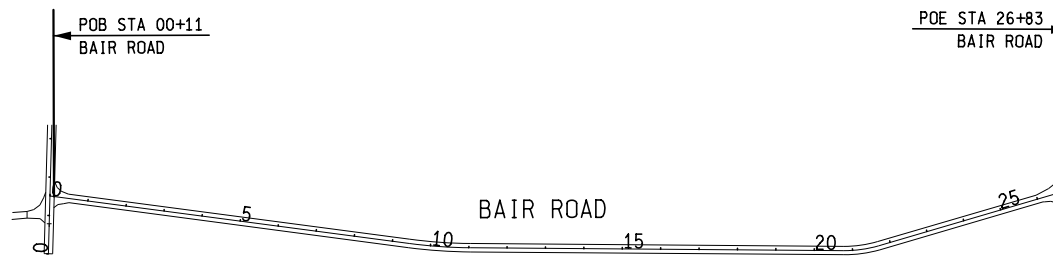
DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>43 |
|-----------------|-----------------|

# 2025 LOCAL COUNTY-WIDE CHIP SEALING

MEYERS  
RD  
STA 00+00



LOCATION 6

| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 00+11 TO 26+83            | 11'        | 0'              |
| NOTE: 11' LANE WIDTHS         |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 00+11 TO 26+83             | 11'         | 0'              |
| NOTE: 11' LANE WIDTHS          |             |                 |

BEARLAKE

POB STA 00+00  
BAIR ROAD  
3 PINES RD  
STA 01+10  
L = 58'

BIG BAY  
RD  
STA 12+92

LOCATION 7

MEYERS ROAD

POE STA 39+20  
MEYERS ROAD

BAIR RD  
STA 01+50

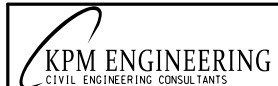
| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 00+00 TO 01+20            | 9'         | 0'              |
| STA 01+20 TO 39+20            | 11'        | 0'              |
| NOTE: 11' LANE WIDTHS         |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 00+00 TO 01+20             | 9'          | 0'              |
| STA 01+20 TO 39+20             | 11'         | 0'              |
| NOTE: 11' LANE WIDTHS          |             |                 |

NORCONK  
RD  
STA 39+31

LOCATION 6 & 7

NO SCALE



NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

BAIR & MEYERS RD

PLEASANTON TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

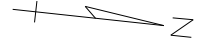
|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>44 |
|-----------------|-----------------|

1/28/2025 7:02:16 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING

US-31  
STA 00+00

POB STA 00+73  
LAKESIDE AVE

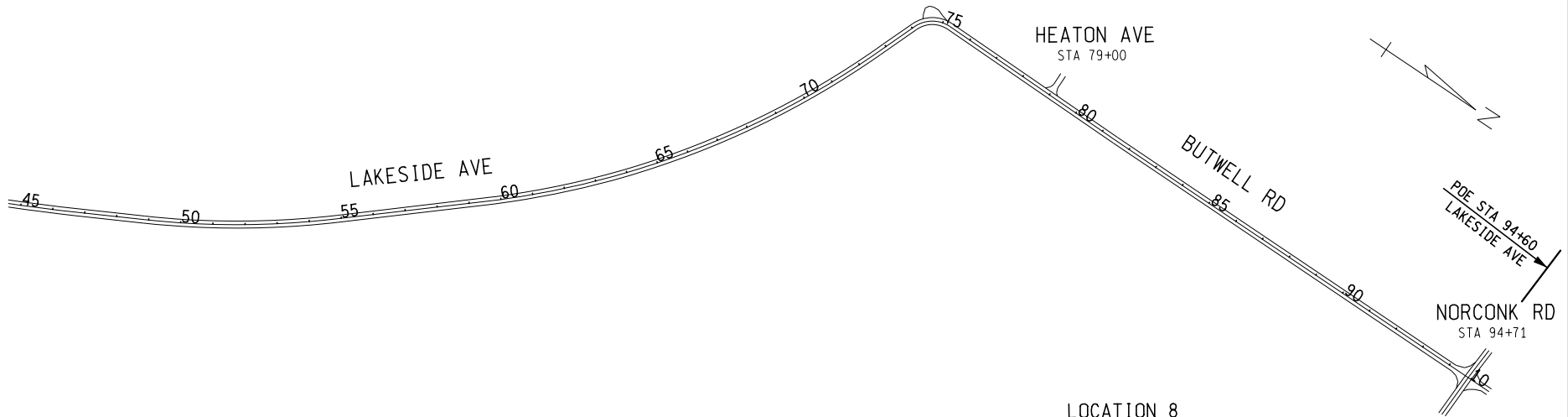


13 MILE RD  
STA 04+73  
L = 66'

LAKESIDE AVE

| CHIP AND FOG SEAL WIDTHS LEFT  |            |                 |
|--------------------------------|------------|-----------------|
| STATIONING                     | WIDTH LEFT | EX HMA SHLDR LT |
| STA 00+73 TO 74+08             | 10.5'      | 0'              |
| STA 74+08 TO 94+60             | 11'        | 0'              |
| NOTE: 10.5' or 11' LANE WIDTHS |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 00+73 TO 74+08             | 10.5'       | 0'              |
| STA 74+08 TO 94+60             | 11'         | 0'              |
| NOTE: 10.5' or 11' LANE WIDTHS |             |                 |



LOCATION 8

NO SCALE



LAKESIDE & BUTWELL  
POB STA 00+73 TO POE STA 94+60  
PLEASANTON TWP

DATE: 1/28/2025

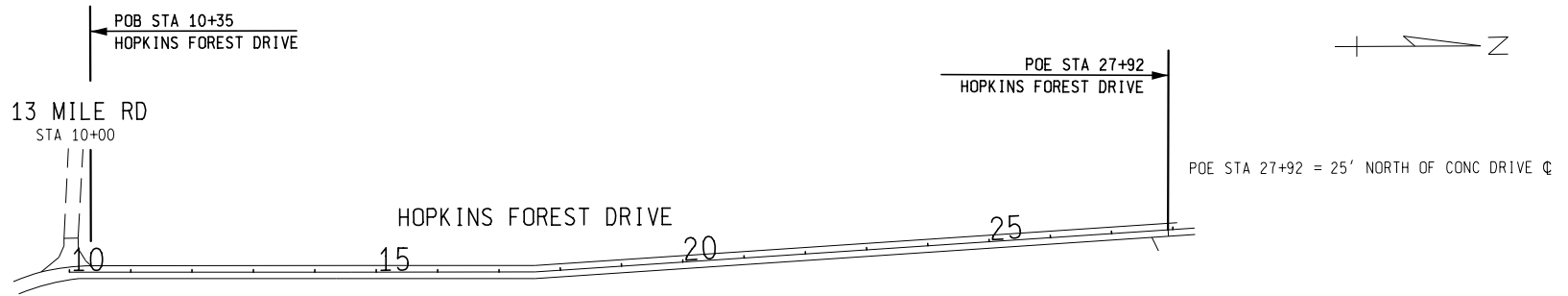
MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>45 |
|-----------------|-----------------|

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1/28/2025 7:02:18 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |              |
|-------------------------------|------------|--------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR |
|                               |            | LT           |
| STA 10+35 TO 27+92            | 10.5'      | 0'           |
| NOTE: 10.5' LANE WIDTHS       |            |              |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |              |
|--------------------------------|-------------|--------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR |
|                                |             | RT           |
| STA 10+35 TO 27+92             | 10.5'       | 0'           |
| NOTE: 10.5' LANE WIDTHS        |             |              |

LOCATION 9

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



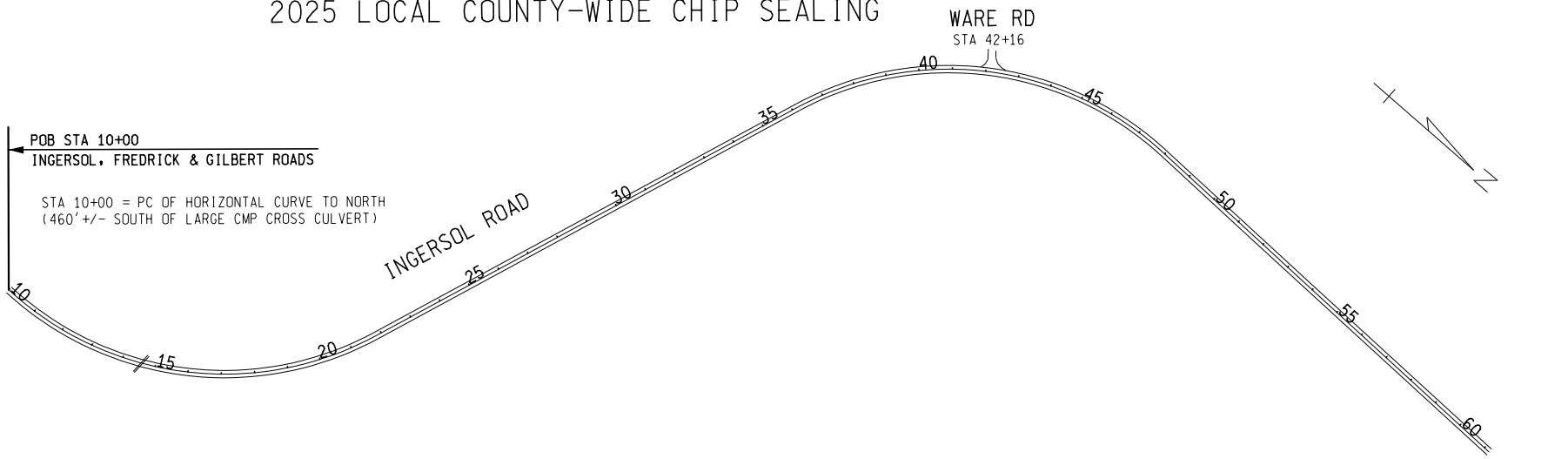
HOPKINS FOREST DRIVE  
POB STA 10+35 TO POE STA 27+92  
PLEASANTON TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

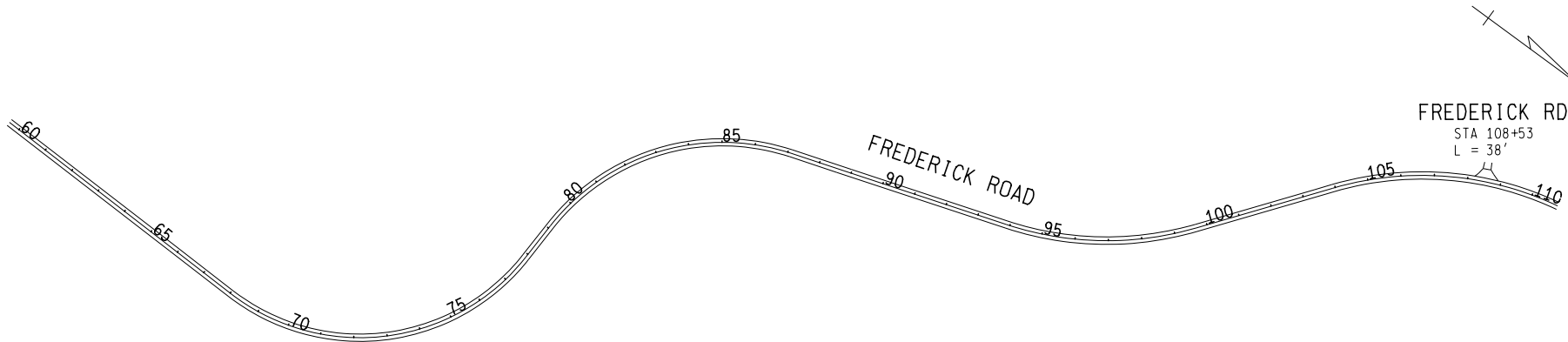
|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>46 |
|-----------------|-----------------|

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |              |
|-------------------------------|------------|--------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR |
|                               |            | LT           |
| STA 10+00 TO 110+00           | 11'        | 0'           |
| NOTE: 11' LANE WIDTHS         |            |              |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |              |
|--------------------------------|-------------|--------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR |
|                                |             | RT           |
| STA 10+00 TO 110+00            | 11'         | 0'           |
| NOTE: 11' LANE WIDTHS          |             |              |



LOCATION 10

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE

**KPM ENGINEERING**  
CIVIL ENGINEERING CONSULTANTS

INGERSOL, FREDERICK & GILBERT ROADS  
POB STA 10+00 TO STA 110+00  
ARCADIA TWP

DATE: 1/28/2025

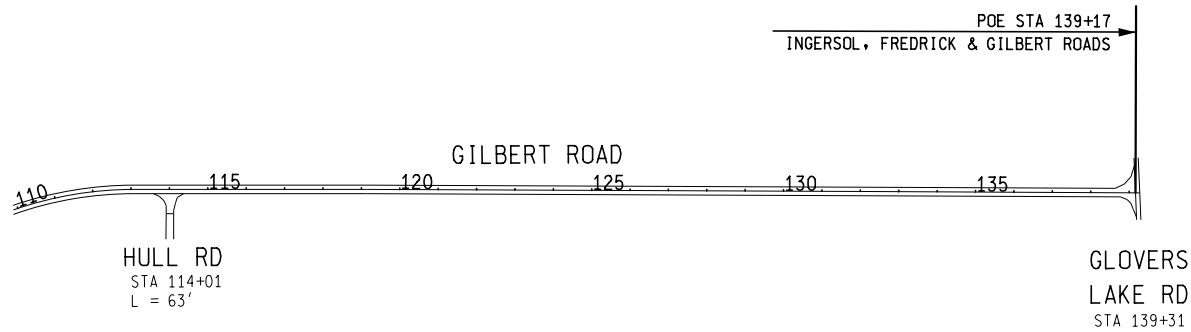
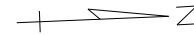
MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

DRAWN BY: PJM  
SHEET NO.: 47

1/28/2025 7:02:21 AM



# 2025 LOCAL COUNTY-WIDE CHIP SEALING



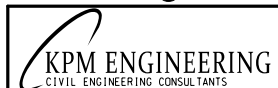
| CHIP AND FOG SEAL WIDTHS LEFT |            |              |
|-------------------------------|------------|--------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR |
|                               |            | LT           |
| STA 110+00 TO 139+17          | 11'        | 0'           |
| NOTE: 11' LANE WIDTHS         |            |              |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |              |
|--------------------------------|-------------|--------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR |
|                                |             | RT           |
| STA 110+00 TO 139+17           | 11'         | 0'           |
| NOTE: 11' LANE WIDTHS          |             |              |

LOCATION 10

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE

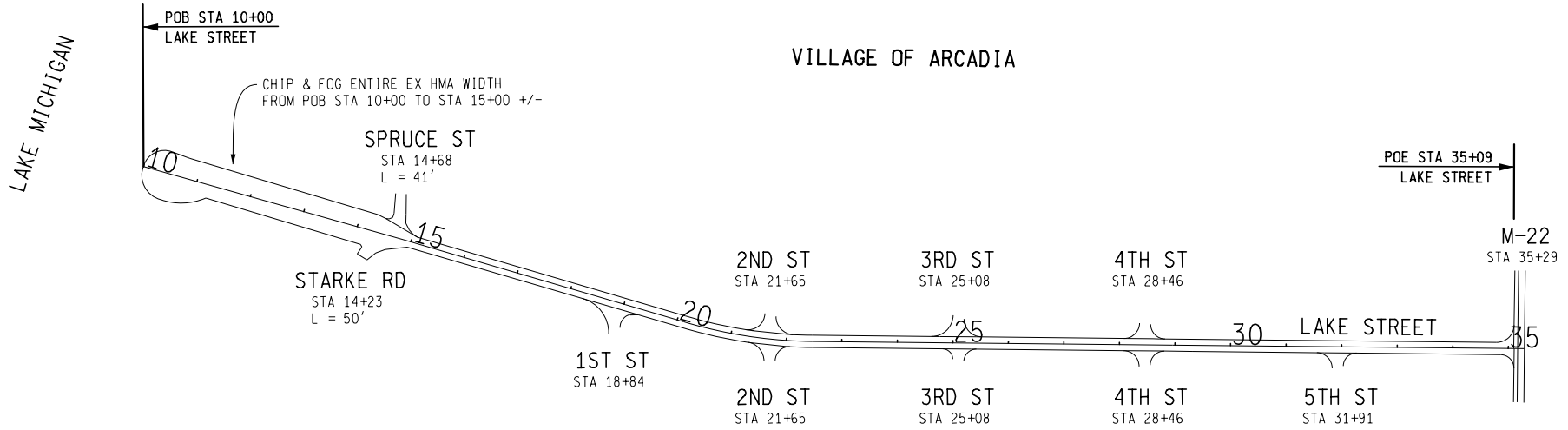


|  |                 |
|--|-----------------|
| INGERSOL, FREDERICK & GILBERT ROADS<br>STA 110+00 TO POE STA 139+17<br>ARCADIA TWP |                 |
|  | DATE: 1/28/2025 |

|  |                 |
|--|-----------------|
| MANISTEE COUNTY<br>ROAD COMMISSION<br>8946 CHIPPEWA HWY<br>BEAR LAKE, MI 49614 |                 |
| DRAWN BY<br>PJM  | SHEET NO.<br>48 |

1/28/2025 7:02:23 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



## VILLAGE OF ARCADIA

| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 10+00 TO 35+09            | 11'        | 0'              |
| NOTE: 11' LANE WIDTHS         |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 10+00 TO 35+09             | 11'         | 0'              |
| NOTE: 11' LANE WIDTHS          |             |                 |

### LOCATION 11

NO SCALE



LAKE STREET  
POB STA 10+00 TO POE STA 35+09  
ARCADIA TWP

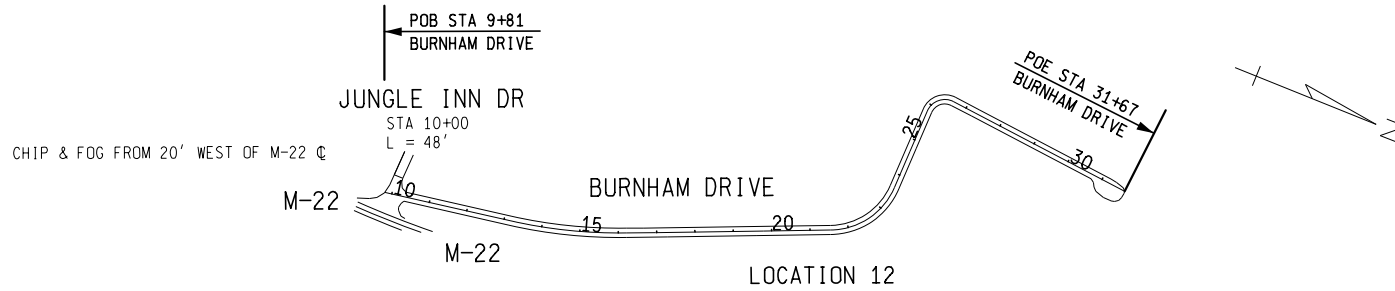
DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>49 |
|-----------------|-----------------|

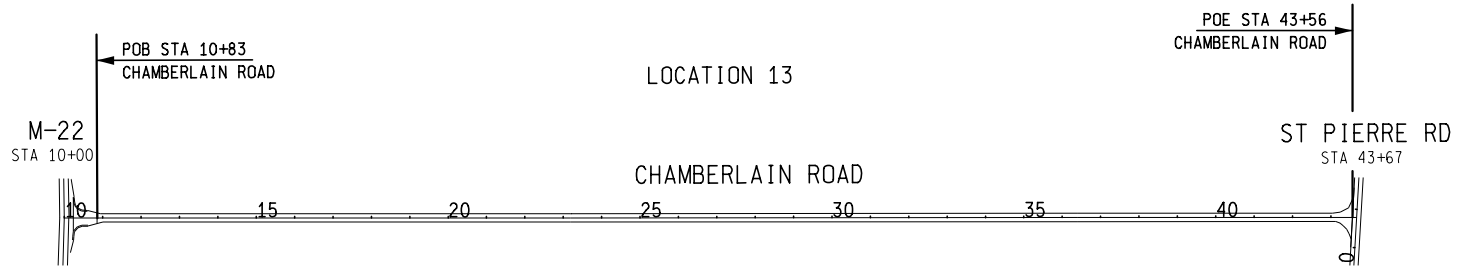
NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 09+81 TO 31+67            | 12'        | 1'              |
| NOTE: 11' LANE WIDTHS         |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 09+81 TO 31+67             | 12'         | 1'              |
| NOTE: 11' LANE WIDTHS          |             |                 |



| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 10+83 TO 43+56            | 10.75'     | 0'              |
| NOTE: 10.75' LANE WIDTHS      |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 10+83 TO 43+56             | 10.75'      | 0'              |
| NOTE: 10.75' LANE WIDTHS       |             |                 |

LOCATION 12 & 13

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE

3 WORKING DAYS  
BEFORE YOU DIG  
CALL MISS DIG  
800-482-7171  
OR 811

KPM ENGINEERING

CIVIL ENGINEERING CONSULTANTS

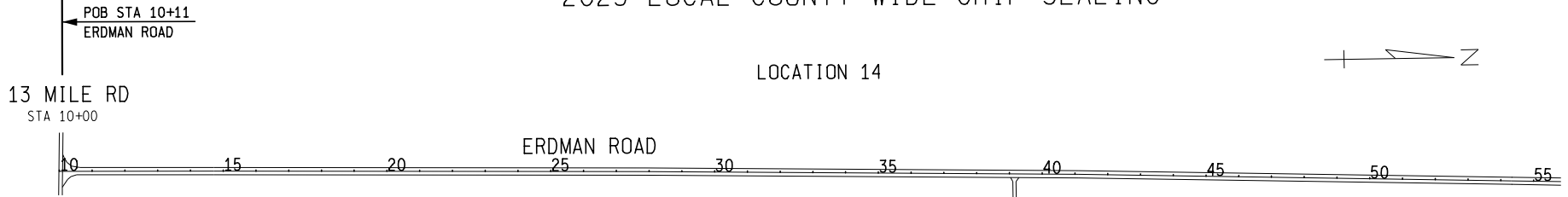
|                             |                 |
|-----------------------------|-----------------|
| BURNHAM & CHAMBERLAIN ROADS |                 |
| ARCADIA TWP                 |                 |
|                             | DATE: 1/28/2025 |

|  |                 |
|--|-----------------|
| MANISTEE COUNTY<br>ROAD COMMISSION<br>8946 CHIPPEWA HWY<br>BEAR LAKE, MI 49614 |                 |
| DRAWN BY<br>PJM  | SHEET NO.<br>50 |

1/28/2025 7:02:26 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING

LOCATION 14



ERDMAN ROAD

| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 10+11 TO 108+84           | 10.75'     | 0'              |

NOTE: 10.75' LANE WIDTHS

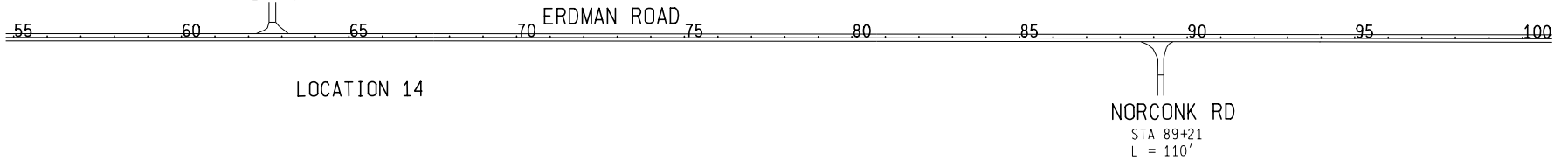
ERDMAN ROAD

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 10+11 TO 108+84            | 10.75'      | 0'              |

NOTE: 10.75' LANE WIDTHS

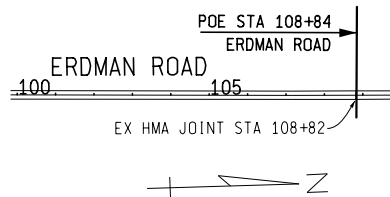
STEFFINS RD

STA 62+71  
L = 45'



LOCATION 14

LOCATION 14



WARE ROAD

| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 157+35 TO 174+08          | 14'        | 3'              |

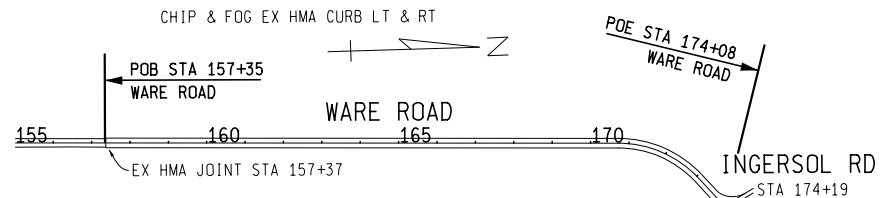
NOTE: 11' LANE WIDTHS

WARE ROAD

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 157+35 TO 174+08           | 14'         | 3'              |

NOTE: 11' LANE WIDTHS

LOCATION 15



LOCATION 14 & 15

NO SCALE



NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

ERDMAN & WARE ROADS

ARCADIA TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|                 |                 |
|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>51 |
|-----------------|-----------------|

1/28/2025 11:02:27 AM

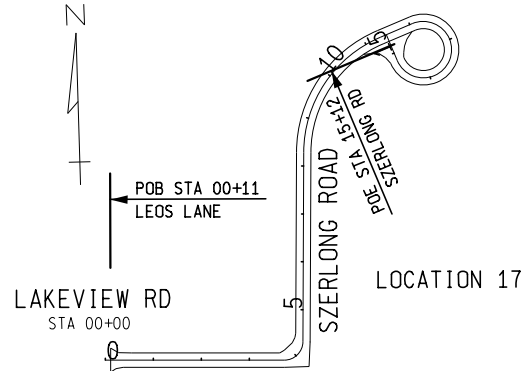
# 2025 LOCAL COUNTY-WIDE CHIP SEALING

## LEOS LANE

| CHIP AND FOG SEAL WIDTHS LEFT | WIDTH | EX HMA SHLDR |
|-------------------------------|-------|--------------|
| STATIONING                    | LEFT  | LT           |
| STA 00+11 TO 04+33            | 15'   | 4'           |
| NOTE: 11' LANE WIDTHS         |       |              |

## LEOS LANE

| CHIP AND FOG SEAL WIDTHS RIGHT | WIDTH | EX HMA SHLDR |
|--------------------------------|-------|--------------|
| STATIONING                     | RIGHT | RT           |
| STA 00+11 TO 04+33             | 15'   | 4'           |
| NOTE: 11' LANE WIDTHS          |       |              |



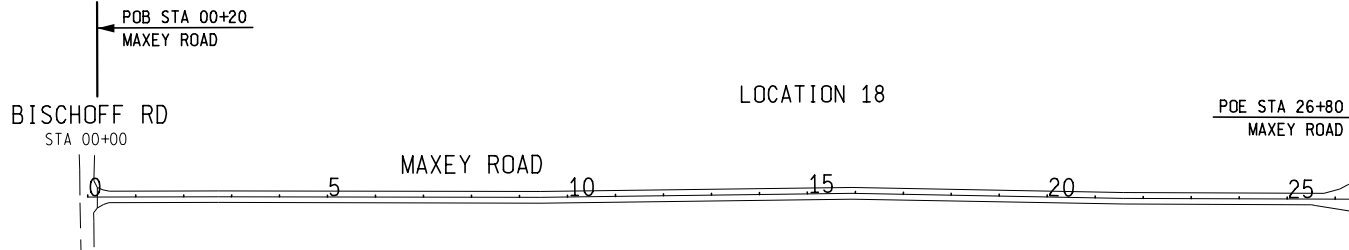
## SZERLONG ROAD

| CHIP AND FOG SEAL WIDTHS LEFT | WIDTH | EX HMA SHLDR |
|-------------------------------|-------|--------------|
| STATIONING                    | LEFT  | LT           |
| STA 04+33 TO 15+12            | 15'   | 4'           |
| NOTE: 11' LANE WIDTHS         |       |              |

## LEOS LANE LOCATION 16

## SZERLONG ROAD

| CHIP AND FOG SEAL WIDTHS RIGHT | WIDTH | EX HMA SHLDR |
|--------------------------------|-------|--------------|
| STATIONING                     | RIGHT | RT           |
| STA 04+33 TO 15+12             | 15'   | 4'           |
| NOTE: 11' LANE WIDTHS          |       |              |



## LOCATION 18

| CHIP AND FOG SEAL WIDTHS LEFT | WIDTH | EX HMA SHLDR |
|-------------------------------|-------|--------------|
| STATIONING                    | LEFT  | LT           |
| STA 00+20 TO 26+80            | 12'   | 1'           |
| NOTE: 11' LANE WIDTHS         |       |              |

| CHIP AND FOG SEAL WIDTHS RIGHT | WIDTH | EX HMA SHLDR |
|--------------------------------|-------|--------------|
| STATIONING                     | RIGHT | RT           |
| STA 00+20 TO 26+80             | 12'   | 1'           |
| NOTE: 11' LANE WIDTHS          |       |              |

## LOCATION 16, 17 & 18

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



LEOS LN, SZERLONG RD & MAXEY RD

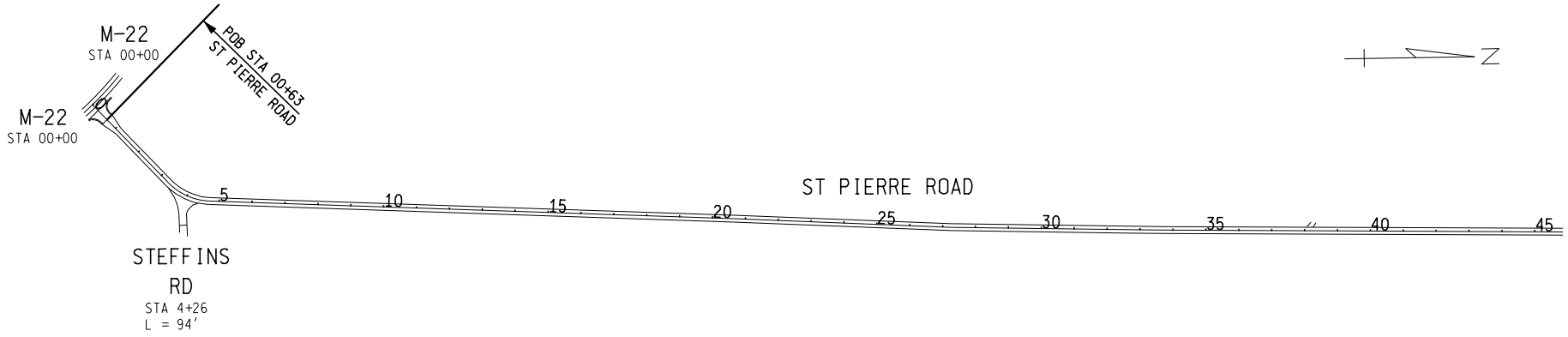
ARCADIA TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

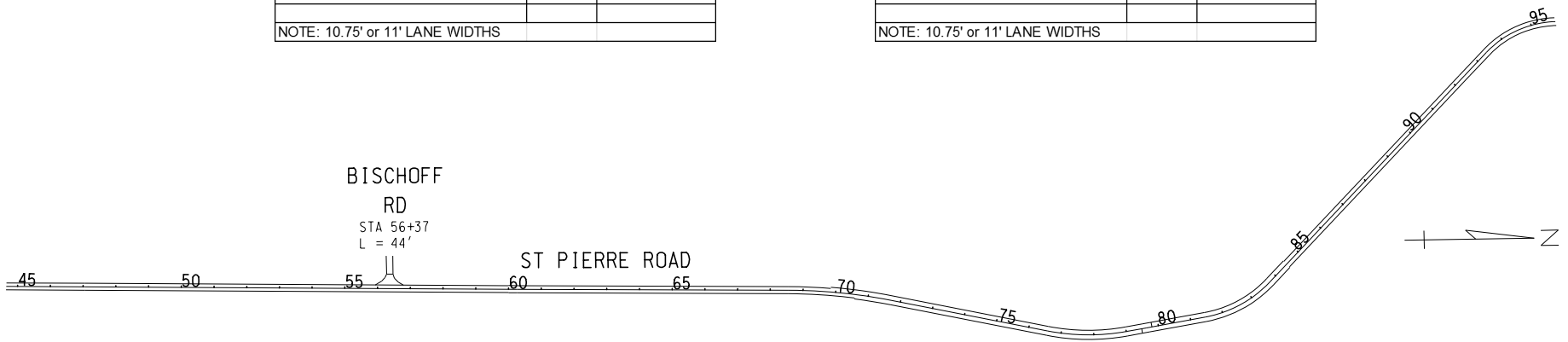
|          |           |
|----------|-----------|
| DRAWN BY | SHEET NO. |
| PJM      | 52        |

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT   |            |                 |
|---------------------------------|------------|-----------------|
| STATIONING                      | WIDTH LEFT | EX HMA SHLDR LT |
| STA 00+63 TO 69+84              | 10.75'     | 0'              |
| STA 69+84 TO 84+49              | 14'        | 3'              |
| STA 84+49 TO 95+00              | 12'        | 1'              |
| NOTE: 10.75' or 11' LANE WIDTHS |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT  |             |                 |
|---------------------------------|-------------|-----------------|
| STATIONING                      | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 00+63 TO 70+59              | 10.75'      | 0'              |
| STA 70+59 TO 84+49              | 14'         | 3'              |
| STA 84+49 TO 95+00              | 12'         | 1'              |
| NOTE: 10.75' or 11' LANE WIDTHS |             |                 |



**BISCHOFF**  
 RD  
 STA 56+37  
 L = 44'

LOCATION 19

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE

3 WORKING DAYS  
 BEFORE YOU DIG  
 CALL MISS DIG  
 800-482-7171  
 OR 811

KPM ENGINEERING

CIVIL ENGINEERING CONSULTANTS

ST PIERRE ROAD

POB STA 00+063 TO STA 95+00

ARCADIA TWP

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DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION

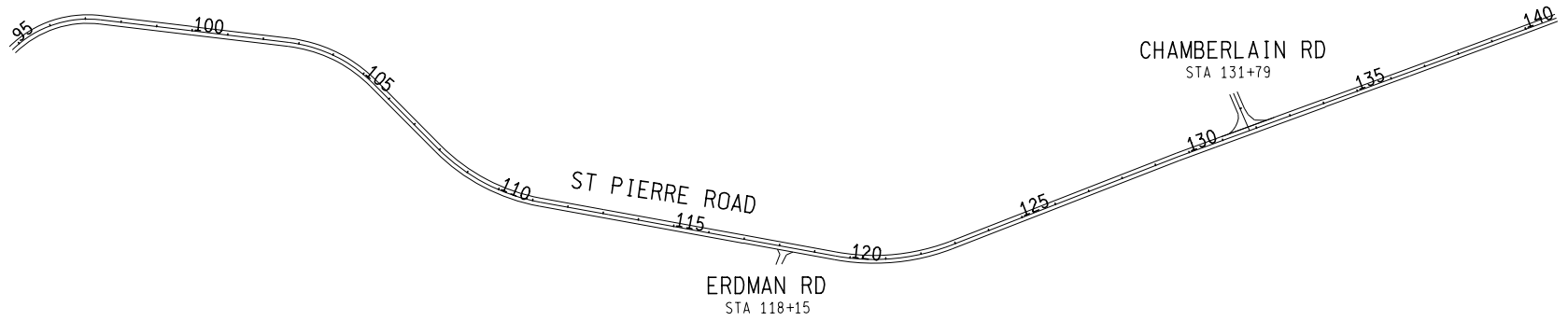
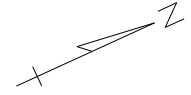
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

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|          |           |
|----------|-----------|
| DRAWN BY | SHEET NO. |
| PJM      | 53        |

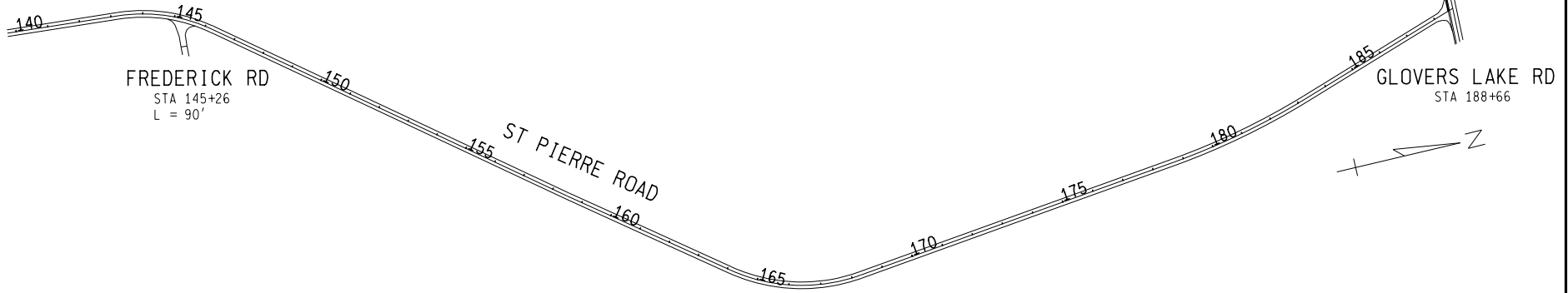
1/28/2025 7:02:31 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT  |            |              |
|--------------------------------|------------|--------------|
| STATIONING                     | WIDTH LEFT | EX HMA SHLDR |
|                                |            | LT           |
| STA 95+00 TO 100+00            | 12'        | 1'           |
| STA 100+00 TO 116+00           | 11.5'      | 0.5'         |
| STA 116+00 TO 134+00           | 11'        | 0'           |
| STA 134+00 TO 188+52           | 10.5'      | 0'           |
| NOTE: 10.5' or 11' LANE WIDTHS |            |              |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |              |
|--------------------------------|-------------|--------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR |
|                                |             | RT           |
| STA 95+00 TO 100+00            | 12'         | 1'           |
| STA 100+00 TO 116+00           | 11.5'       | 0.5'         |
| STA 116+00 TO 134+00           | 11'         | 0'           |
| STA 134+00 TO 188+52           | 10.5'       | 0'           |
| NOTE: 10.5' or 11' LANE WIDTHS |             |              |



LOCATION 19

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE

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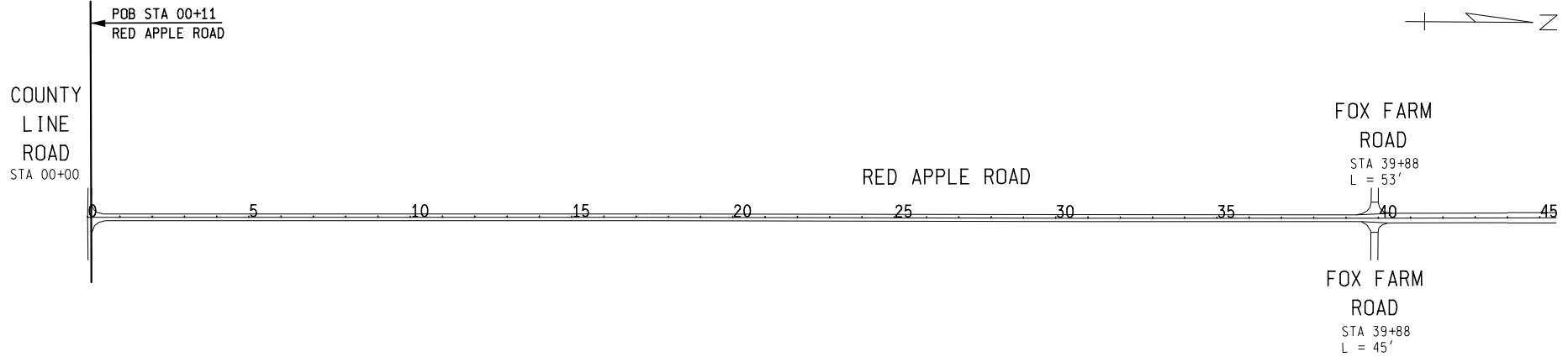
CIVIL ENGINEERING CONSULTANTS

|  |   |          |           |     |    |
|--|---|----------|-----------|-----|----|
| ST PIERRE ROAD<br>STA 95+00 TO POE STA 188+52<br>BEAR LAKE TWP | MANISTEE COUNTY<br>ROAD COMMISSION<br>8946 CHIPPEWA HWY<br>BEAR LAKE, MI 49614  |          |           |     |    |
| DATE: 1/28/2025  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">DRAWN BY</td> <td style="padding: 2px;">SHEET NO.</td> </tr> <tr> <td style="padding: 2px;">PJM</td> <td style="padding: 2px;">54</td> </tr> </table> | DRAWN BY | SHEET NO. | PJM | 54 |
| DRAWN BY   | SHEET NO.   |          |           |     |    |
| PJM  | 54  |          |           |     |    |

17-02-32 AM

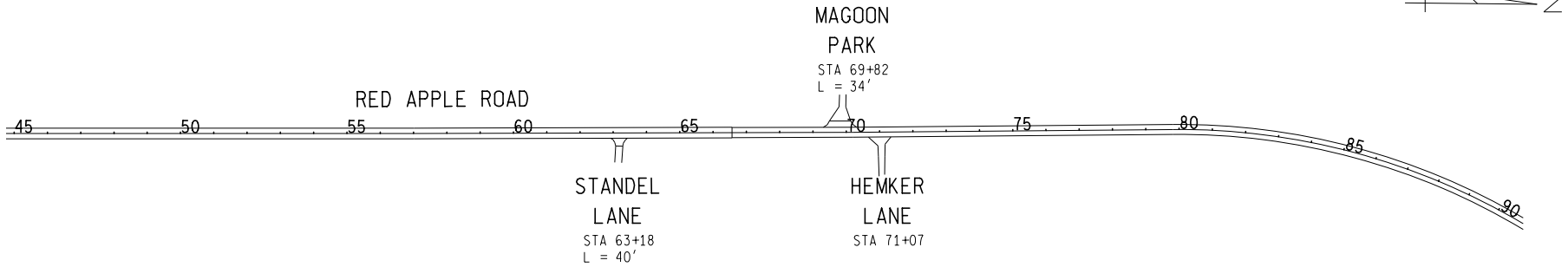
1/28/2025

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT  |            |                 |
|--------------------------------|------------|-----------------|
| STATIONING                     | WIDTH LEFT | EX HMA SHLDR LT |
| STA 00+11 TO 39+88             | 10.5'      | 0'              |
| STA 39+88 TO 90+00             | 15'        | 4'              |
| NOTE: 10.5' OR 11' LANE WIDTHS |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 00+11 TO 39+88             | 10.5'       | 0'              |
| STA 39+88 TO 90+00             | 15'         | 4'              |
| NOTE: 10.5' OR 11' LANE WIDTHS |             |                 |



LOCATION 20

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



RED APPLE ROAD  
POB STA 00+11 TO STA 90+00  
FILER TWP

DATE: 1/28/2025

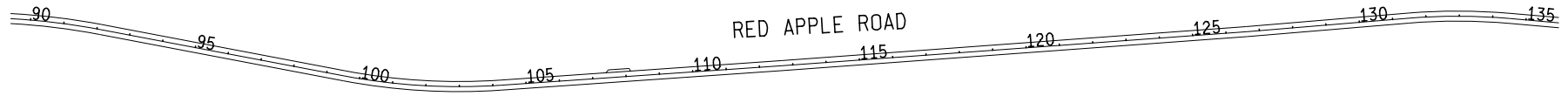
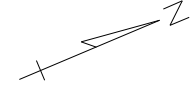
MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

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| DRAWN BY<br>PJM | SHEET NO.<br>55 |
|-----------------|-----------------|

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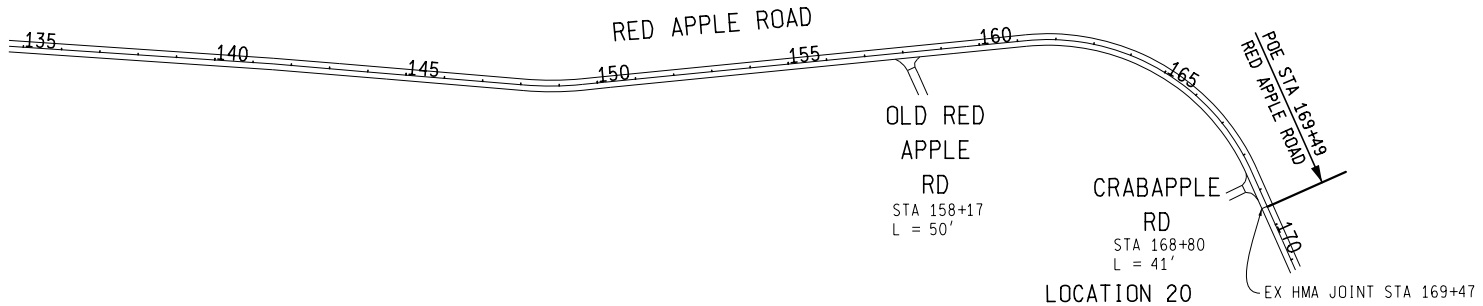


# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |              |
|-------------------------------|------------|--------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR |
|                               |            | LT           |
| STA 90+00 TO 169+49           | 15'        | 4'           |
| NOTE: 11' LANE WIDTHS         |            |              |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |              |
|--------------------------------|-------------|--------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR |
|                                |             | RT           |
| STA 90+00 TO 169+49            | 15'         | 4'           |
| NOTE: 11' LANE WIDTHS          |             |              |



NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

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RED APPLE ROAD

STA 90+00 TO POE STA 169+49

FILER TWP

DATE: 1/28/2025

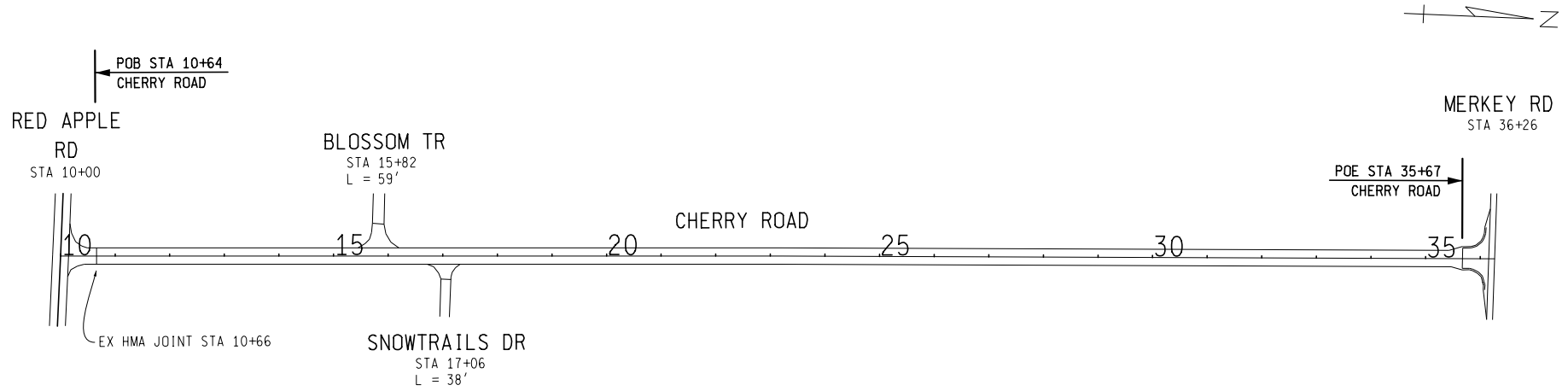
MANISTEE COUNTY  
ROAD COMMISSION

8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

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|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>56 |
|-----------------|-----------------|

1/28/2025 7:02:37 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING



| CHIP AND FOG SEAL WIDTHS LEFT |            |                 |
|-------------------------------|------------|-----------------|
| STATIONING                    | WIDTH LEFT | EX HMA SHLDR LT |
| STA 10+64 TO 35+67            | 15'        | 4'              |
| NOTE: 11' LANE WIDTHS         |            |                 |

| CHIP AND FOG SEAL WIDTHS RIGHT |             |                 |
|--------------------------------|-------------|-----------------|
| STATIONING                     | WIDTH RIGHT | EX HMA SHLDR RT |
| STA 10+64 TO 35+67             | 15'         | 4'              |
| NOTE: 11' LANE WIDTHS          |             |                 |

LOCATION 21

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



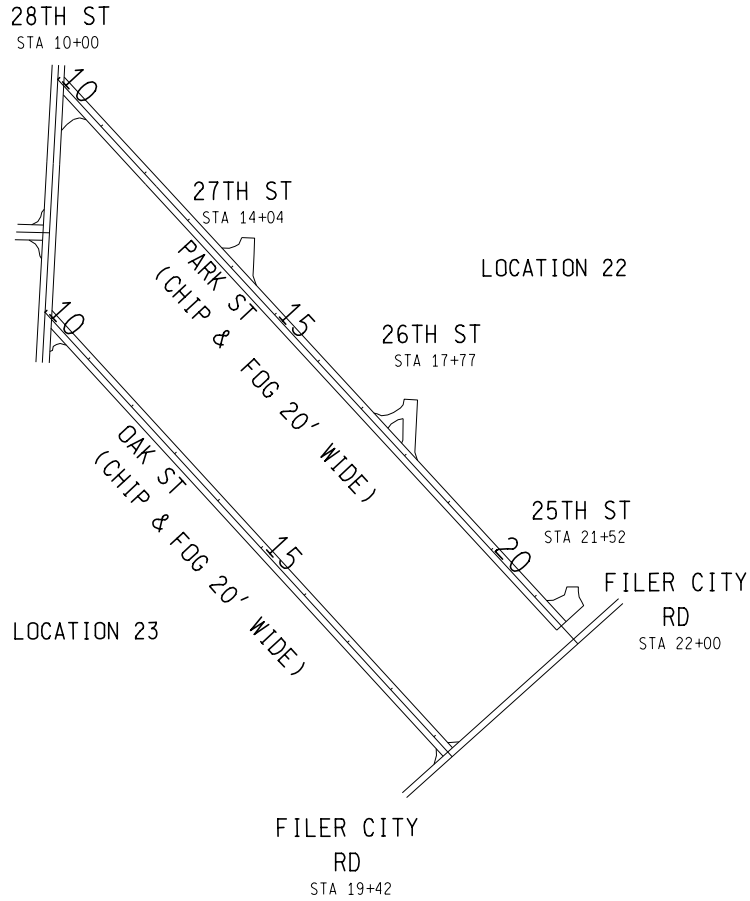
CHERRY ROAD  
POB STA 10+64 TO POE STA 35+67  
FILER TWP

DATE: 1/28/2025

MANISTEE COUNTY  
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BEAR LAKE, MI 49614

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|-----------------|-----------------|
| DRAWN BY<br>PJM | SHEET NO.<br>57 |
|-----------------|-----------------|

# 2025 LOCAL COUNTY-WIDE CHIP SEALING

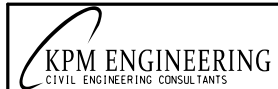


LOCATION 22 & 23

NO SCALE



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PARK & OAK STREETS

FILER TWP

DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614

|          |           |
|----------|-----------|
| DRAWN BY | SHEET NO. |
| PJM      | 58        |

1/28/2025 7:02:42 AM

# 2025 LOCAL COUNTY-WIDE CHIP SEALING

SEE OTHER STRIP PLAN SHEET FOR LAKE STREET INFO



EXISTING HMA WIDTH (TYP)

— APPROXIMATE CHIP AND FOG LIMITS

AT ALL STOPS AND TURNAROUNDS VARIABLE WIDTH CHIP AND FOG (MATCH EXISTING HMA WIDTHS).

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

NO SCALE



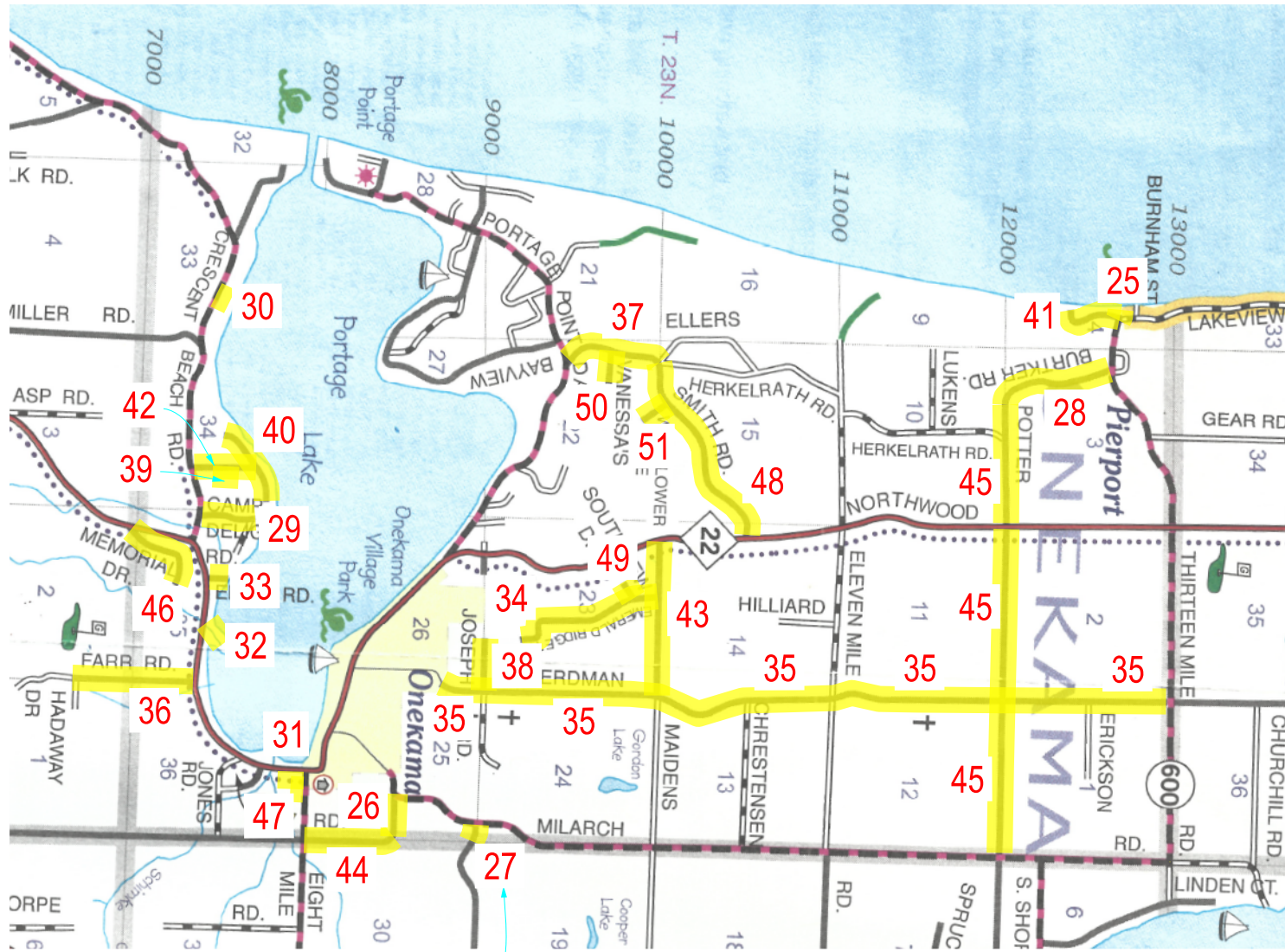
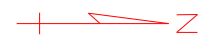
LOCATION 24  
VILLAGE OF ARCADIA  
VARIOUS ROADS  
DATE: 1/28/2025

MANISTEE COUNTY  
ROAD COMMISSION  
8946 CHIPPEWA HWY  
BEAR LAKE, MI 49614  
DRAWN BY PJM  
SHEET NO. 59

17:02:45 AM

5/28/2025

# 2025 LOCAL COUNTY-WIDE CHIP SEALING ONEKAMA TOWNSHIP



MEMORIAL EXTENDS SOUTH TO M-22 INTO MANISTEE TWP.

FARR RD EXTENDS SOUTH TO HADAWAY INTO MANISTEE TWP.

LOCATION # (TYPICAL)

LOCATIONS 25-51


AT ALL STOPS AND TURNAROUNDS VARIABLE WIDTH CHIP AND FOG (MATCH EXISTING HMA WIDTHS).

NOTE: ALIGNMENT INFORMATION HAS BEEN DERIVED FROM AERIAL PHOTOGRAPHY AND IS FOR INFORMATION ONLY.

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|   |  |  |                        |
|---|--|--|------------------------|
| <b>ONEKAMA TOWNSHIP<br/>VARIOUS ROADS</b> |  | <b>MANISTEE COUNTY<br/>ROAD COMMISSION</b><br>8946 CHIPPEWA HWY<br>BEAR LAKE, MI 49614 |                        |
|   |  | DATE: 1/28/2025  | SHEET NO.<br><b>60</b> |
|   |  | PJM  |                        |

NW 92-88-14

5/20/2021

**Manistee County**

**Onekama Township**

2025 Local County-Wide Chip Sealing

| <b>Location</b> | <b>Road Name</b>      | <b>POB</b>                                | <b>POE</b>                                 | <b>Length (mi)</b> | <b>Existing HMA Width (ft)</b> | <b>Non-Mainline Areas to Chip &amp; Fog</b>   |
|-----------------|-----------------------|---|--|--------------------|--------------------------------|---|
| 25              | 13 Mile               | West End                                  | 50' East of Lakeview centerline            | 0.060              | 22                             | Parking area west of Lakeview.<br>Ex HMA Apron north on Lakeview.   |
| 26              | 5th/Milarch           | 112' east of Milarch centerline           | Westerly point of curvature (Milarch Road) | 0.222              | 23                             | NA  |
| 27              | 9 Mile                | 14' east of Milarch centerline            | Township Line                              | 0.109              | 30                             | Extra width at POB approach to Milarch.   |
| 28              | Burtker               | 11' south of 13 Mile centerline           | Easterly point of curvature (Potter Road)  | 0.690              | 21                             | Extra width at POB approach to 13 Mile.   |
| 29              | Camp Delight          | 100' north of Crescent Beach centerline   | North end existing HMA                     | 0.289              | 23                             | NA  |
| 30              | Cedar Grove           | 15' north of Crescent Beach centerline    | North end existing HMA                     | 0.054              | 14                             | Extra width at POB approach to Crescent Beach.  |
| 31              | Cedar                 | 30' east of M-22 centerline               | 11.5' west of Schroeder centerline         | 0.120              | 23                             | NA  |
| 32              | Easy                  | 25' north of M-22 centerline              | Northeast end existing HMA                 | 0.162              | 21                             | Extra width at POB approach to M-22.<br>Extra width at POE turnaround area.   |
| 33              | Ellen                 | 25' north of M-22 centerline              | North end existing HMA                     | 0.163              | 21                             | Extra width at POB approach to M-22.  |
| 34              | Emerald Ridge Trail   | South end existing HMA/turnaround         | 10.5' south of Maidens centerline          | 0.613              | 30                             | Extra width at POB turnaround area.<br>Extra width at POE approach to Maidens.  |
| 35              | Erdman                | 87' southwest of township sign            | 500' north of Eleven Mile centerline       | 2.456              | 28                             | HMA Apron east on Joseph.<br>HMA Apron east on Maidens.<br>HMA Apron east on Chrestensen.<br>HMA Apron east and west on 11 Mile |
| 35              | Erdman                | 500' north of Eleven Mile centerline      | 11' south of 13 mile centerline            | 1.885              | 22                             | Extra width at POE approach to 13 Mile.   |
| 36              | Farr                  | South end existing HMA                    | 25' south of M-22 centerline               | 0.579              | 24                             | HMA Approach west on North Bluff CT (L=47').<br>HMA Extra width at POE approach to M-22.  |
| 37              | Herkelrath            | 15' northwest of Portage Point centerline | Northeast end (Begin Smith Road)           | 0.639              | 23                             | Extra width at POB approach to Portage Point.<br>HMA Apron at POE left.   |
| 38              | Joseph                | West end existing HMA                     | 14' west of Erdman centerline              | 0.280              | 23                             | Extra width at POB turnaround.<br>Extra width at POE approach to Erdman   |
| 39              | Kendall               | 10.5' east of Leonard centerline          | East end Existing HMA                      | 0.138              | 19                             | Extra width at POB approach to Leonard.<br>Extra width at POE turnaround.   |
| 40              | Winnogene & Lakeshore | South end existing HMA on Winnogene       | 9' west of Reeves centerline               | 0.561              | 18                             | NA  |
| 41              | Lakeview              | South end existing HMA                    | 11' south of 13 mile centerline            | 0.312              | 21                             | Extra width at POE approach to 13 Mile.   |

**Manistee County**

**Onekama Township**

2025 Local County-Wide Chip Sealing

| <b>Location</b> | <b>Road Name</b> | <b>POB</b>  | <b>POE</b>                                 | <b>Length (mi)</b> | <b>Existing HMA Width (ft)</b> | <b>Non-Mainline Areas to Chip &amp; Fog</b>   |
|-----------------|------------------|---|--|--------------------|--------------------------------|---|
| 42              | Leonard          | 123' north of Crescent Beach centerline                                     | 9' south of Lakeshore centerline           | 0.363              | 21                             | Extra width at POE approach to Lakeshore.   |
| 43              | Maidens          | 22' east of M-22 centerline   | 14' west of Erdman centerline              | 0.949              | 21                             | Extra width at POB approach to M-22.<br>Extra width at POE approach to Erdman.  |
| 44              | Milarch          | 15' north of 8 Mile centerline  | 878' north of 8 Mile Centerline            | 0.163              | 34                             | Extra width at POB approach to 8 Mile.  |
| 44              | Milarch          | 878' north of 8 Mile Centerline   | Westerly point of curvature (Milarch Road) | 0.343              | 23                             | NA  |
| 45              | Potter           | West end (end of Burtker)   | 82' west of M-22 centerline                | 0.651              | 22                             | HMA Apron south on Herkelrath.  |
| 45              | Potter           | 98' east of M-22 centerline   | 12' west of Milarch                        | 1.977              | 25                             | Gap out 22' for Erdman.<br>Extra width all 4 quadrants at Erdman.<br>Extra width at POE approach to Milarch.                                |
| 46              | Memorial         | 20' east of M-22 centerline   | 691' northeast of M-22 centerline          | 0.316              | 25                             | Extra width at POB approach to M-22.  |
| 46              | Memorial         | 691' northeast of M-22 centerline   | Turnaround at east end                     | 0.170              | 28                             | NA  |
| 47              | Schroeder        | South end existing HMA  | 15' south of M-22 centerline               | 0.057              | 23                             | Extra width at Cedar northwest quadrant.<br>Extra width at POE approach to 8 Mile.  |
| 48              | Smith            | North end of Herkelrath Road  | 2400' northeast of Herkelrath              | 0.455              | 23                             | HMA approach north on Opal Ridge (L=24').<br>HMA approach southeast on Valleyview (L=41').<br>HMA approach northwest on Opal Ridge (L=27'). |
| 48              | Smith            | 2400' northeast of Herkelrath   | 650' west of M-22 centerline               | 0.625              | 28                             | NA  |
| 48              | Smith            | 650' west of M-22 centerline  | 20' west of M-22 centerline                | 0.123              | 24                             | Extra width at POE approach to M-22.  |
| 49              | Southview        | West end existing HMA   | 15' west of Emerald Ridge Trail centerline | 0.046              | 30                             | Extra width at POB turnaround.  |
| 50              | Vanessa Way      | 11.5' east of Herkelrath centerline   | East end Existing HMA                      | 0.123              | 23                             | Extra width at POB approach to Herkelrath.<br>Extra width at POE turnaround.  |
| 51              | Wildflower Lane  | 555' south of Herkelrath centerline (begin and include turnaround to south) | 11.5' south of Smith                       | 0.202              | 25                             | Extra width at POE approach to Smith.   |

Manistee County Road Commission  
Special Provision  
For  
**Maintaining Traffic**

KPM:PJM

Page 1 of 3

1/28/25

**General**

Traffic will be maintained in accordance with the standard specifications including any supplemental specifications and as herein specified. All traffic control devices and their usage shall comply with the 2011 edition of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), as amended.

The Manistee County Road Commission (MCRC) may perform maintenance work within or adjacent to the Construction Influence Area (CIA). The MCRC will coordinate their operations to minimize the interference to the Contractor. No additional payment will be made to the Contractor for the joint use of the traffic control items.

**Construction Influence Area (CIA)**

The CIA limits shall include the area within the right-of-way for each segment of road included with this project plus a distance in advance as required for the advance construction signing and traffic control devices.

The CIA shall also extend down all intersecting roadways a distance of 550 feet.

**Traffic and Work Restrictions**

**All locations**

Conduct all work between sunrise and sunset local time. "Work" is defined as any activity on the project including the setting up and taking down of traffic control devices. No work shall be permitted on Sundays, holidays, or during special events unless approved by the MCRC due to special circumstances. Holiday periods are defined as:

| Holiday          | Start Date and Time         | End Date and Time          |
|------------------|-----------------------------|----------------------------|
| Memorial Day     | 3:00 pm, Friday, 05/23/25   | 6:00 am, Tuesday, 05/27/25 |
| Independence Day | 3:00 pm, Thursday, 07/03/25 | 6:00 am, Monday, 07/07/25  |
| Labor Day        | 3:00 pm, Friday, 08/29/25   | 6:00 am, Tuesday, 09/02/25 |

A minimum of one lane of traffic shall be maintained at all times. All lanes shall be opened for traffic at night.

Access for commercial and residential drives within the project limits and for emergency services shall be maintained at all times during construction.



Manistee County Road Commission  
Special Provision  
For  
**Maintaining Traffic**

KPM:PJM

Page 2 of 3

1/28/25

Traffic shall be maintained with traffic regulator control in accordance with the attached Maintaining Traffic Typical:

- A. 100-GEN-KEY
- B. 101-GEN-SPACING-CHARTS
- C. 102-GEN-NOTES
- D. 103-GEN-SIGN
- E. 104-GEN-AB
- F. 107-GEN-SPEED
- G. 110-TR-NFW-2L
- H. 122-NFW-SHL-(R)

Daytime lane closures (traffic regulator control) shall be limited to two closures at the same time and shall be separated by a minimum of 2 miles.

When chip and fog sealing in intersection areas, lane closures (using traffic regulator control) may be required on the intersecting roadways. When the intersecting roadway is a state trunkline, preferential treatment shall be provided to the state trunkline to reduce traffic backups.

G20-2 (End Road Work) signs will not be required on this short duration project.

**Traffic Control Devices**

All warning signs shall be 48" x 48" mounted at a 5' minimum bottom height in uncurbed areas and 7' minimum bottom height in curbed or pedestrian areas.

Temporary Traffic Control Devices shall conform to the attached MDOT Work Zone Device Special Detail WZD-125-E.

Quantities for traffic control devices have been estimated based on Two (2) sequences of Maintaining Traffic Typical 110-TR-NFW-2L, plus ten (10) W20-1 "Road Work Ahead" signs to be placed on the intersecting roads a minimum of 550' in each direction from the centerline of the main road or as directed by the Engineer. Additional signing and one additional lighted arrow are estimated for traffic regulator control in the vicinity of the intersecting major roads such as state highways and county primary roads.

**Temporary Pavement Markings**

Yellow temporary raised pavement markers shall be used for temporary centerline markings, spaced at 50' intervals, placed prior to the Chip & Fog Seal. Place double yellow tabs in No Passing zones. Use tabs with double covers to accommodate the subsequent fog seal.

Manistee County Road Commission  
Special Provision  
For  
**Maintaining Traffic**

KPM:PJM

Page 3 of 3

1/28/25

**Measurement and Payment**

The completed work for Maintaining Traffic, including furnishing and placement of all materials, labor, and equipment, will be measured and paid for at the contract unit price for the following contract items (pay items).

| <b><u>Contract Item</u></b>                                  | <b><u>Pay Unit</u></b> |
|--|------------------------|
| Traffic Control.....   | Lump Sum               |
| Raised Pavt Marker, Temp, Type 1, Yellow, Bidirectional..... | Each                   |

**Estimates of Maintaining Traffic Quantities**

|   |                 |
|---|-----------------|
| Lighted Arrow, Type C, Furn .....                         | 5 Each          |
| Lighted Arrow, Type C, Oper .....                         | 5 Each          |
| Sign, Type B, Temp, Prismatic Furn .....                  | 624 Square Foot |
| Sign, Type B, Temp, Prismatic Oper.....                   | 624 Square Foot |
| Minor Traf Devices .....                                  | 1 Lump Sum      |
| Traf Regulator Control (with intermediate Flaggers) ..... | 1 Lump Sum      |

Estimated quantities for the items above are provided for information only. They shall be included in the lump sum pay items. The Contractor will be required to increase or decrease their quantities as needed to fit their construction operations.

MANISTEE COUNTY ROAD COMMISSION

SPECIAL PROVISION

FOR

**Seal, Single Chip, Modified**

KPM:PJM

1 of 4

1-28-25

**Description:**

This work shall consist of all labor, materials, and equipment required to Chip Seal as specified herein.

**Equipment:**

All equipment must meet the requirements under section 505 of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, except as modified herein:

Pressure Distributor:

The pressure distributor shall have a computerized application rate and speed control device interconnected with the asphalt emulsion pump such that the specified application rate will be supplied at any speed. This control shall have a radar ground sensing device that controls the application rate regardless of ground speed or spray bar width. The pressure distributor shall be capable of maintaining the asphalt emulsion at the specified temperature. The spray bar nozzles shall produce a uniform fan spray, and the shutoff shall be instantaneous with no dripping. Each pressure distributor shall be capable of maintaining the specified rate of application within +/- 0.015 gallons per square yard for each load.

Aggregate Chip Spreader:

Use a self-propelled chip spreader which shall have a computerized application rate and speed control device capable of uniformly spreading the cover material at the designated rate. It shall be equipped with pneumatic tires and with a screen to remove oversized material.

Compacting Equipment:

Use three (3) self-propelled, pneumatic-tired rollers, weighing not less than 10 tons.

Broom/Sweeper:

The use of 3 rotary-powered brooms are required to remove the loose material from the surface to be treated and for removing loose aggregate after the work has been completed.

Note: A pickup truck mounted sweeper shall be used with the **Seal, Single Chip, Modified - Urban** pay item.

Miscellaneous:

Provide all equipment including hand tools, thermometers, etc. Equip all self-propelled equipment with at least one approved, flashing, rotating or oscillating amber light, visible to traffic in all directions. Equip chip spreaders with one such light on each side of the spreader. The use of a pilot car is optional to the Contractor, but no additional payment will be made if used.

**Prepaving Meeting:**

A pre-paving meeting will be held on site with the Engineer before beginning work to discuss the following:

- Work schedule.
- Traffic control plan.
- Equipment calibration and adjustments.
- Condition of materials and equipment, including transport units.

## Seal, Single Chip, Modified

- Mix design(s) including job-mix-formula (JMF); coarse aggregate gradation; application rate of asphalt emulsion and coarse aggregate (by stationing and course).
- Contractor's quality control plan (method of yield check, etc.).

### Seasonal Limitations:

The chip seal shall be placed when the pavement and the atmospheric temperature are above 55°F. Placement is not permitted when temperatures are forecasted to be below 32°F within 24 hours from the time of work. Placement is not permitted when the existing pavement temperature is 130°F or above.

### General Placement Operations:

1. The Contractor shall establish 1000-foot intervals along the entire length of the project, prior to placing materials. The stations shall be clearly identified and maintained until project completion.
2. Perform all surface preparation that may affect the performance of the chip seal. Remove all plastic pavement markings using an abrasion method. Remove markings just before the surfacing operation. Clean all pavements to be treated with a motorized power broom to remove all loose material. Clean all depressions not reached by the power broom using a hand broom. Thoroughly clean the outer edges of the pavement or shoulder. For single chip seal and double chip seal, extend cleaning 1 foot onto the adjacent paved shoulder.
3. Keep all vehicles and equipment involved in the chip sealing operation as close to each other as practical. Keep the asphalt emulsion distributor within 150 feet of the chip spreader. Do not place cover aggregate on asphalt after it breaks.
4. Locate longitudinal construction joints as follows:
  - Single chip seal-on a painted lane line or at the outside edge of the shoulder.
  - Double chip seal-place the joint to overlap the centerline by 6 inches for the first course and place the joint on the centerline for the second course.
  - Shoulder chip seal-at the edge of the driving lane or at a location requiring the least overlap onto the driving lane.
5. Perform rolling within five minutes of placing the coarse aggregate and before the asphalt has begun to cool. Make a minimum of two complete passes over the coarse aggregate. A complete pass is one trip, forward and backward, over the same path. Overlap each pass by one-half the width of the roller. Use a minimum of two rollers and proceed in a longitudinal direction at a speed not greater than 5 mph.
6. Use the appropriate equipment and perform an initial sweeping of the completed chip seal to remove excess loose aggregate before the end of each day's work or within 24 hours with the approval of the County Inspector. For single chip seal and double chip seal, sweep beyond the edge of pavement to help prevent migration of loose aggregate back onto the pavement. Do not sweep loose aggregate into curbed areas or intersections.
7. Before opening to traffic, place W8-7 (LOOSE GRAVEL) signs with 35 mph speed plaques mounted below. Place these signs throughout the completed work, beginning 50 feet before the treated area in the direction of oncoming traffic at a maximum spacing of 0.5 mile.
8. Before beginning the chip seal operation, protect all utility castings, monument boxes and raised pavement markers using tarpaper or other approved materials. Remove these protective coverings before sweeping and opening to traffic.

## Seal, Single Chip, Modified

9. Allow the new surface sufficient cure time to prevent damage by vehicle tires before opening to traffic. Protect the new surface from potential damage at intersections and driveways. Repair all traffic damage to the new surface at the Contractor's expense.

### Submittals:

Upon completion the Contractor shall provide an Inspector's daily report for each day work was performed containing the following information:

- Road Name / project number
- Date / air temperature / pavement temperature / humidity
- Asphalt Emulsion temperature
- Yield checks on asphalt emulsion
- Yield checks on coarse aggregate
- Length / Width / Total Square Yards
- Contractor's Signature

Other required documentation:

- Aggregate Certification or Shipment of Tested Stock Report (MDOT Form 1922).
- Asphalt Emulsion/ MultiGrade Asphalt: per current acceptance procedures.

The above submittals shall be placed in order by date in a folder with the certification statement in the back.

### Application:

The Contractor shall apply the multi grade asphalt at a temperature 280°F min, immediately followed by a uniform application of coarse aggregate.

### Multi Grade Asphalt:

CM-90, or approved equal (per properties of attached table 1) shall be spread at a residual target rate (after correction for temperature expansion and distillate loss) of .30 gallons per square yard. (min application rate .29).

If the target rate of .30 gallons per square yard is not the optimum application rate due to the gradation of the coarse aggregate or due to existing surface conditions of the pavement, the Contractor shall notify the Road Commission's Inspector immediately and prior to application. Upon approval of changes by the Engineer, the Contractor shall then document the new JMF rate(s) by stationing. All truck demurrage will be the responsibility of the Contractor.

**Table 1 – Chip Seal Matrix Modified Asphalt (CSMMA) – CM-90 (or approved equal) Amend table 904-2**

| TESTS   | Requirements   |
|---|----------------|
|   | CM90           |
| Modified Koppers Vacuum Viscosity, 25°C, P, ASTM D 4957 | 2000 to 20,000 |
| Flash Point, deg °C:                                    |                |
| Tag Flash Point, °C, min, ASTM D 3143-98                | 65.5           |
| Water in Petroleum, ASTM D 95-05, %, max                | 1.0            |
| Cut-Back Distillation, ASTM D 402-02                    |                |
| Distillate, % by Vol of Total Distillate to 360° C      |                |
| To 225° C   | 0-2            |
| To 260° C   | 0-5            |
| To 315.5° C   | 10-65          |
| Residue from Distillation to 360° C, min                | 90             |

## Seal, Single Chip, Modified

|   |        |
|---|--------|
| Test on Residue from Distillation, ASTM D 402           |        |
| Penetration, 25° C, 100 g, 5 sec, ASTM D5-05a           | 90-150 |
| Ductility at 25° C, cm, min, ASTM D 113                 | Report |
| Solubility in Trichloroethylene, %, min, ASTM D 2042-01 | 99.0   |
| Softening Point, °C, min, ASTM D 36-95                  | 60     |
| Float Test, 60° C, sec, min, ASTM D 139-95              | 1200   |

### Coarse Aggregate Application Rates:

Cover material to be used will be 34CS-M Slag. Slag placement rate shall be within the range of 16 to 19 pounds per square yard, with a target rate of 17 pounds per syd.

If the target rate is not the optimum application rate due to the gradation of the coarse aggregate or due to existing surface conditions of the pavement, the Contractor shall notify the Road Commission's Inspector immediately and prior to application. Upon approval of changes by the Engineer, the Contractor shall then document the new JMF rate(s) by stationing. All truck demurrage will be the responsibility of the Contractor.

### Stockpiling Aggregate Material:

Aggregate stockpile locations are the responsibility of the Contractor..

### Measurement and Payment:

Completed work, as measured, will be paid for at the contract unit price for the following contract items:

| <u>Pay Item</u>                            | <u>Pay Unit</u>    |
|--|--------------------|
| <b>Seal, Single Chip, Modified</b>         | <b>Square Yard</b> |
| <b>Seal, Single Chip, Modified - Urban</b> | <b>Square Yard</b> |

Payment for the Seal, Single Chip, Modified includes all equipment, labor and materials for placement of a single or double application of asphalt emulsion and coarse aggregate, brooming, and establishment of yield intervals. Furnishing and operating the W8-7 (LOOSE GRAVEL) signing shall also be included in payment for Seal, Single Chip, Modified.

No adjustments in the unit price will be made for approved rate of Multi-Grade Asphalt and/or coarse aggregate that are within the ranges identified in Multi Grade Asphalt and Coarse Aggregate Application.

The contract unit price shall be payment in full for all labor and equipment needed to accomplish the work.

MANISTEE COUNTY ROAD COMMISSION

SPECIAL PROVISION

FOR

**Seal, Single Chip, Modified Alternate Bid**

KPM:PJM

1 of 4

2-3-25

**Description:**

This work shall consist of all labor, materials, and equipment required to Chip Seal as specified herein.

**Equipment:**

All equipment must meet the requirements under section 505 of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, except as modified herein:

Pressure Distributor:

The pressure distributor shall have a computerized application rate and speed control device interconnected with the asphalt emulsion pump such that the specified application rate will be supplied at any speed. This control shall have a radar ground sensing device that controls the application rate regardless of ground speed or spray bar width. The pressure distributor shall be capable of maintaining the asphalt emulsion at the specified temperature. The spray bar nozzles shall produce a uniform fan spray, and the shutoff shall be instantaneous with no dripping. Each pressure distributor shall be capable of maintaining the specified rate of application within +/- 0.015 gallons per square yard for each load.

Aggregate Chip Spreader:

Use a self-propelled chip spreader which shall have a computerized application rate and speed control device capable of uniformly spreading the cover material at the designated rate. It shall be equipped with pneumatic tires and with a screen to remove oversized material.

Compacting Equipment:

Use two (2) self-propelled, pneumatic-tired rollers, weighing not less than 10 tons.

Broom/Sweeper:

The use of 2 rotary-powered brooms are required to remove the loose material from the surface to be treated and for removing loose aggregate after the work has been completed.

Note: A pickup truck mounted sweeper shall be used with the **Seal, Single Chip, Modified – Urban Alternate Bid** pay item.

Miscellaneous:

Provide all equipment including hand tools, thermometers, etc. Equip all self-propelled equipment with at least one approved, flashing, rotating or oscillating amber light, visible to traffic in all directions. Equip chip spreaders with one such light on each side of the spreader. The use of a pilot car is optional to the Contractor, but no additional payment will be made if used.

**Prepaving Meeting:**

A pre-paving meeting will be held on site with the Engineer before beginning work to discuss the following:

- Work schedule.
- Traffic control plan.
- Equipment calibration and adjustments.
- Condition of materials and equipment, including transport units.

## Seal, Single Chip, Modified Alternate Bid

- Mix design(s) including job-mix-formula (JMF); coarse aggregate gradation; application rate of asphalt emulsion and coarse aggregate (by stationing and course).
- Contractor's quality control plan (method of yield check, etc.).

### Seasonal Limitations:

The chip seal shall be placed when the pavement and the atmospheric temperature are above 55°F. Placement is not permitted when temperatures are forecasted to be below 32°F within 24 hours from the time of work. Placement is not permitted when the existing pavement temperature is 130°F or above.

### General Placement Operations:

1. The Contractor shall establish 1000-foot intervals along the entire length of the project, prior to placing materials. The stations shall be clearly identified and maintained until project completion.
2. Perform all surface preparation that may affect the performance of the chip seal. Remove all plastic pavement markings using an abrasion method. Remove markings just before the surfacing operation. Clean all pavements to be treated with a motorized power broom to remove all loose material. Clean all depressions not reached by the power broom using a hand broom. Thoroughly clean the outer edges of the pavement or shoulder.
3. Keep all vehicles and equipment involved in the chip sealing operation as close to each other as practical. Keep the asphalt emulsion distributor within 150 feet of the chip spreader. Do not place cover aggregate on asphalt after it breaks.
4. Locate longitudinal construction joints as follows:
  - Single chip seal-on a painted lane line or at the outside edge of the shoulder.
  - Double chip seal-place the joint to overlap the centerline by 6 inches for the first course and place the joint on the centerline for the second course.
  - Shoulder chip seal-at the edge of the driving lane or at a location requiring the least overlap onto the driving lane.
5. Perform rolling within two minutes of placing the coarse aggregate and before the asphalt has begun to cool. Make a minimum of two complete passes over the coarse aggregate. A complete pass is one trip, forward and backward, over the same path. Overlap each pass by one-half the width of the roller. Use a minimum of two rollers and proceed in a longitudinal direction at a speed not greater than 5 mph.
6. Use the appropriate equipment and perform an initial sweeping of the completed chip seal to remove excess loose aggregate before the end of each day's work or within 24 hours with the approval of the County Inspector. For single chip seal and double chip seal, sweep beyond the edge of pavement to help prevent migration of loose aggregate back onto the pavement. Do not sweep loose aggregate into curbed areas or intersections.
7. Before opening to traffic, place W8-7 (LOOSE GRAVEL) signs with 35 mph speed plaques mounted below. Place these signs throughout the completed work, beginning 50 feet before the treated area in the direction of oncoming traffic at a maximum spacing of 0.5 mile.
8. Before beginning the chip seal operation, protect all utility castings, monument boxes and raised pavement markers using tarpaper or other approved materials. Remove these protective coverings before sweeping and opening to traffic.



## Seal, Single Chip, Modified Alternate Bid

9. Allow the new surface sufficient cure time to prevent damage by vehicle tires before opening to traffic. Protect the new surface from potential damage at intersections and driveways. Repair all traffic damage to the new surface at the Contractor's expense.

### **Submittals:**

Upon completion, the Contractor shall provide an Inspector's daily report for each day work was performed containing the following information:

- Road Name / project number
- Date / air temperature / pavement temperature / humidity
- Asphalt Emulsion temperature
- Yield checks on asphalt emulsion
- Yield checks on coarse aggregate
- Length / Width / Total Square Yards
- Contractor's Signature

Other required documentation:

- Aggregate Certification or Shipment of Tested Stock Report (MDOT Form 1922).
- Asphalt Emulsion: per current acceptance procedures.

The above submittals shall be placed in order by date in a folder with the certification statement in the back.

### **Application:**

The Contractor shall apply CRS-2M at a temperature between 170°F and 190°F, immediately followed by a uniform application of coarse aggregate.

### **Emulsified Asphalt:**

Emulsified Asphalt to be used shall be CRS-2M and shall meet the requirements stated in Table 904-6 of the MDOT Standards Specifications for Construction. Target application range shall be 0.39 to 0.44 gallons per square yard (after correction for temperature expansion and distillate loss).

If the target rate is not the optimum application rate due to the gradation of the coarse aggregate or due to existing surface conditions of the pavement, the Contractor shall notify the Road Commission's Inspector immediately and prior to application. Upon approval of changes by the Engineer, the Contractor shall then document the new JMF rate(s) by stationing. All truck demurrage will be the responsibility of the Contractor.

### **Coarse Aggregate Application Rates:**

Cover material to be used will be 25A Slag. Slag placement rate shall be within the range of 19 to 24 pounds per square yard, with a target rate of 22 pounds per syd.

If the target rate is not the optimum application rate due to the gradation of the coarse aggregate or due to existing surface conditions of the pavement, the Contractor shall notify the Road Commission's Inspector immediately and prior to application. Upon approval of changes by the Engineer, the Contractor shall then document the new JMF rate(s) by stationing. All truck demurrage will be the responsibility of the Contractor.

### **Stockpiling Aggregate Material:**

Aggregate stockpile locations are the responsibility of the Contractor.

**Seal, Single Chip, Modified Alternate Bid**

**Measurement and Payment:**

Completed work, as measured, will be paid for at the contract unit price for the following contract items:

| <u>Pay Item</u>  | <u>Pay Unit</u>    |
|--|--------------------|
| <b>Seal, Single Chip, Modified Alternate Bid</b>         | <b>Square Yard</b> |
| <b>Seal, Single Chip, Modified – Urban Alternate Bid</b> | <b>Square Yard</b> |

Payment for the Seal, Single Chip, Modified Alternate Bid includes all equipment, labor and materials for placement of a single or double application of asphalt emulsion and coarse aggregate, brooming, and establishment of yield intervals. Furnishing and operating the W8-7 (LOOSE GRAVEL) signing shall also be included in payment for Seal, Single Chip, Modified Alternate Bid.

No adjustments in the unit price will be made for approved rate of Emulsified Asphalt and/or coarse aggregate that are within the ranges identified in Emulsified Asphalt and Coarse Aggregate Application.

The contract unit price shall be payment in full for all labor and equipment needed to accomplish the work.

MANISTEE COUNTY ROAD COMMISSION

SPECIAL PROVISION

FOR

**Fog Seal, Modified**

KPM:PJM

1 of 2

1-28-25

**Description:**

This work shall consist of all labor, materials, and equipment required to Fog Seal as specified herein.

**Equipment:**

All equipment must meet the requirements under Section 505 of the Michigan Department of Transportation (MDOT) Standard Specifications for Construction, except as modified herein:

Pressure Distributor:

The pressure distributor shall have a computerized application rate and speed control device interconnected with the asphalt emulsion pump such that the specified application rate will be supplied at any speed. This control shall have a radar ground sensing device that controls the application rate regardless of ground speed or spray bar width. The pressure distributor shall be capable of maintaining the asphalt emulsion at the specified temperature. The spray bar nozzles shall produce a uniform fan spray, and the shutoff shall be instantaneous with no dripping. Each pressure distributor shall be capable of maintaining the specified rate of application within +/- 0.015 gallons per square yard for each load.

Broom/Sweeper:

The use of a rotary-powered broom is required to remove the loose material from the surface to be treated and for removing loose aggregate after the work has been completed.

Note: A pickup truck mounted sweeper shall be used with the **Fog Seal, Modified - Urban** pay item.

Miscellaneous:

Provide all equipment including hand tools, thermometers, etc. Equip all self-propelled equipment with at least one approved, flashing, rotating or oscillating amber light, visible to traffic in all directions. Before opening to traffic, place W21-2 (FRESH OIL) signs throughout the completed work, beginning 50 feet before the treated area in the direction of oncoming traffic at a maximum spacing of 0.5 mile.

**Fog Seal – Application Rates:**

CSS-1h (at 50% dilution) shall be spread at a target rate between 0.10 and 0.15 gallons per square yard with a target rate of 0.12 gallons per square yard.

If the target rate of 0.12 gallons per square yard is not the optimum application rate due to the gradation of the coarse aggregate or due to existing surface conditions of the pavement, the contractor shall notify the Road Commission's inspector immediately and prior to application. Upon approval of changes by the engineer, the contractor shall then document the new JMF rate(s) by stationing. All truck demurrage will be the responsibility of the contractor.

Fog Seal shall be placed 24-48 hours after completion of chip seal and brooming.

## **Fog Seal, Modified**

KPM:PJM

2 of 2

1-28-25

### **Measurement and Payment:**

Completed work, as measured, will be paid for at the contract unit price for the following contract items:

| <u>Pay Item</u>                   | <u>Pay Unit</u>    |
|-----------------------------------|--------------------|
| <b>Fog Seal, Modified</b>         | <b>Square Yard</b> |
| <b>Fog Seal, Modified - Urban</b> | <b>Square Yard</b> |

Payment for the fog seal includes all equipment, labor and materials for placement of a single application of asphalt emulsion, brooming before fogging, and establishment of yield intervals. Furnishing and operating the W21-2 (FRESH OIL) signing shall also be included in payment for Fog Seal, Modified.

No adjustments in the unit price will be made for approved rate of asphalt emulsion and/or coarse aggregate that are within the ranges identified in Asphalt Emulsion and Coarse Aggregate Application.

The contract unit price shall be payment in full for all labor and equipment needed to accomplish the work.