Manistee County Road Commission
Plans and Specifications

Merkey Road 2020 HMA Resurfacing
Cherry Rd to Maple Street
Filer Township
Manistee County, Michigan

January 17, 2020

MANISTEE COUNTY ROAD COMMISSION

PLANS OF PROPOSED IMPROVEMENTS TO

MERKEY ROAD

FILER TWP
MANISTEE COUNTY

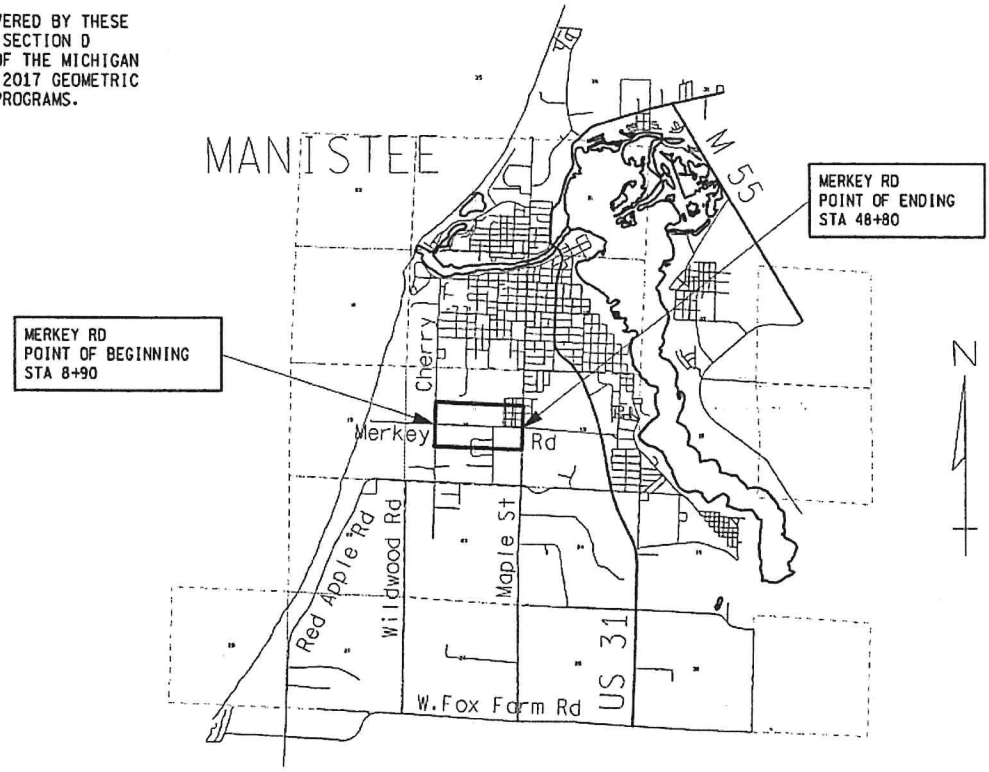
INDEX TO SHEETS

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 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.

	MERKEY RD
ADT (2020).....	1,488
% COMMERCIAL.....	3%
ADT (2040).....	2,009
POSTED SPEED.....	45 MPH
DESIGN SPEED.....	45 MPH



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

PROJECT LENGTH: 0.76 MILES
CONTRACT FOR: HMA WEDGING & OVERLAY, TRENCHING & HMA SHOULDER CONSTRUCTION

STATE OF MICHIGAN
GARY L. KARTTUNEN ENGINEER No. 30565
LICENSED PROFESSIONAL ENGINEER

PREPARED UNDER SUPERVISION OF

GARY L. KARTTUNEN, P.E. — REGISTERED PROFESSIONAL ENGINEER
30565 — REGISTRATION #

KPM Engineering
CIVIL ENGINEERING CONSULTANTS

1/17/2020

COUNTY ROAD COMMISSION APPROVAL

MARK P. SOHLDEN, MCRC MANAGER — 1/20/20 — DATE

1:10:02 PM 1/19/2020

SHEET NO. 1

PROJECT LOG

MERKEY ROAD, FROM CHERRY ROAD TO MAPLE STREET
FILER TOWNSHIP, MANISTEE COUNTY

Project Location:

The project is on Merkey Road, from 110' west of the centerline of Cherry Road (POB = Station 8+90) easterly to 92' west of the centerline of Maple Street (POE = Station 48+80). The project length is 0.76 miles.

Refer to the Project Title Sheet.

Description of Work:

The work at this location involves 0.76 miles of Hot Mix Asphalt (HMA) wedging and overlay, trenching and construction of proposed HMA and aggregate shoulders, approach paving, and maintaining traffic.

Specifications:

All work shall be performed in accordance with the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction, the project Special Provisions, plans, project log, and as directed by the Engineer.

Placement of temporary traffic control items within the project limits 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.

Items of Work:

<u>Mainline</u>
In accordance with the typical cross sections and details, place full width HMA wedging for crown modification from Station 11+14 to POE Station 48+80. Application will be as directed by the Engineer. Utilizing a cold mill machine, trench for construction of 3' paved shoulder ribbons with aggregate base from POB to POE. The trench depth shall be 8 inches measured from top of the previously placed HMA pavement wedging. Place Shoulder, Cl I (estimated at 6 inch depth) and shoulder HMA leveling course. Resurface the pavement and shoulder ribbons in accordance with the typical cross sections, and place aggregate shoulders. Construct a butt joint at the POE in accordance with the details.

PROJECT LOG

MERKEY ROAD, FROM CHERRY ROAD TO MAPLE STREET
FILER TOWNSHIP, MANISTEE COUNTY

In accordance with the typical cross sections and details, cold mill (2" depth) and resurface the Merkey Rd/Cherry Road intersection from POB Station 8+90 to Station 11+14. Transition cold milling depth from 2" to 0" from Station 11+14 to Station 11+64.

POB Station 8+90 to Station 11+14

Cold Milling HMA Surface	**1,263**	**Syd**
HMA, 4E1	**96**	**Ton**
HMA Approach	**50**	**Ton**

Station 11+14 to POE Station 48+80

Pavt for Butt Joints, Rem (Butt Joint at POE)	**128**	**Syd**
HMA, 4E1 (HMA Wedging)	**760**	**Ton**
Trenching	**76**	**Sta**
Shoulder, Cl I	**1,395**	**Ton**
HMA, 4E1 (for HMA shoulder base)	**387**	**Ton**
HMA, 4E1 (for HMA overlay)	**1,354**	**Ton**
Shoulder, Cl II	**698**	**Ton**
Cold Milling HMA Surface (Sta 11+14 to 11+64)	**116**	**Syd**

Approach Treatment IIA – Ramona Drive (Rt)

In accordance with the detail for Approach Treatment Type IIA and as directed by the Engineer, resurface the approach to meet the new pavement grade.

Pavt for Butt Joints, Rem	**50**	**Syd**
HMA Approach	**51**	**Ton**

HMA Driveway Approaches

Existing HMA paved drive approaches shall be sawcut and removed for a distance of 10' from the edge of proposed mainline paved shoulders (24' from centerline). Place Approach, Cl I material as directed by the Engineer and resurface with 2" of HMA material (or thicker to match existing depth).

HMA Surface, Rem (existing HMA drives)	**382**	**Syd**
Approach, Cl I	**43**	**Ton**
HMA Approach	**45**	**Ton**

The sawcutting and removal of the existing paved approaches is included in payment for HMA Surface, Rem. Any excavation or grading required is included in payment for HMA Approach.

PROJECT LOG

MERKEY ROAD, FROM CHERRY ROAD TO MAPLE STREET
FILER TOWNSHIP, MANISTEE COUNTY

Un-paved (Gravel or Dirt) Driveway Approaches

Existing un-paved drive approaches shall be resurfaced with Approach, Cl II material for a distance of 15' from the new edge of pavement or as directed by the Engineer as shown on the details.

Approach, Cl II	**64**	**Ton**

Concrete Driveway Approaches

Existing Concrete paved drive approaches shall be sawcut and removed for a distance of 10' from the edge of proposed mainline paved shoulders (24' from centerline). Shape and compact approach to the proposed drive width, place Approach, Cl I material where directed by the Engineer, and pave concrete driveway.

Pavt, Rem (existing Conc drives)	**115**	**Syd**
Approach, Cl I	**11**	**Ton**
Driveway, Nonreinf Conc, 6 inch	**91**	**Syd**

The sawcutting and removal of the existing concrete approaches is included in payment for Pavt, Rem. Any excavation or grading required is included in payment for Driveway, Nonreinf Conc, 6 inch.

Maintaining Traffic Quantities

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

Traffic Control	**1**	**LSUM**
Temporary Pavement Markings	**1**	**LSUM**

Entire Project Quantities

Replace existing mail box posts where directed by the Engineer:

Post, Mailbox	**5**	**Ea**

PROJECT LOG

MERKEY ROAD, FROM CHERRY ROAD TO MAPLE STREET
FILER TOWNSHIP, MANISTEE COUNTY

General Log Notes:

1. 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.

2. 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.

3. Adjusting Monument Boxes
   All government corners on this project shall be preserved, whether shown or not. It may be necessary to place or adjust monument boxes, as required.

4. Aggregate Base
   Aggregate Base used on this project shall be Aggregate 22A or Aggregate 21AA.

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

LOG OF EXISTING PAVEMENT MARKINGS

The following pavement marking information is for information only. Permanent pavement markings will be placed by others after completion of the project.

Sta 8+90 to Sta 16+80	EB Solid, WB Skip
Sta 16+80 to Sta 27+80	Double Yellow
Sta 27+80 to Sta 37+90	EB Skip, WB Solid
Sta 37+90 to Sta 48+80	Single Skip

PROJECT LOG

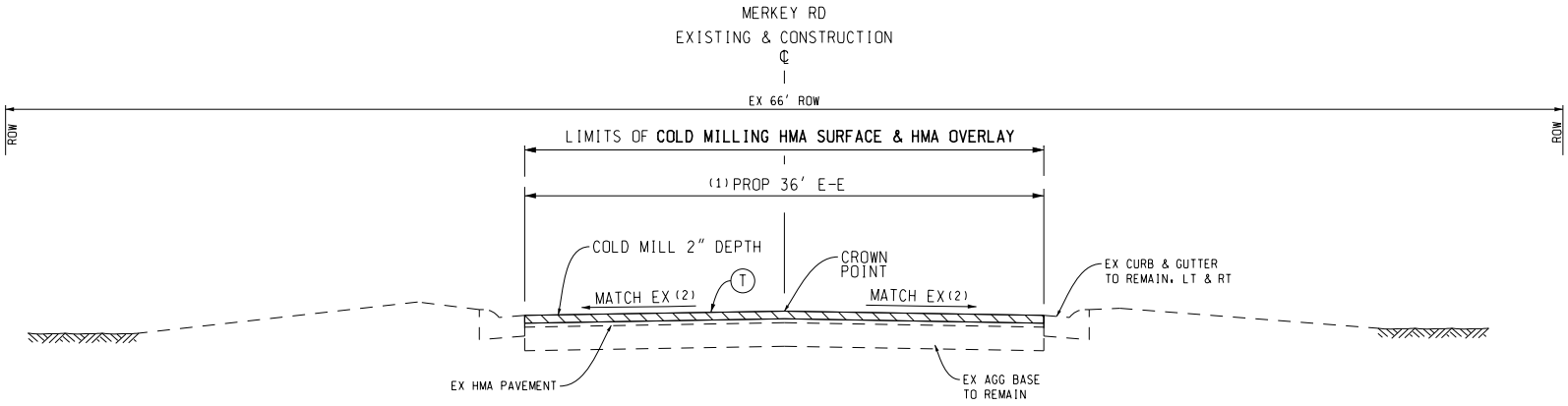
MERKEY ROAD, FROM CHERRY ROAD TO MAPLE STREET
FILER TOWNSHIP, MANISTEE COUNTY

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.

TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E (S.D.)

Note: Road Standard Plans, Road Special Details, 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.



PROPOSED COLD MILL & HMA RESURFACING SECTION

SECTION APPLIES:
POB STA 8+90 TO 11+14

(1) STA 8+90 TO 9+40 - VAR 20' TO 36' WIDTH (NO EX C & G)
STA 10+58 TO 11+14 - VAR 36' TO 22' WIDTH (NO EX C & G)

(2) MODIFY PAVEMENT SLOPE WHERE NEEDED TO IMPROVE POSITIVE DRAINAGE AS DIRECTED BY THE ENGINEER.

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE PER SYD	PERFORMANCE GRADE	REMARKS
(T)	HMA, 4E1	220#	PG 58-28	HMA OVERLAY, 1 COURSE AWI = 220
(L)	HMA, 4E1	220#	PG 58-28	HMA SHLDR LEVELING COURSE
(W)	HMA, 4E1	VAR 0 TO 220# ±	PG 58-28	PROP HMA WEDGING COURSE FULL WIDTH
(A1)	HMA APPROACH	330# (4)	PG 58-28	HMA, 4E1 APPROACH ROADS
(A2)	HMA APPROACH	220# (4)	PG 58-28	HMA, 4E1 FOR HMA DRIVES
(3) BOND COAT		0.05-0.15 GAL/SYD		

(3) FOR INFORMATION ONLY
(4) OR THICKER TO MATCH EXISTING DEPTH

NO SCALE

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

KPM Engineering

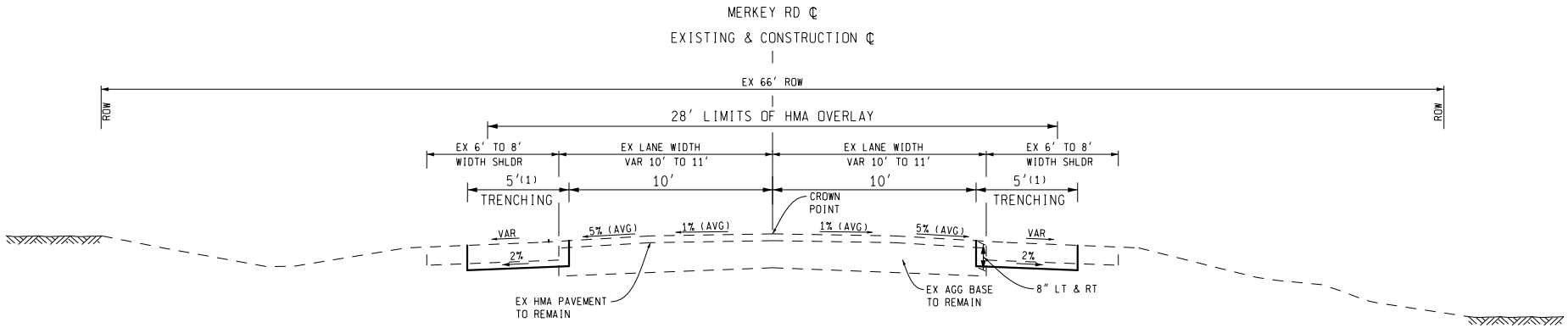
HMA COLD MILLING & RESURFACING
MERKEY ROAD
TYPICAL SHEET

DATE: 1/19/2020

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

DRAWN BY	SHEET NO.
GLK	7

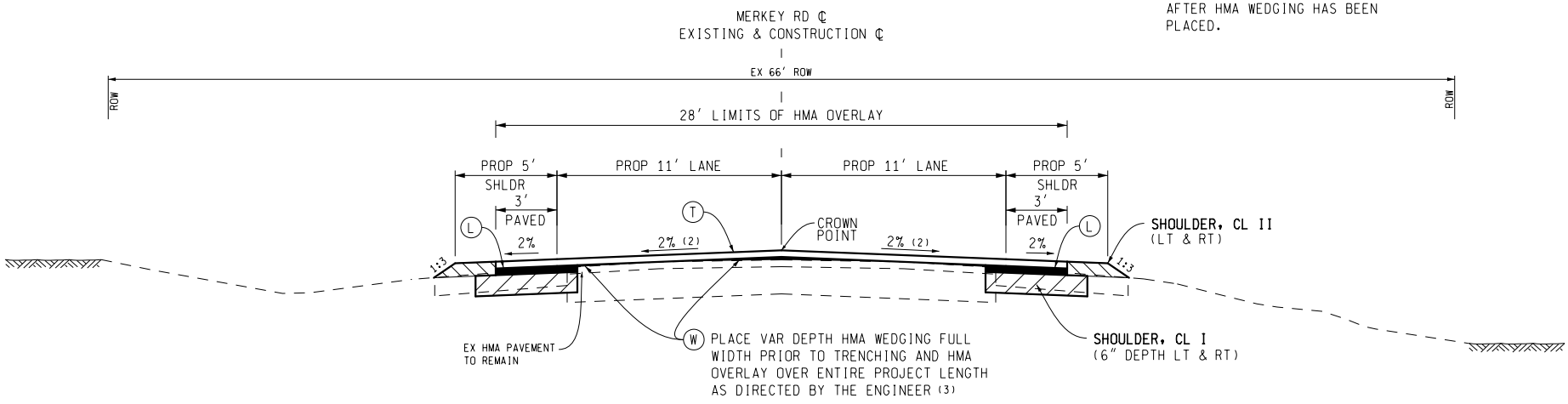
1:11:28 PM
1/19/2020



EXISTING NORMAL CROWN SECTION

SECTION APPLIES:
STA 11+14 TO STA POE 48+80

(1) A COLD MILL MACHINE SHALL BE USED FOR TRENCHING ON THIS PROJECT AND SHALL BE PERFORMED AFTER HMA WEDGING HAS BEEN PLACED.



PROPOSED NORMAL CROWN OVERLAY SECTION

SECTION APPLIES:
STA 11+14 TO POE STA 48+80

(2) VARY SLOPE 1.5% TO 3.0% (2% DESIRABLE) AS DIRECTED BY THE ENGINEER.

(3) THE PROPOSED HMA WEDGING COURSE IS ESTIMATED AT 165 #/SYD (AVG). THICKNESS OF HMA SHALL VARY FROM MAX 1.5" AT CENTERLINE TO APPROXIMATELY 0.75" AT THE QUARTER CROWN TO OBTAIN THE PROPOSED CROSS SLOPE.

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE PER SYD	PERFORMANCE GRADE	REMARKS
(T)	HMA, 4E1	220#	PG 58-28	HMA OVERLAY, 1 COURSE AWI = 220
(L)	HMA, 4E1	220#	PG 58-28	HMA SHLDR LEVELING COURSE
(W)	HMA, 4E1	VAR 0 TO 220# ±	PG 58-28	PROP HMA WEDGING COURSE FULL WIDTH
(A1)	HMA APPROACH	330# (5)	PG 58-28	HMA, 4E1 APPROACH ROADS
(A2)	HMA APPROACH	220# (5)	PG 58-28	HMA, 4E1 FOR HMA DRIVES
(4) BOND COAT		0.05-0.15 GAL/SYD		

(4) FOR INFORMATION ONLY
(5) OR THICKER TO MATCH EXISTING DEPTH

NO SCALE

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

KPM Engineering

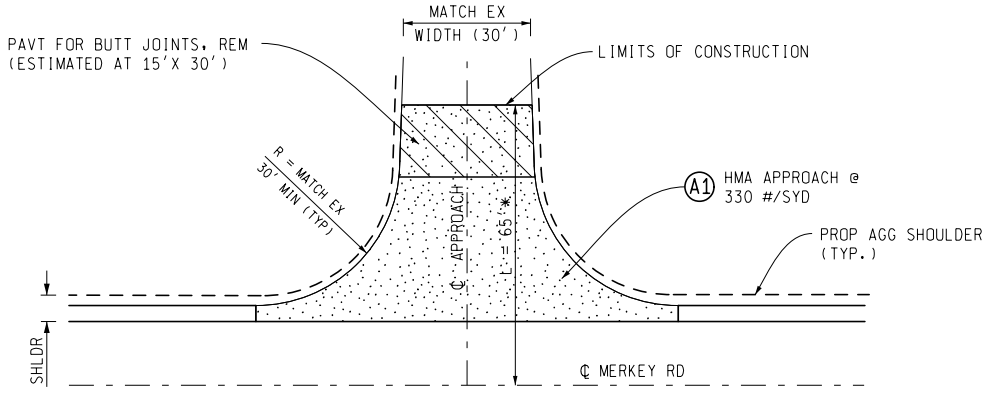
MERKEY ROAD
TYPICAL SHEET

DATE: 1/19/2020

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

DRAWN BY	SHEET NO.
GLK	8

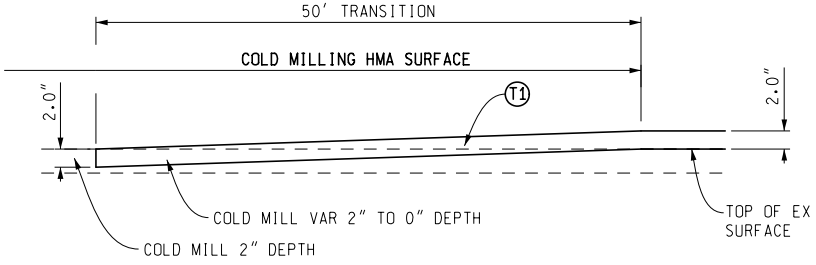
1:12:29 PM
1/19/2020



APPROACH TREATMENT TYPE IIA (EX HMA)

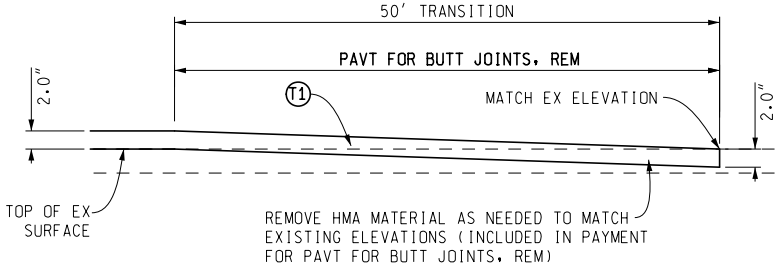
TO APPLY:
RAMONA ROAD (RT)

* OR AS DIRECTED BY THE MCRC



COLD MILLING TRANSITION DETAIL

TO APPLY:
STA 11+14 TO 11+64



BUTT JOINT DETAIL

TO APPLY:
STA 48+30 TO POE STA 48+80

NO SCALE

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

KPM Engineering

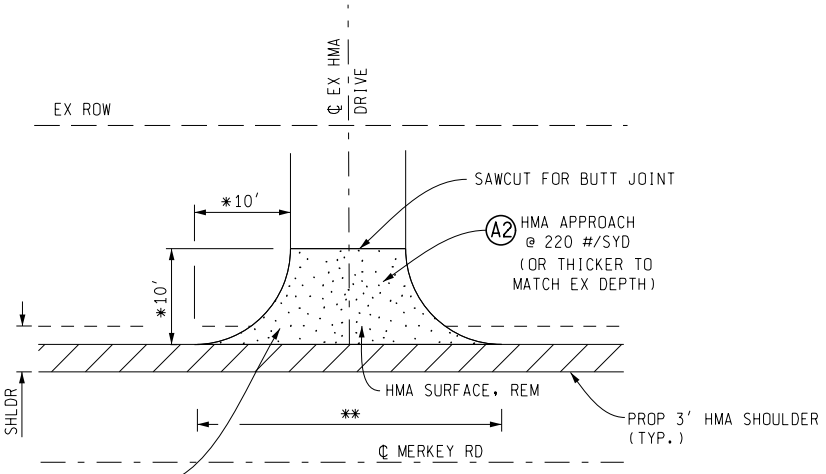
INTERSECTION APPROACH
& MISC DETAIL SHEET

DATE: 1/19/2020

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

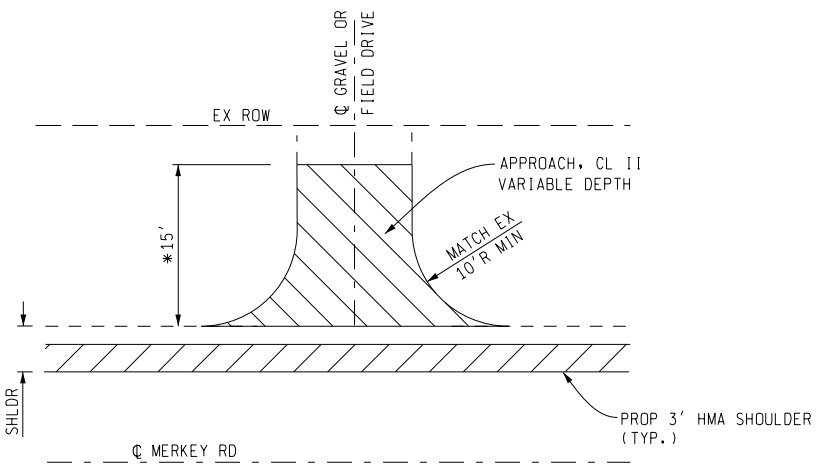
DRAWN BY	SHEET NO.
GLK	9

1:13:21 PM
1/19/2020



FOLLOWING REMOVAL OF EX HMA, PLACE APPROACH, CL I AS NEEDED TO MATCH PROPOSED GRADE. GRADING, SHAPING & COMPACTING THE APPROACH IS INCLUDED IN PAYMENT FOR HMA APPROACH.

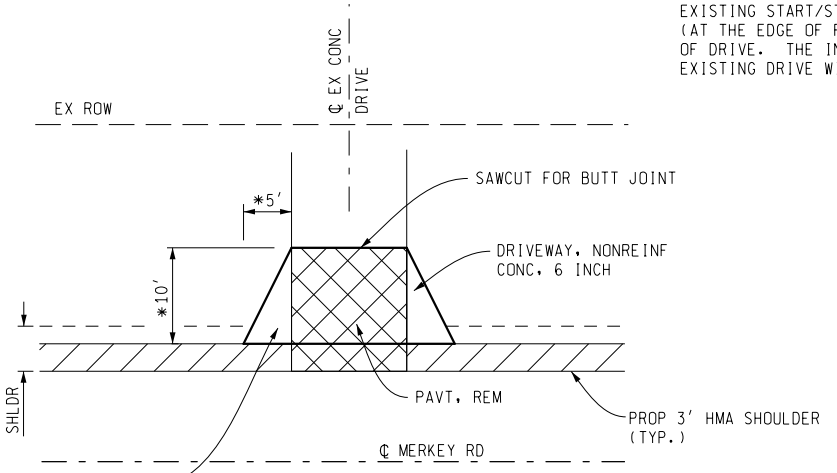
HMA PAVED DRIVEWAY DETAIL



UN-PAVED DRIVEWAY DETAIL

* OR AS DIRECTED BY THE ENGINEER

** THE CONTRACTOR SHALL DOCUMENT THE EXISTING START/STOP POINTS OF HMA DRIVE (AT THE EDGE OF PAVT) PRIOR TO REMOVAL OF DRIVE. THE INTENT IS TO MATCH THE EXISTING DRIVE WIDTH.



FOLLOWING REMOVAL OF EX PAVT, GRADE AND COMPACT EX APPROACH AND PLACE APPROACH, CL I WHERE DIRECTED BY THE ENGINEER TO MATCH PROPOSED GRADE. GRADING, SHAPING & COMPACTING THE APPROACH IS INCLUDED IN PAYMENT FOR DRIVEWAY, NONREINF CONC, 6 INCH.

CONCRETE PAVED DRIVEWAY DETAIL

NO SCALE

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

KPM Engineering

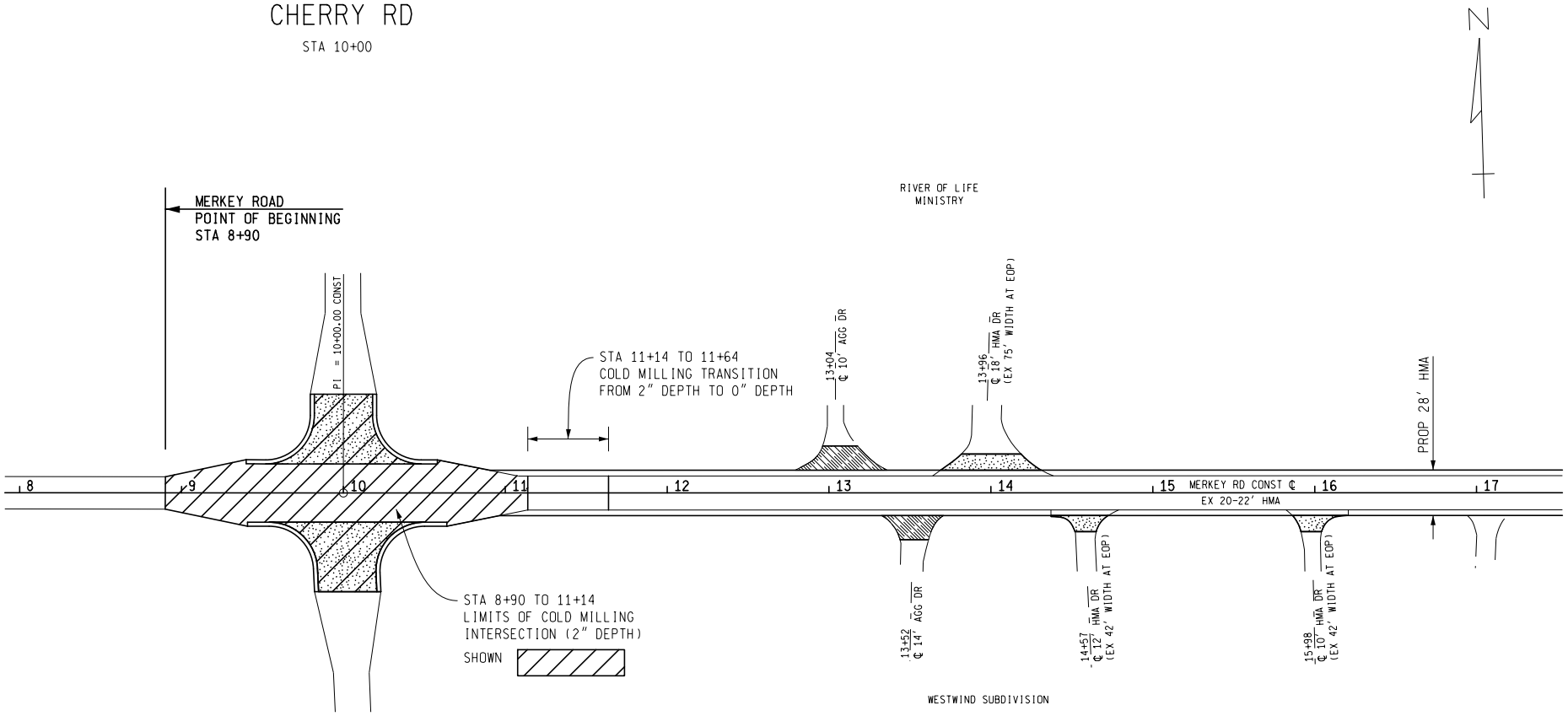
DRIVEWAY DETAIL SHEET

DATE: 1/19/2020

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

DRAWN BY	SHEET NO.
GLK	10

1:14:19 PM 1/19/2020



NO SCALE

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

KPM Engineering

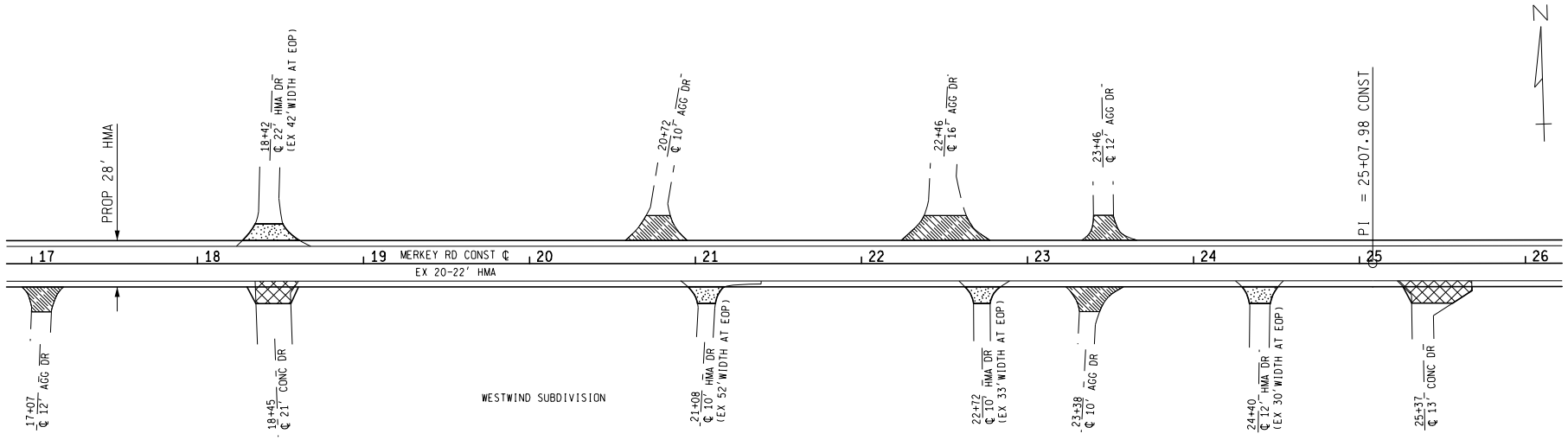
MERKEY ROAD
POB STA 8+90 TO STA 17+00

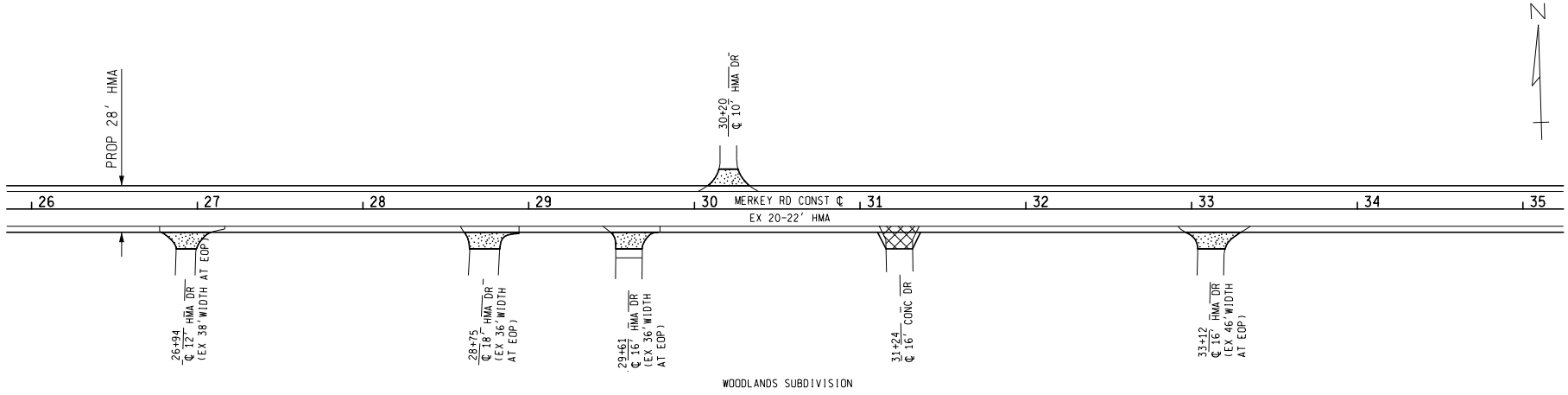
DATE: 1/15/2020

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

DRAWN BY	SHEET NO.
GLK	11

1/15/2020 3:25:47 PM





NO SCALE

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

KPM Engineering

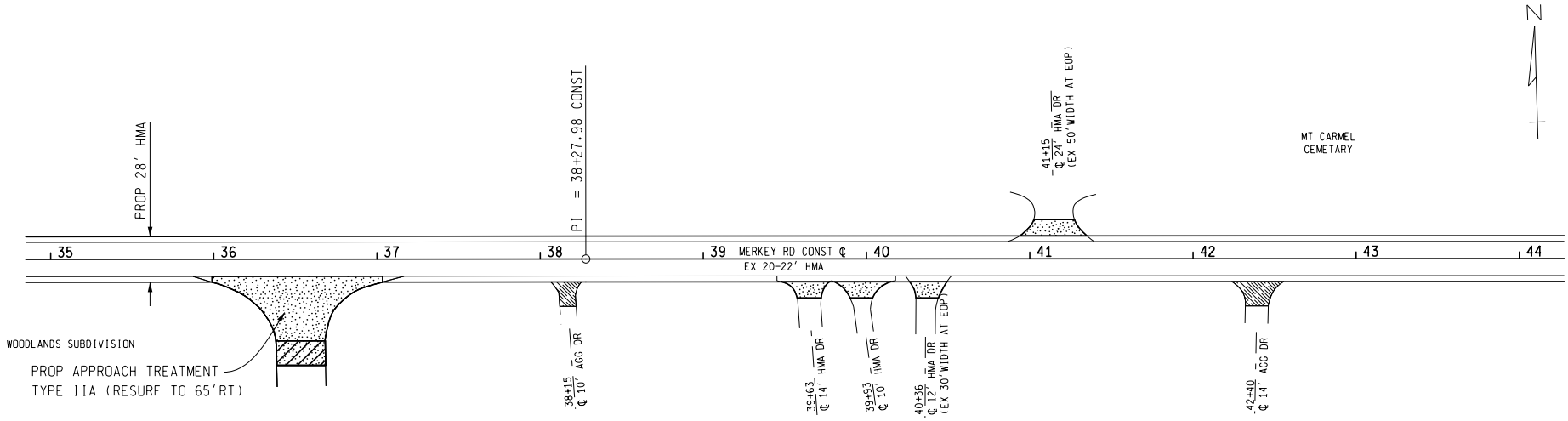
MERKEY ROAD
STA 17+00 TO STA 35+00

DATE: 1/15/2020

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

DRAWN BY	SHEET NO.
GLK	12

1/15/2020 3:26:45 PM

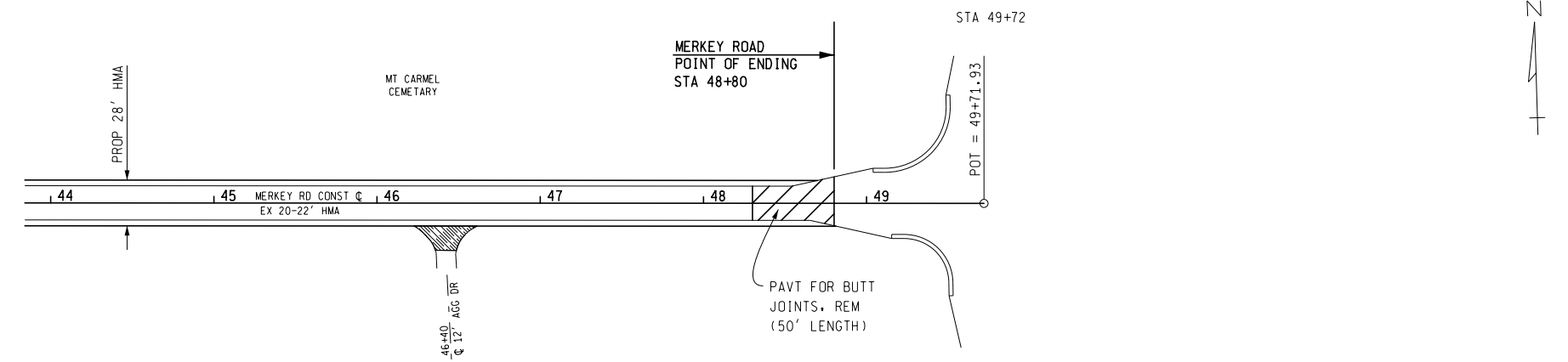


RAMONA DR

STA 36+52

MAPLE RD

STA 49+72



NO SCALE

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

KPM Engineering

MERKEY ROAD
STA 35+00 TO POE STA 48+80
FILER TWP

DATE: 1/15/2020

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

DRAWN BY	SHEET NO.
GLK	13

1/15/2020 3:27:45 PM

Manistee County Road Commission
Special Provision
For
Maintaining Traffic

General

Traffic will be maintained in accordance with the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction 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 Merkey Road from Cherry Road easterly to Maple Street in Filer Township, 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

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:

Memorial Day – 5:00 pm, Friday 05/22/20 to 6:00 am, Tuesday, 05/26/20
Independence Day – 5:00 pm Thursday, 07/02/20 to 6:00 am, Monday, 07/06/20
Labor Day - 5:00 pm, Friday 09/04/20 to 6:00 am, Tuesday, 09/08/20

A minimum of one lane of traffic shall be maintained at all times. All lanes shall be opened for traffic at night. Work shall only be allowed on one side of the road at a time. All trenches shall be paved daily.

Traffic shall be maintained with traffic regulator control in accordance with the attached Maintaining Traffic Typicals M0020a, M0140a and M0150a.

A lane closure, utilizing traffic regulator control, on Cherry Road will be required when cold milling and paving in the intersection area.

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

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.

All construction signs left in place for a duration exceeding 14 days will be on driven posts as per the MDOT Work Zone Device Special Detail WZD-100-A which is available on the MDOT website or available from the MCRC (upon request).

Quantities for traffic control devices have been estimated based on one sequence of Maintaining Traffic Typical M0140a, one sequence of Maintaining Traffic Typical M0150a (for use at the Cherry Road intersection), plus three (3) W20-1 "Road Work Ahead" signs to be placed on the intersecting roads a minimum of 550' in each direction from the centerline of Merkey Road or as directed by the Engineer.

Temporary Pavement Markings

Temporary centerline pavement markings shall be Pavt Mrkg, Type NR tape, 4 inch, Yellow, Temp and shall be placed daily on the HMA top and wedging courses in accordance with the MDOT 2012 Standard Specifications for Construction. The temporary markings shall be placed in a single line of 4' strips spaced 50' center-to-center for passing zones and a double line of 4' strips spaced 50' center-to-center for each course of HMA paving for no-passing zones.

Measurement and Payment

The completed work for Maintaining Traffic and for Temporary Pavement Markings, 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).

Contract Item	Pay Unit
Traffic Control	Lump Sum
Temporary Pavement Markings	Lump Sum

Estimates of Maintaining Traffic Quantities

Lighted Arrow, Type C, Furn, ... 4 Each
Lighted Arrow, Type C, Oper, ... 4 Each
Sign, Type B, Temp, Prismatic Furn ..... 520 Square Foot
Sign, Type B, Temp, Prismatic Oper ..... 520 Square Foot
Traf Regulator Control (with Intermediate Flaggers) ..... 1 Lump Sum
Minor Traf Devices ..... 1 Lump Sum

Estimated quantities for the items above are provided for information only. They shall be included in the lump sum pay item for Traffic Control.

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
FEET	25	30	35	40	45	50	55	60	65	70	
1	10	15	20	27	45	50	55	60	65	70	TAPER LENGTH "L" IN FEET
2	21	30	41	53	90	100	110	120	130	140	
3	31	45	61	80	135	150	165	180	195	210	
4	42	60	82	107	180	200	220	240	260	280	
5	52	75	102	133	225	250	275	300	325	350	
6	63	90	123	160	270	300	330	360	390	420	
7	73	105	143	187	315	350	385	420	455	490	
8	83	120	163	213	360	400	440	480	520	560	
9	94	135	184	240	405	450	495	540	585	630	
10	104	150	204	267	450	500	550	600	650	700	
11	115	165	225	293	495	550	605	660	715	770	
12	125	180	245	320	540	600	660	720	780	840	
13	135	195	266	347	585	650	715	780	845	910	
14	146	210	286	374	630	700	770	840	910	980	
15	157	225	307	400	675	750	825	900	975	1050	

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

$$"L" = \frac{W \times S^2}{60}$$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

"L" = S x W WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MINIMUM LENGTH OF MERGING TAPER
S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
W = WIDTH OF OFFSET

TYPES OF TAPERS	TAPER LENGTH
UPSTREAM TAPERS	
MERGING TAPER	L - MINIMUM
SHIFTING TAPER	1/2 L - MINIMUM
SHOULDER TAPER	1/3 L - MINIMUM
TWO-WAY TRAFFIC TAPER	100 ' - MAXIMUM
DOWNSTREAM TAPERS (USE IS OPTIONAL)	100 ' - MINIMUM (PER LANE)

MDOT Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC TYPICAL

TABLES FOR "L", "D" AND "B" VALUES

DRAWN BY: CON:AE:djf	JUNE 2006 PLAN DATE:	M0020a	SHEET 1 OF 2
CHECKED BY: BMM			
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn	REV. 08/21/2006		

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D" AND LENGTH OF LONGITUDINAL BUFFER SPACE ON "WHERE WORKERS PRESENT" SEQUENCES

"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
D (FEET)	250	300	350	400	450	500	550	600	650	700

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE "B"

SPEED* MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1 BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

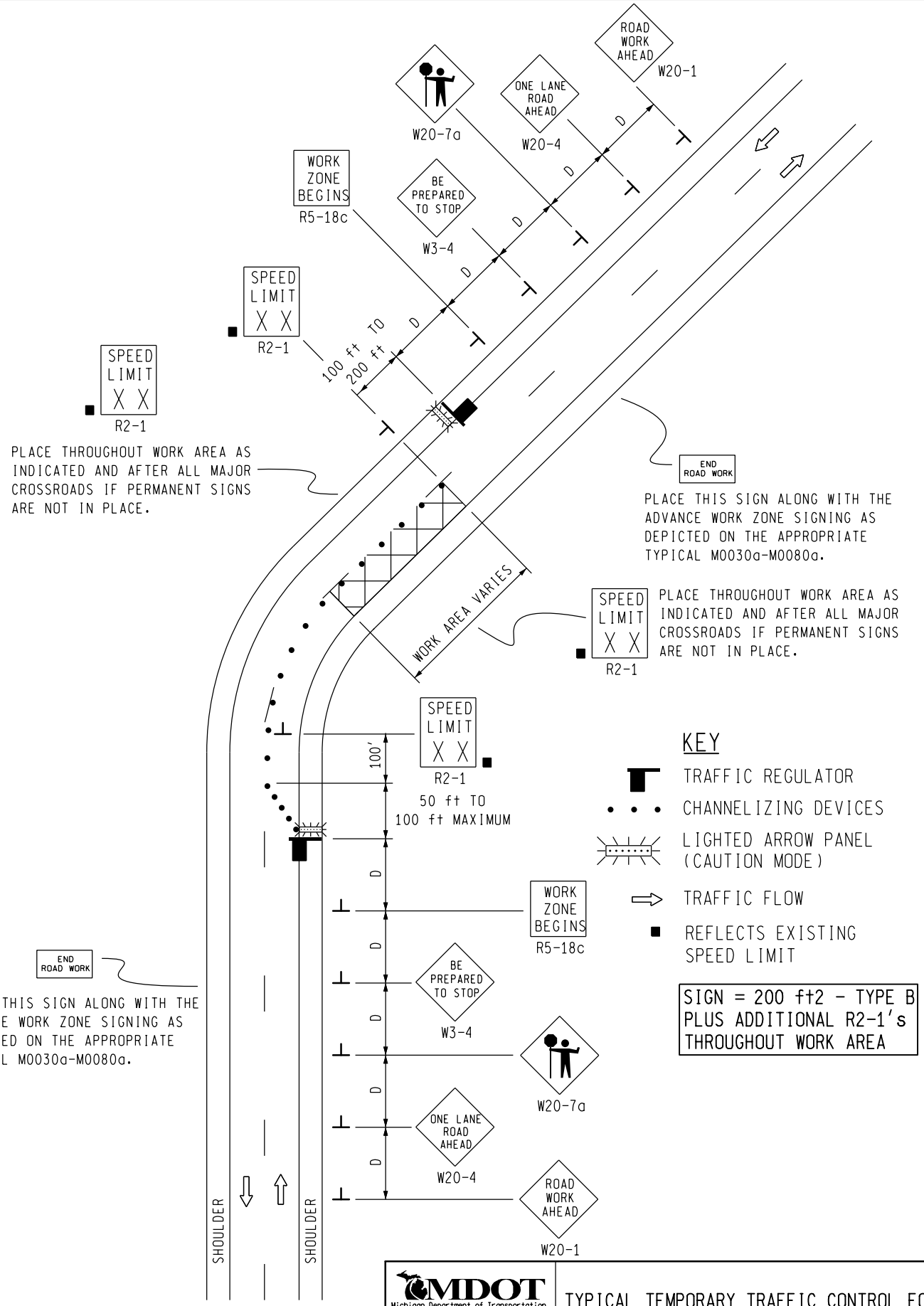
MDOT Michigan Department of Transportation

TRAFFIC AND SAFETY

MAINTAINING TRAFFIC TYPICAL

TABLES FOR "L", "D" AND "B" VALUES

DRAWN BY: CON:AE:djf	JUNE 2006	M0020a	SHEET 2 OF 2
CHECKED BY: BMM	PLAN DATE:		
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn	REV. 08/21/2006		



NOT TO SCALE

MDOT Michigan Department of Transportation

TRAFFIC AND SAFETY

MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS, NO SPEED REDUCTION

DRAWN BY: CON:AE:djf	OCTOBER 2011	M0140a	SHEET 1 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		

FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0140a.dgn REV. 10/04/2011

NOTES

1H. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS SEE **M0020a** FOR "D" VALUES.

2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.

3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.

3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.

4A. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES IN THE TAPER AREA(S) SHOULD BE 15 FEET AND SHOULD BE EQUAL IN FEET TO TWICE THE POSTED SPEED IN MILES PER HOUR IN THE PARALLEL AREA(S).

5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.

6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.

7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.

9. ALL TRAFFIC REGULATORS SHALL BE PROPERLY TRAINED AND SUPERVISED.

9A. IN ANY OPERATION INVOLVING MORE THAN ONE TRAFFIC REGULATOR, ONE PERSON SHOULD BE DESIGNATED AS HEAD TRAFFIC REGULATOR.

10. ALL TRAFFIC REGULATORS' CONDUCT, THEIR EQUIPMENT, AND TRAFFIC REGULATING PROCEDURES SHALL CONFORM TO THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CURRENT EDITION OF THE MDOT HANDBOOK ENTITLED "TRAFFIC REGULATORS INSTRUCTION MANUAL."

11. WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS, APPROPRIATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY ILLUMINATE THE TRAFFIC REGULATOR'S STATIONS.

12E. THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS SHALL BE NO MORE THAN 2 MILES IN LENGTH UNLESS RESTRICTED FURTHER IN THE SPECIAL PROVISIONS FOR MAINTAINING TRAFFIC. ALL SEQUENCES OF MORE THAN 2 MILES IN LENGTH WILL REQUIRE WRITTEN PERMISSION FROM THE ENGINEER BEFORE PROCEEDING.

13. WHEN INTERSECTING ROADS OR SIGNIFICANT TRAFFIC GENERATORS (SHOPPING CENTERS, MOBILE HOME PARKS, ETC.) OCCUR WITHIN THE ONE-LANE TWO-WAY OPERATION, INTERMEDIATE TRAFFIC REGULATORS AND APPROPRIATE SIGNING SHALL BE PLACED AT THESE LOCATIONS.

14. ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W3-4 SIGNS.

15. THE HAND HELD (PADDLE) SIGNS REQUIRED BY THE MMUTCD TO CONTROL TRAFFIC WILL BE PAID FOR AS PART OF FLAG CONTROL.

28E. THE TRAFFIC REGULATORS SHOULD BE POSITIONED AT OR NEAR THE SIDE OF THE ROAD SO THAT THEY ARE SEEN CLEARLY AT A MINIMUM DISTANCE OF 500 FEET. THIS MAY REQUIRE EXTENDING THE BEGINNING OF THE LANE CLOSURE TO OVERCOME VIEWING PROBLEMS CAUSED BY HILLS AND CURVES.

SIGN SIZES

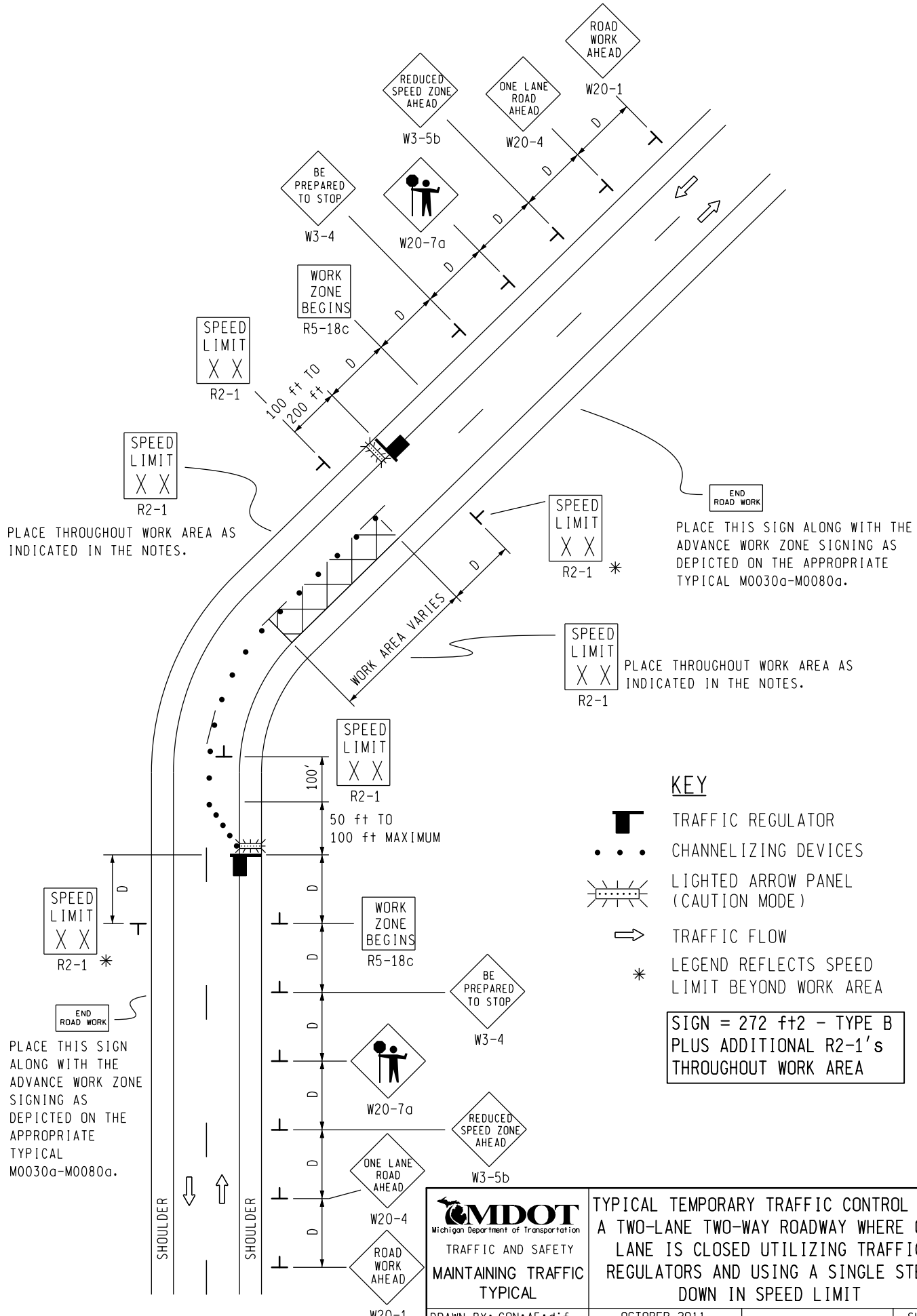
DIAMOND WARNING - 48" x 48"
R2-1 REGULATORY - 48" x 60"
R5-18c REGULATORY - 48" x 48"

NOT TO SCALE

MDOT Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS, NO SPEED REDUCTION

DRAWN BY: CON:AE:djf	OCTOBER 2011	M0140a	SHEET 2 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0140a.dgn REV. 10/04/2011			



MDOT Michigan Department of Transportation

TRAFFIC AND SAFETY

MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS AND USING A SINGLE STEP DOWN IN SPEED LIMIT

DRAWN BY: CON:AE:djf	OCTOBER 2011	M0150a	SHEET 1 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0150a.dgn REV. 10/04/2011			

NOTES

1H. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES AND LENGTH OF LONGITUDINAL BUFFERS SEE M0020a FOR "D" VALUES.

2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.

3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.

3A. THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.

4A. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES IN THE TAPER AREA(S) SHOULD BE 15 FEET AND SHOULD BE EQUAL IN FEET TO TWICE THE POSTED SPEED IN MILES PER HOUR IN THE PARALLEL AREA(S).

5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.

6. WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.

7. ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHLY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDOT WILL BE ALLOWED.

9. ALL TRAFFIC REGULATORS SHALL BE PROPERLY TRAINED AND SUPERVISED.

9A. IN ANY OPERATION INVOLVING MORE THAN ONE TRAFFIC REGULATOR, ONE PERSON SHOULD BE DESIGNATED AS HEAD TRAFFIC REGULATOR.

10. ALL TRAFFIC REGULATORS' CONDUCT, THEIR EQUIPMENT, AND TRAFFIC REGULATING PROCEDURES SHALL CONFORM TO THE CURRENT EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE CURRENT EDITION OF THE MDOT HANDBOOK ENTITLED "TRAFFIC REGULATORS INSTRUCTION MANUAL."

11. WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS, APPROPRIATE LIGHTING SHALL BE PROVIDED TO SUFFICIENTLY ILLUMINATE THE TRAFFIC REGULATOR'S STATIONS.

12E. THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS SHALL BE NO MORE THAN 2 MILES IN LENGTH UNLESS RESTRICTED FURTHER IN THE SPECIAL PROVISIONS FOR MAINTAINING TRAFFIC. ALL SEQUENCES OF MORE THAN 2 MILES IN LENGTH WILL REQUIRE WRITTEN PERMISSION FROM THE ENGINEER BEFORE PROCEEDING.

13. WHEN INTERSECTING ROADS OR SIGNIFICANT TRAFFIC GENERATORS (SHOPPING CENTERS, MOBILE HOME PARKS, ETC.) OCCUR WITHIN THE ONE-LANE TWO-WAY OPERATION, INTERMEDIATE TRAFFIC REGULATORS AND APPROPRIATE SIGNING SHALL BE PLACED AT THESE LOCATIONS.

14. ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W3-4 SIGNS.

15. THE HAND HELD (PADDLE) SIGNS REQUIRED BY THE MMUTCD TO CONTROL TRAFFIC WILL BE PAID FOR AS PART OF FLAG CONTROL.

16A. ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED SHALL BE PLACED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK AREA WHERE THE REDUCED SPEED IS IN EFFECT, AND AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS REFLECTING THE REDUCED SPEED ARE MORE THAN TWO MILES APART.

16B. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED SHALL BE PLACED BEYOND THE LIMITS OF THE REDUCED SPEED AS INDICATED.

16E. WHEN EXISTING SPEED LIMITS ARE REDUCED MORE THAN 10 MPH, THE SPEED LIMIT SHALL BE STEPPED DOWN IN NO MORE THAN 10 MPH INCREMENTS.

28E. THE TRAFFIC REGULATORS SHOULD BE POSITIONED AT OR NEAR THE SIDE OF THE ROAD SO THAT THEY ARE SEEN CLEARLY AT A MINIMUM DISTANCE OF 500 FEET. THIS MAY REQUIRE EXTENDING THE BEGINNING OF THE LANE CLOSURE TO OVERCOME VIEWING PROBLEMS CAUSED BY HILLS AND CURVES.

SIGN SIZES

DIAMOND WARNING	- 48" x 48"
RECTANGULAR REGULATORY	- 48" x 60"
R5-18c REGULATORY	- 48" x 48"

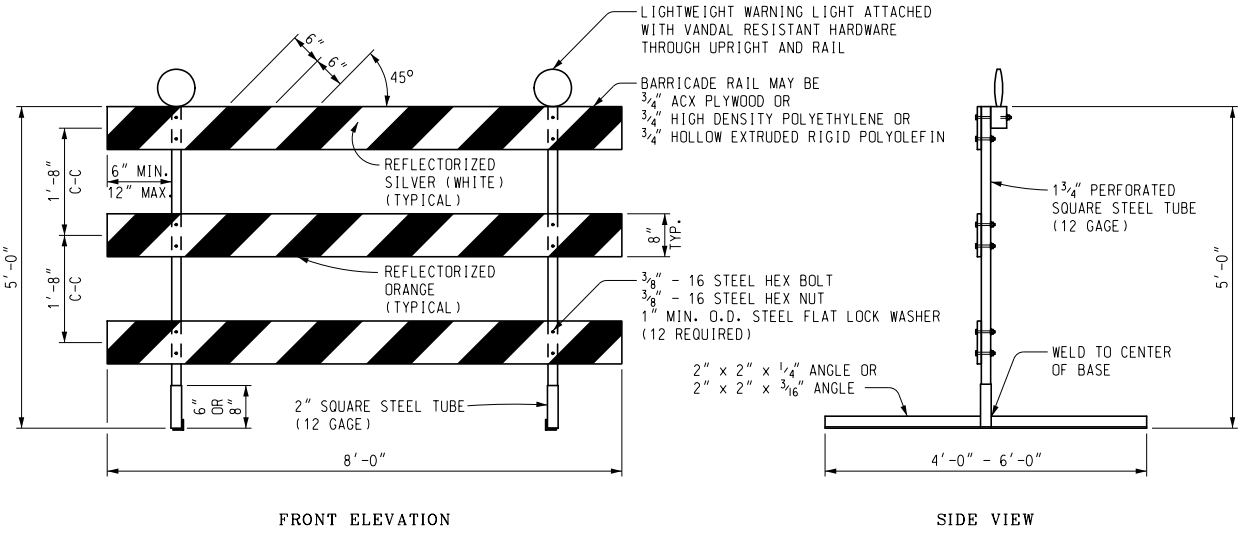
NOT TO SCALE

MDOT Michigan Department of Transportation
TRAFFIC AND SAFETY
MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A TWO-LANE TWO-WAY ROADWAY WHERE ONE LANE IS CLOSED UTILIZING TRAFFIC REGULATORS AND USING A SINGLE STEP DOWN IN SPEED LIMIT

DRAWN BY: CON:AE:djf	OCTOBER 2011	M0150a	SHEET 2 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		

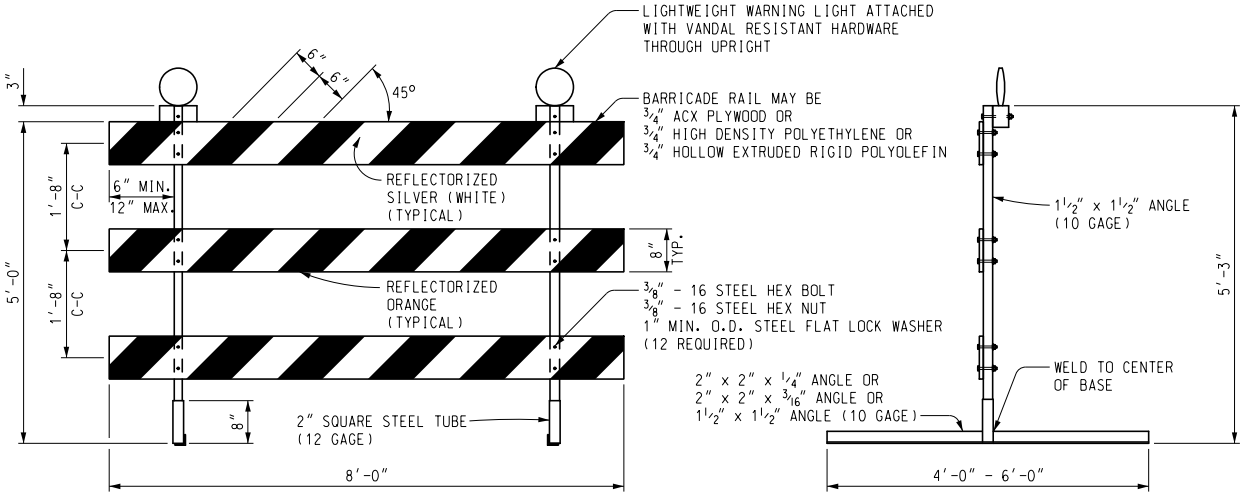
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0150a.dgn REV. 10/04/2011



FRONT ELEVATION

SIDE VIEW

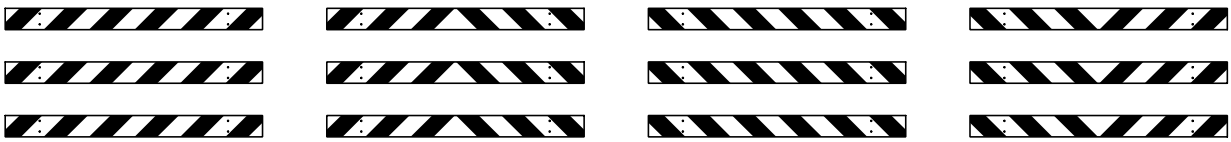
PERFORATED SQUARE STEEL TUBE OPTION



FRONT ELEVATION

SIDE VIEW

ANGLE IRON OPTION



LEFT DIRECTIONAL

BI-DIRECTIONAL

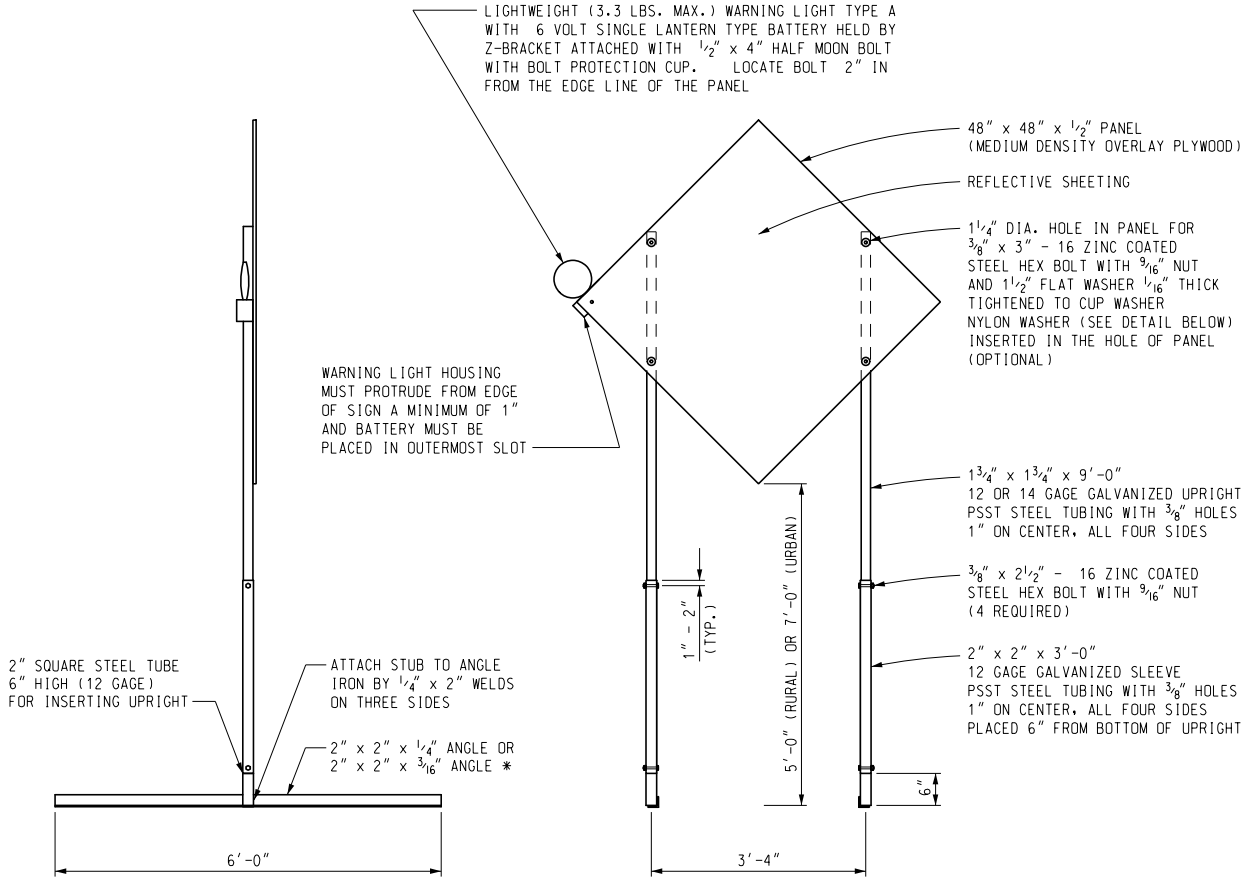
RIGHT DIRECTIONAL

CLOSURES

BARRICADE RAIL SHEETING OPTIONS
TYPE III BARRICADES

Other Type III Barricades meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

MDOT Michigan Department of Transportation PREPARED BY DESIGN DIVISION DRAWN BY: ECH CHECKED BY: MWB	DEPARTMENT DIRECTOR Kirk T. Steudle APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES ENGINEER OF DEVELOPMENT APPROVED BY: (SPECIAL DETAIL) DIRECTOR, BUREAU OF DEVELOPMENT	MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR Temporary Traffic Control Devices F.H.W.A. APPROVAL | 1/18/11 PLAN DATE | WZD-125-E | SHEET 1 OF 3



SIDE VIEW

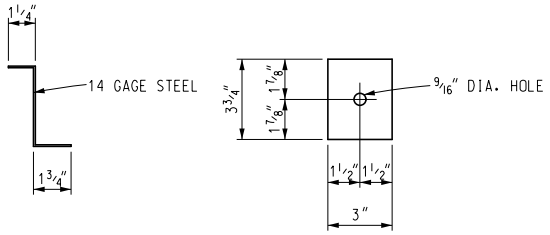
FRONT ELEVATION

TEMPORARY SIGN SUPPORT

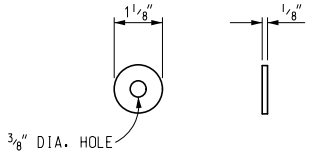
(WARNING LIGHT PLACED ON SIDE CLOSEST TO TRAFFIC)

* SIGN STAND IS BALLASTED WITH FOUR OR MORE 35 LB SANDBAGS. A MINIMUM OF ONE ON EACH END.

UPRIGHTS SHALL NOT EXTEND ABOVE THE SIGN PANEL.



Z-BRACKET DETAIL



OPTIONAL NYLON WASHER

Other temporary sign supports meeting current NCHRP crash worthy criteria can be found on the FHWA Safety website at http://safety.fhwa.dot.gov/roadway_dept/road_hardware/wzd.htm

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	SPECIAL DETAIL F.H.W.A. APPROVAL	1/18/11 PLAN DATE	WZD-125-E	SHEET 2 OF 3

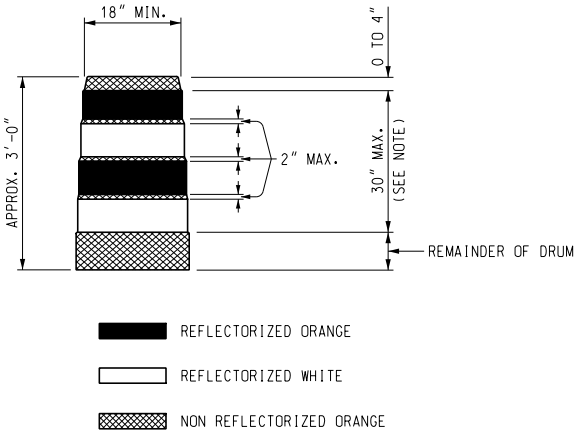
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

PLASTIC DRUM

PROPOSED TYPE III BARRICADE

EXISTING TYPE III BARRICADE

SYMBOLS TO BE USED ON PLANS



NOTE:
DRUMS SHALL HAVE AT LEAST 4 HORIZONTAL REFLECTORIZED STRIPES (2 ORANGE AND 2 WHITE) OF 6" UNIFORM WIDTH, ALTERNATING IN COLOR WITH THE TOPMOST REFLECTORIZED STRIPE BEING ORANGE. NON REFLECTORIZED SPACES BETWEEN THE HORIZONTAL REFLECTORIZED ORANGE AND WHITE STRIPES SHALL BE ORANGE IN COLOR AND EQUAL IN WIDTH.

PLASTIC DRUM

NOTES:

2" PERFORATED SQUARE STEEL TUBES MAY BE USED TO FABRICATE THE HORIZONTAL BASE OF THE TYPE III BARICADE.

WARNING LIGHTS SHALL BE PLACED ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ALL OTHER PROVISIONS IN THE CONTRACT ON TYPE III BARRICADES.

SEE ROAD STANDARD PLANS R-113-SERIES FOR TEMPORARY CROSSOVERS FOR DIVIDED ROADWAY, AND R-126-SERIES FOR TYPICAL LOCATION AND SPACING OF PLASTIC DRUMS FOR PLACEMENT OF TEMORARY CONCRETE BARRIER.

SIGNS, BARRICADES, AND PLASTIC DRUMS SHALL BE FACED WITH PRESSURE-SENSITIVE REFLECTIVE SHEETING ACCORDING TO THE CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

SANDBAGS SHALL BE USED WHEN SUPPLEMENTAL WEIGHTS ARE REQUIRED TO ACHIEVE STABILITY OF THE BARRICADE. THE SANDBAGS SHALL BE PLACED SO THEY WILL NOT COVER OR OBSTRUCT ANY REFLECTIVE PORTION OF THE TRAFFIC CONTROL DEVICE.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	(SPECIAL DETAIL) F.H.W.A. APPROVAL	1/18/11 PLAN DATE	WZD-125-E	SHEET 3 OF 3

MANISTEE COUNTY ROAD COMMISSION
HMA APPLICATION ESTIMATE

KPM:GLK 1 of 2 DATE: 01/17/20

a. Description.- This work shall be done in accordance with the requirements of Division 5 of the Michigan Department of Transportation (MDOT) 2012 Standard Specifications for Construction except as herein specified.

b. Construction Methods.- The construction methods shall be in accordance with Section 501 of the MDOT 2012 Standard Specifications for Construction.

c. Tests.- The Nuclear Gauge Method or Coring Method for testing the compaction is hereby waived for this project. The Number of Rollers Method chart below shall apply.

Average Laydown Rate, Square Yards Per Hour	Number of Rollers Required	
	Compaction Rollers	Finish Rollers
Less than 800	1	*1
800-1800	1	1
1800-4000	2	1
4000-7200	3	1

*The compaction roller may also be used as the finish roller.

d. Materials.- The HMA, 4E1 wedging course to modify the existing pavement cross slopes and to correct existing distorted and damaged pavement areas shall have a variable yield per square yard.

The HMA, 4E1 top course for the HMA overlay shall have a yield of 220 pounds per square yard and shall be placed after the HMA wedging. Increase the HMA application rate as needed for the butt joints at the project POB and POE.

The HMA, 4E1 leveling course for the proposed HMA shoulders shall have a yield of 220 pounds per square yard and shall be placed after the mainline HMA wedging.

MANISTEE **C**OUNTY ROAD COMMISSION
HMA APPLICATION ESTIMATE

KPM:GLK 2 of 2 DATE: 01/17/20

The HMA Approach for approach roads will consist of HMA, 4E1 and shall have a yield of 330 pounds per square yard. The yield shall increase where needed to match existing HMA thickness.

The HMA Approach for paving driveways will consist of HMA, 4E1 and shall have a yield of 220 pounds per square yard. The yield shall increase where needed to match existing HMA thickness.

The Performance Grade asphalt binder grades for the HMA top course and leveling course for HMA, 4E1 shall be 58-28.

Reclaimed Asphalt Pavement (RAP) in the HMA top courses shall not exceed 17% RAP binder by weight of total binder in the mixture.

The Target Air Void percentage shall be 3.5% for all HMA on this project.

The HMA Bond Coat material shall be per Section 501.02 of the MDOT 2012 Standard Specifications for Construction. The uniform rate of application shall be 0.05 to 0.15 gallons per square yard.

HMA Bond Coat is included with payment for HMA, 4E1, and HMA Approach.

The Aggregate Wear Index (AWI) for all aggregates used in the HMA top course mixtures shall be a minimum of 220.

The Contractor shall provide an HMA mix design that meets the proposed HMA mixtures in these bid documents and in accordance with the MDOT 2012 Standard Specifications for Construction.

The Contractor shall provide written certification that the HMA materials used on the projects meet the requirements of these bid documents, the HMA Application Estimate, and the MDOT 2012 Standard Specifications for Construction.

The MCRC (or their Consultant) may obtain samples of the HMA mixtures from the HMA plant or the project site at their discretion to test the materials to verify conformance with the HMA mix design provided by the Contractor.

e. Measurement and Payment.- Measurement and Payment shall be at the contract unit price per ton of the HMA, 4E1 and HMA Approach Items.

MANISTEE COUNTY ROAD COMMISSION

NOTICE TO BIDDERS
UTILITY COORDINATION

The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in Section 104.08 of the 2012 MDOT Standard Specifications for Construction. In addition, for the protection of underground utilities, the contractor shall follow the requirements in Section 107.12 of the 2012 MDOT Standard Specifications for Construction. Contractor delay claims, resulting from a utility, will be determined based upon Section 108.09 and 109.05 of the 2012 MDOT Standard Specifications for Construction.

For protection of underground utilities and in conformance with Public Acts 174 of 2013, the contractor shall dial 1-800-482-7171 or 811 a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the MISS DIG alert system.

Public Utilities:

The following Public Utilities have facilities located within the Right-of-Way:

ATT 205 E.Harris St Cadillac, MI 49601 Contact: Jeff Shuster (231) 779-8451	Telephone	DTE Energy One Energy Plaza Detroit, MI 48226-1279 Contact: Tyler Gage (989) 365-5122	Gas (Trans)
Consumers Energy 330 Chestnut St Cadillac, MI 49601 Contact: Eric Marr (231) 779-5536	Electric	West Bay Exploration Co 4161 Legion Dr Mason, MI 48854 Contact: Jolene Dorer (517) 676-5167	Pipeline
Charter Spectrum 590 Pere Marquette Hwy Ludington, MI 49431 Contact: AJ Johnson (231) 932-8231	Telecom		

The owners of existing service facilities that are within grading or structure limits and in conflict will move them to locations designated by the Engineer or will remove them entirely from the highway Right-of-Way, when feasible. Owners of Public Utilities will not be required by the County to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are dangerous to the Contractor's operations.