



June 5, 2017

Duane A. Eldred  
*Chair*

**NOTICE TO BIDDERS**

Timothy J. Lamoreaux  
*Vice Chair*

Sealed proposals will be received by the Board of County Road Commissioners of the County of Eaton, Michigan at 1112 Reynolds Road, Charlotte, MI 48813, until 9:30 A.M., Tuesday, June 20, 2017 at which time and place proposals will be publicly opened and read aloud for furnishing and delivering the following:

Jerry L. Frazier  
*Member*

**OVERBAND CRACK FILL**

Benjamin S. Lyons  
*Member*

Specifications, bid blanks, and further information may be obtained at the offices of the undersigned, 1112 Reynolds Road, Charlotte, MI, 48813, Telephone (517) 543-1630 or (877) 883-2866.

Dorothy E. Maxwell  
*Member*

All proposals must be submitted in sealed envelopes bearing the name of the bidder and clearly marked with a notation indicating the service or material for which the bid is submitted.

Blair E. Ballou, P.E.  
*Engineer-Manager*

Lori N. Friedlis, CPA  
*Director of Finance*

Award for this bid will be made at the June 27, 2017 Eaton County Road Commission Board Meeting. The Board reserves the right to accept or reject any or all bids, to waive irregularities in any proposal, and to make the award in any manner deemed in the best interest of the County of Eaton.

1112 Reynolds Road  
Charlotte, MI 48813

**BOARD OF COUNTY ROAD COMMISSIONERS  
OF THE COUNTY OF EATON, MICHIGAN**

Telephone  
517-543-1630  
Toll-Free  
877-883-2866

Duane A. Eldred, Chair  
Timothy J. Lamoreaux, Vice Chair  
Dorothy E. Maxwell, Member  
Benjamin S. Lyons, Member  
Jerry L. Frazier, Member

Fax  
517-543-2608

Email  
ecrc@eatoncountyrroad.com

**EATON COUNTY ROAD COMMISSION  
CHARLOTTE, MICHIGAN  
2017 OVERBAND CRACK FILL PROPOSAL**

**To: Board of Eaton County Road Commissioners  
1112 Reynolds Road  
Charlotte, Michigan 48813**

**The undersigned has examined the Plans, Specifications, and the Location of the work described herein and is fully informed as to the nature of the work and the conditions relating to its performance, and understands that the quantities shown are approximate only and are subject to either Increase or Decrease.**

**The undersigned hereby proposes to furnish all necessary equipment, tools, apparatus, and other means of construction; do all the work and furnish all the materials; and, for the unit prices named in the itemized bid, complete the work herein described, in strict accordance with the plans thereof, and in strict conformity with the requirements of the 2012 Michigan Department of Transportation Standard Specifications for Construction and such other special provisions and supplemental specifications included as part of this proposal.**

**The undersigned further proposes to do such extra work as may be authorized by the Eaton County Road Commission, prices for which are not included in the itemized bid. Compensation shall be made on the basis agreed upon prior to commencing with extra work.**

**The undersigned encloses a certified or cashiers check on an open solvent bank, in the amount of \$5,000, payable to the Eaton County Road Commission as a guarantee of good faith. If the undersigned is the successful bidder and fails to enter into a contract to furnish satisfactory bonds to the Eaton County Road Commission within 15 days after being furnished with the necessary contract and bond forms, the Bid Deposit will be forfeited to the Eaton County Road Commission as liquidated damages. It is understood that the Bid Deposit of the successful bidder will not be returned until the contract has been executed and that the proposal guarantees of all other bidders will be returned promptly.**

**Company Name** \_\_\_\_\_

**Address** \_\_\_\_\_  
\_\_\_\_\_

**Phone #** \_\_\_\_\_

**Fax #** \_\_\_\_\_

**Signed by** \_\_\_\_\_

**Date** \_\_\_\_\_

**EATON COUNTY ROAD COMMISSION  
 2017 HMA Overband Crack Fill  
 BID BLANK  
 CONTRACT A**

ROAD	TO	FROM	LANE MILES	UNIT PRICE	TOTAL AMOUNT
Billwood Hwy	M-100	Canal	7.76 Lnmi	\$ _____	\$ _____
Broadbent Rd	Willow	N. of M-43	1.6 Lnmi	\$ _____	\$ _____
Canal Rd	Lansing Rd	Osborn St	2.39 Lnmi	\$ _____	\$ _____
Delta River Dr	Webster	Waverly	4.92 Lnmi	\$ _____	\$ _____
St. Joe Hwy	Nixon	E. of Marketplace	4.44 Lnmi	\$ _____	\$ _____
Ingersol Rd	Delta River	County line	0.7 Lnmi	\$ _____	\$ _____
Millett Hwy	Sanders	Lansing Rd	0.21 Lnmi	\$ _____	\$ _____
<b>GRAND TOTAL BID \$</b>					<b>_____</b>

Company Name \_\_\_\_\_

Address \_\_\_\_\_  
 \_\_\_\_\_

Phone # \_\_\_\_\_ Fax # \_\_\_\_\_

Signed by \_\_\_\_\_

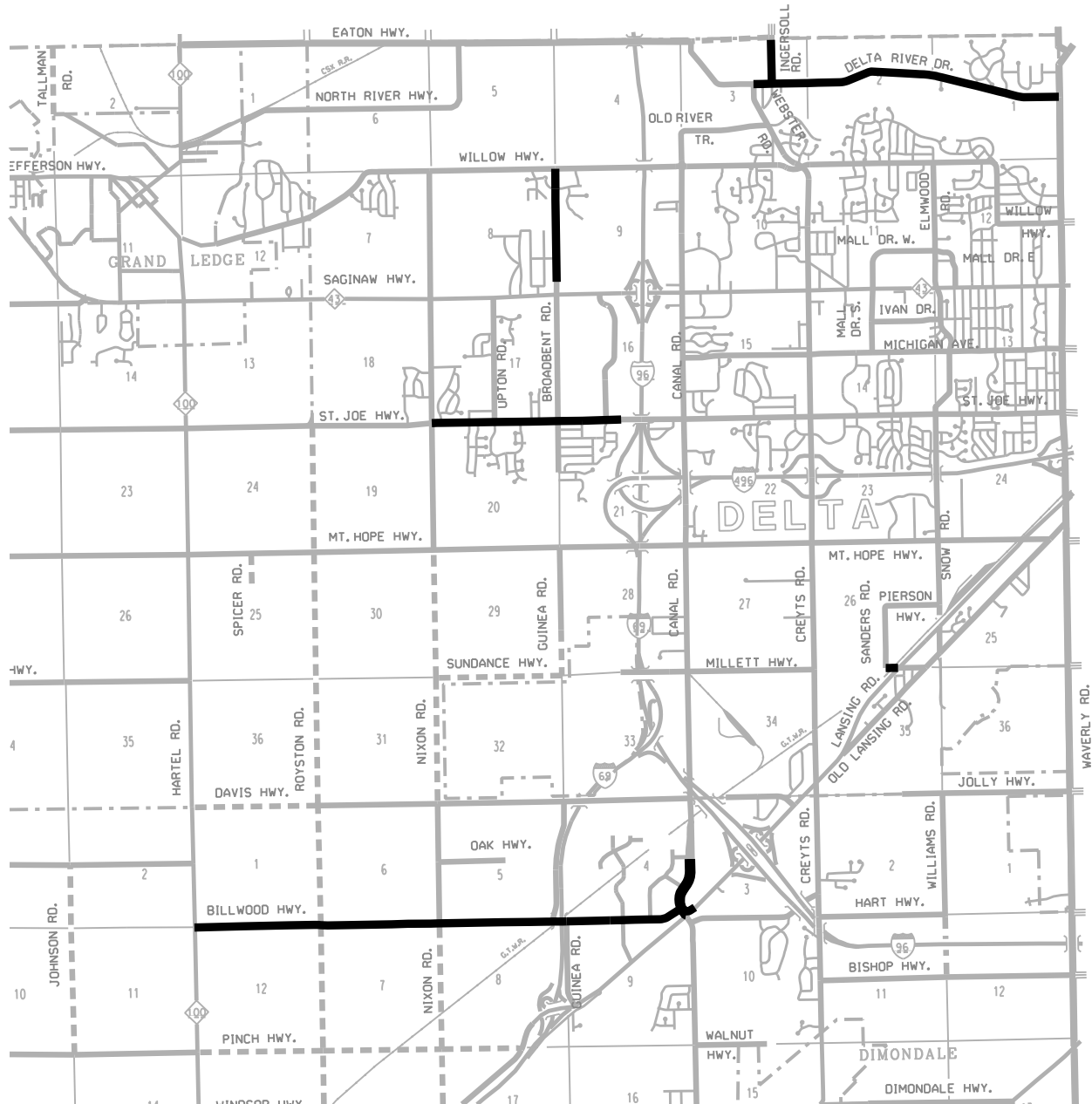
06/01/2017

Date \_\_\_\_\_

# EATON COUNTY ROAD COMMISSION 2017 OVERBAND CRACK FILL CONTRACT A

— PROPOSED OVERBAND CRACK FILL

- |                                                                                                                                                                                      |                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>① BILLWOOD HWY<br/>M-100 TO CANAL<br/>7.76 LNMI</p> <p>② ST. JOE HWY<br/>NIXON TO EAST OF MARKETPLACE<br/>4.44 LNMI</p> <p>③ MILLETT HWY<br/>SANDERS TO LANSING<br/>0.21 LNMI</p> | <p>④ CANAL RD<br/>LANSING TO OSBORN<br/>2.39 LNMI</p> <p>⑤ BROADBENT RD<br/>WILLOW TO 0.2 MI N OF M-43<br/>1.60 LNMI</p> <p>⑥ DELTA RIVER DR<br/>WEBSTER TO WAVERLY<br/>4.92 LNMI</p> <p>⑦ INGERSOLL RD<br/>DELTA RIVER TO COUNTY LINE<br/>0.70 LNMI</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



**EATON COUNTY ROAD COMMISSION  
 2017 HMA Overband Crack Fill  
 BID BLANK  
 CONTRACT B**

<b>ROAD</b>	<b>TO</b>	<b>FROM</b>	<b>LANE MILES</b>	<b>UNIT PRICE</b>	<b>TOTAL AMOUNT</b>
Creyts Rd	Lansing Rd	Piney Point	22.58 Lnmi	\$ _____	\$ _____
Lansing Rd	N Charlotte Ramp	Lansing Ramp	25.5 Lnmi	\$ _____	\$ _____
Packard Hwy	Lansing	Otto	1.38 Lnmi	\$ _____	\$ _____
Michigan Ave	Theo	Waverly	3.12 Lnmi	\$ _____	\$ _____
Snow Rd	I-496	Michigan	5.92 Lnmi	\$ _____	\$ _____
Canal Rd	Delta Commerce	Willow	1.82 Lnmi	\$ _____	\$ _____
Willow Hwy	Canal	Elmwood incl. roundabout	6.98 Lnmi	\$ _____	\$ _____
<b>GRAND TOTAL BID \$</b>					<b>_____</b>

Company Name \_\_\_\_\_

Address \_\_\_\_\_

Phone # \_\_\_\_\_ Fax # \_\_\_\_\_

Signed by \_\_\_\_\_

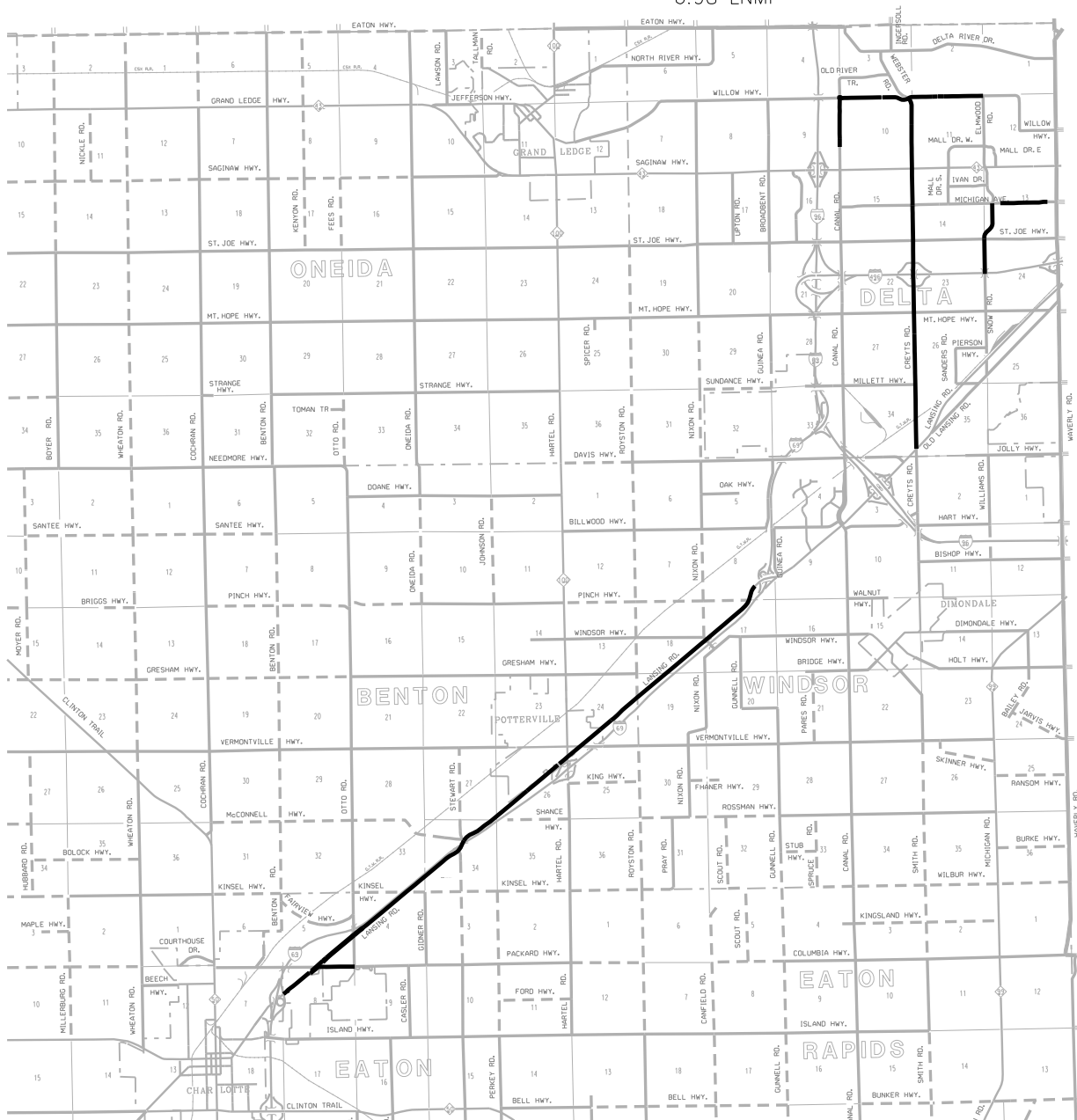
06/01/2017

Date \_\_\_\_\_

# EATON COUNTY ROAD COMMISSION 2017 OVERBAND CRACK FILL CONTRACT B

— PROPOSED OVERBAND CRACK FILL

- ① LANSING RD  
N CHARLOTTE RAMP TO  
LANSING RAMP  
25.50 LNMI
- ② CREYTS RD  
LANSING TO PINEY POINT  
22.58 LNMI
- ③ PACKARD HWY  
LANSING TO OTTO  
1.38 LNMI
- ④ MICHIGAN AVE  
THEO TO WAVERLY  
3.12 LNMI
- ⑤ SNOW RD  
I-496 TO MICHIGAN  
5.92 LNMI
- ⑥ CANAL RD  
DELTA COMMERCE TO WILLOW  
1.82 LNMI
- ⑦ WILLOW HWY  
CANAL TO ELMWOOD INCL.  
ROUNDBOUT  
6.98 LNMI



# EATON COUNTY ROAD COMMISSION

## SPECIFICATIONS FOR OVERBAND CRACK FILL

MMH

1 of 1

6-4-17

### **DESCRIPTION**

The work item of Overband Crack Fill, Lane and Overband Crack Fill, Subdivision shall follow Section 502 of the 2012 MDOT Standard Specifications for Construction and as modified herein.

### **SCHEDULE**

All work shall be completed by October 1, 2017. The Contractor shall provide 72 hours notice to the Engineer prior to beginning work on any stretch of road.

### **INSURANCE**

The contractor shall provide adequate insurance coverage and will provide the Eaton County Road Commission with a certificate of insurance satisfactory to the Board. The contractor shall save harmless of The Eaton County Road Commission and its Employees against all claims for damages to public or private property for injuries arising out of and during the progress of the work and to the completion of the work. Contractor will meet the insurance requirement set forth in Section 1.07.10 of the 2012 MDOT Standard Specifications for Construction.

### **CONTRACT AND AWARD**

This contract shall be for work in 2017, and the unit prices bid shall remain firm until December 1, 2017 for all projects designated by the Road Commission.

The Board reserves the right to cancel any of the lane miles and/or to add lane miles to the contract. Any such cancellations or additions shall not change the unit prices bid in each township, and all unit prices shall remain firm until completion of the contract.

### **MEASUREMENT AND PAYMENT**

The unit price for Overband Crack Fill, Lane and Overband Crack Fill, Subdivision include all work, labor, equipment, and materials necessary for preparing and filling the cracks using the overband method, providing the required documentation, and corrective work. The unit price shall also include all traffic control in accordance with the MMUTCD and these specifications.

Overband Crack Fill, Lane will be measured by the lane along the centerline of each lane. Turn lanes will be measured and paid for as separate lanes. Tapers will be paid for at half of the length of the taper. For example, a 100 foot turn lane taper will be paid for at a length of 50 feet. Paved shoulders will be included in the payment for the adjacent lane and will not be measured or paid for separately.

Overband Crack Fill, Subdivision will be measured along the centerline of the subdivision street. This will include the full width of the pavement surface from edge of asphalt to edge of asphalt. Cul-de-sacs will be measured along the diameter of the cul-de-sac.

# EATON COUNTY ROAD COMMISSION

## SPECIAL PROVISION FOR **MAINTAINING TRAFFIC**

06-01-17

### **General**

Traffic shall be maintained along the intersecting roadways throughout the project in accordance with Sections 104.07, 104.11, 811, 812 of the Standard Specifications for Construction, including any supplemental specifications, and as herein specified.

The Contractor shall notify the Project Engineer a minimum of 72 business hours prior to the implementation of any detour or lane closure.

The proposed project will be open to traffic. Advance signage will be per MDOT Typical M0050a including the G20-2 sign. These signs will be placed as directed by the Engineer. Traffic will be maintained with traffic regulator control using MDOT Maintaining Traffic Typical M0150a, M0240a, M0270a, or M0400a, and the MMUTCD.

### **Construction Influence Area (CIA)**

The construction influence area (CIA) shall consist of the width of each route's right-of-way and sufficient distance before each project to install traffic control.

### **Traffic Restrictions**

1. Two-way traffic shall be maintained at all times on all roads. Traffic regulator control shall be used on all 2 lane roads and where necessary to regulate traffic in a safe and efficient manner. A single traffic regulator control sequence shall span a distance no longer than (2) miles. The arrow panel, signs, and channelizing tapers for the traffic regulator control operation shall be placed in accordance with the MMUTCD, the traffic standards, and in locations approved by the Engineer for adequate visibility by oncoming traffic.
2. All work shall be conducted during daytime hours only.
3. Access to all side streets and driveways shall be maintained at all times.
4. Once work is initiated that includes lane restrictions, that work shall be continuous until completed. A lack of work activity for more than (3) hours will require the removal and replacement of lane restrictions at the Contractor's expense.
5. Intermediate traffic regulators will be required at intersections shall have "Traffic Regulator Symbol" (W20-7a) advance warning signs shall be in place on the side road, along with the required "Road Work Ahead" (W20-1) signs.



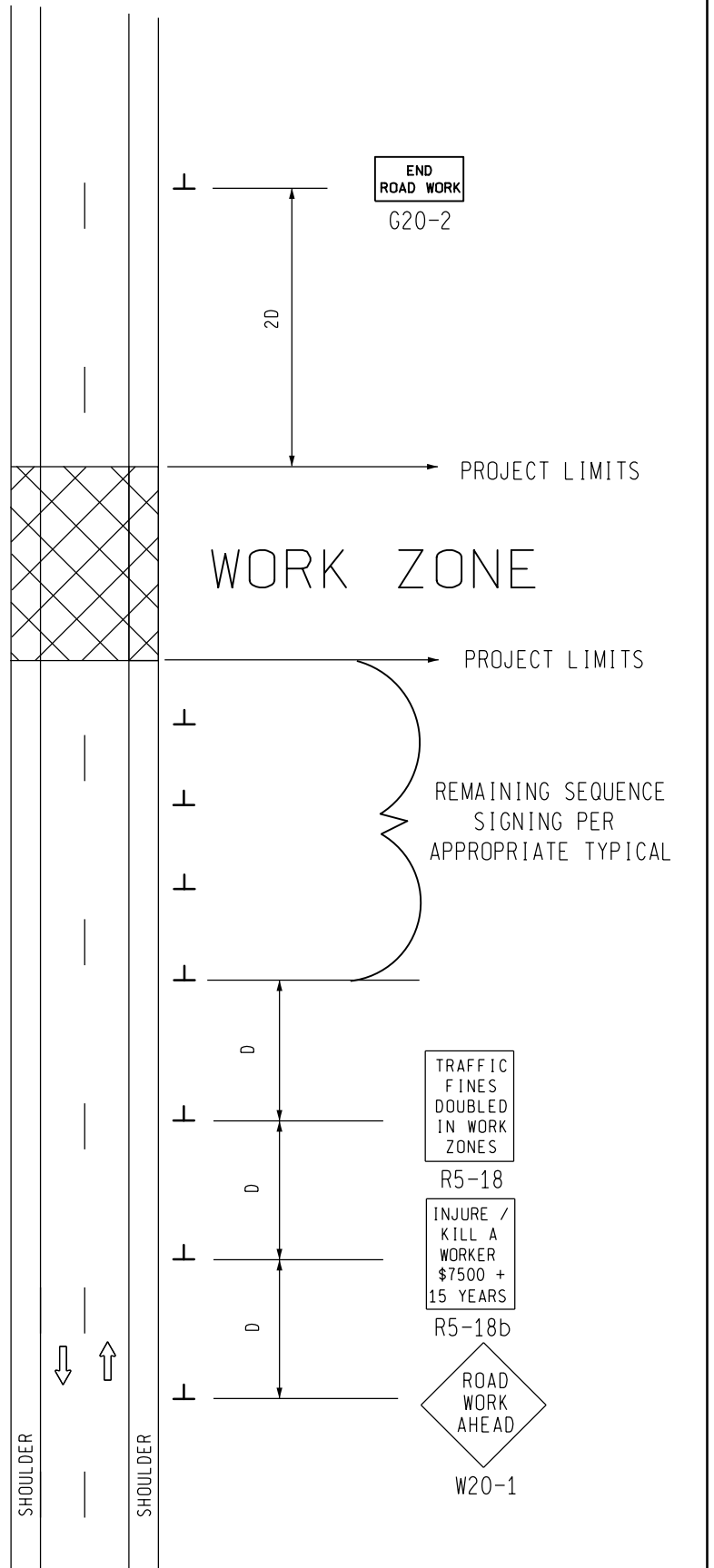
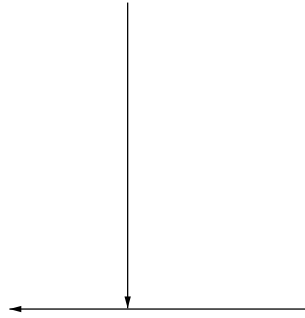
**Traffic Control Devices**

All signs, warning lights, barricades and all other traffic control devices, methods, and procedures shall be in accordance with the 2011 revision of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), and as specified herein.

**Measurement And Payment**

Traffic Control will be included in the unit price bid for Overband Crack Fill, and will not be paid for separately.

SIGN PLACEMENT  
IS THE SAME FOR  
BOTH DIRECTIONS



SIGN = 48 f+2 - TYPE B  
FOR ONE DIRECTION OF TRAFFIC  
W20-1 QUANTITY INCLUDED WITH  
APPROPRIATE TYPICAL FOR  
SEQUENCE SIGNING

<p>TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL</p>	<p>TYPICAL ADVANCE SIGNING TREATMENT FOR INTERMEDIATE AND SHORT TERM STATIONARY WORK ZONE OPERATIONS WHERE ALL TRAFFIC CONTROL DEVICES ARE REMOVED AT END OF EACH WORK DAY ON AN UNDIVIDED TWO-WAY ROADWAY</p>	
	<p>DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB</p>	<p>OCTOBER 2011 PLAN DATE:</p>
<p>FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0050a.dgn REV. 10/13/2011</p>		

NOT TO SCALE


## NOTES

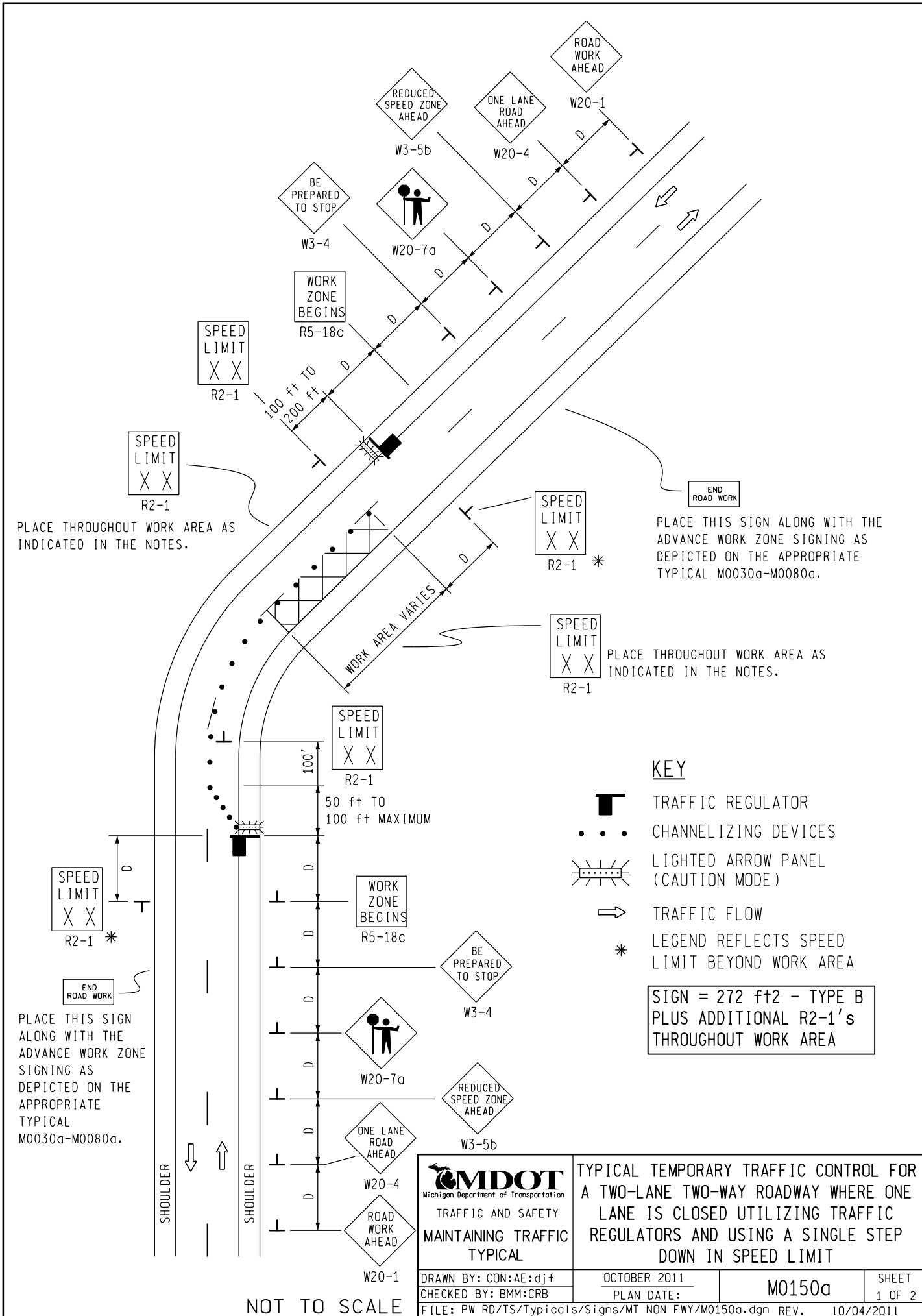
30. THE APPROPRIATE ADVANCE SIGNING SEQUENCE(S), (M0030a THROUGH M0080a) SHALL BE USED ON ALL PROJECTS.
35. THESE SIGNS ARE INTENDED TO BE USED WITHIN THE LIMITS OF THE TEMPORARY SEQUENCE SIGNING AS IS SHOWN ON 1 OF 2. THESE SIGNS ARE NOT TO BE INTERMINGLED WITH ANY OTHER TEMPORARY SEQUENCE SIGNING EXCEPT AS SHOWN.

### SIGN SIZES

G20-2	-	48" x 24"
R5-18	-	48" x 60"
R5-18b	-	48" x 60"
W20-1	-	48" x 48"

NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL ADVANCE SIGNING TREATMENT FOR INTERMEDIATE AND SHORT TERM STATIONARY WORK ZONE OPERATIONS WHERE ALL TRAFFIC CONTROL DEVICES ARE REMOVED AT END OF EACH WORK DAY ON AN UNDIVIDED TWO-WAY ROADWAY	
	DRAWN BY: CON:AE:djf	OCTOBER 2011
CHECKED BY: BMM:CRB	PLAN DATE:	M0050a
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0050a.dgn REV. 10/13/2011		



PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

PLACE THROUGHOUT WORK AREA AS INDICATED IN THE NOTES.

PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

**KEY**

- TRAFFIC REGULATOR
- CHANNELIZING DEVICES
- LIGHTED ARROW PANEL (CAUTION MODE)
- TRAFFIC FLOW
- LEGEND REFLECTS SPEED LIMIT BEYOND WORK AREA

SIGN = 272 ft x 2 - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA

NOT TO SCALE

<p>Michigan Department of Transportation</p> <p>TRAFFIC AND SAFETY</p> <p>MAINTAINING TRAFFIC TYPICAL</p>		<p>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</p>	
<p>DRAWN BY: CON:AE:djf</p> <p>CHECKED BY: BMM:CRB</p> <p>FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0150a.dgn REV.</p>	<p>OCTOBER 2011</p> <p>PLAN DATE:</p>	<p>M0150a</p>	<p>SHEET 1 OF 2</p>


## 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"

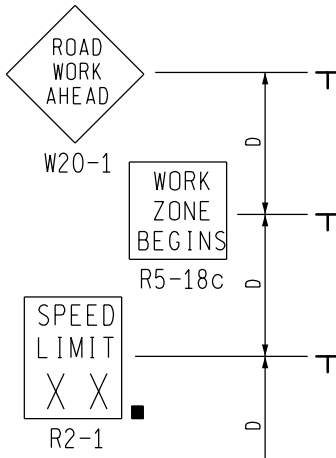
NOT TO SCALE

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

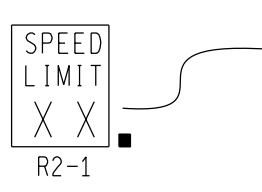
**KEY**

- • • CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL
- ➡ TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT

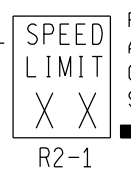
SIGN = 136 ft±2 - TYPE B PLUS ADDITIONAL R2-1's THROUGHOUT WORK AREA



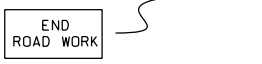
END ROAD WORK  
PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



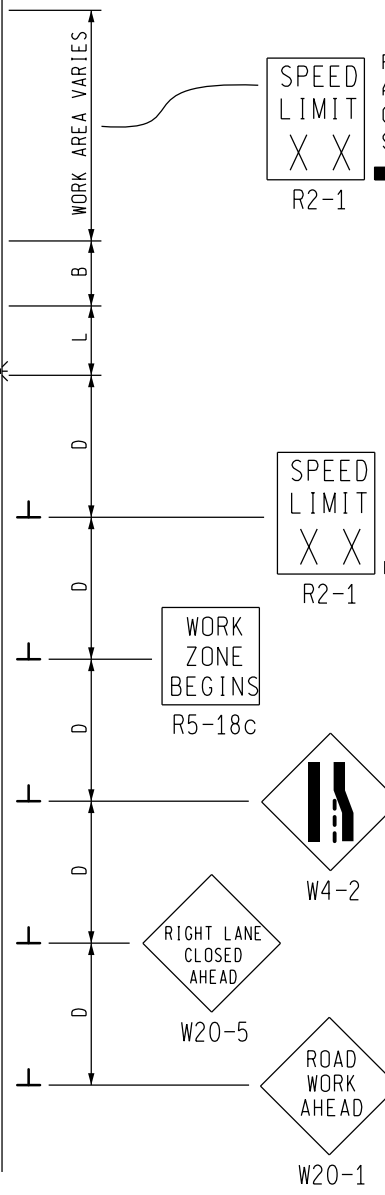
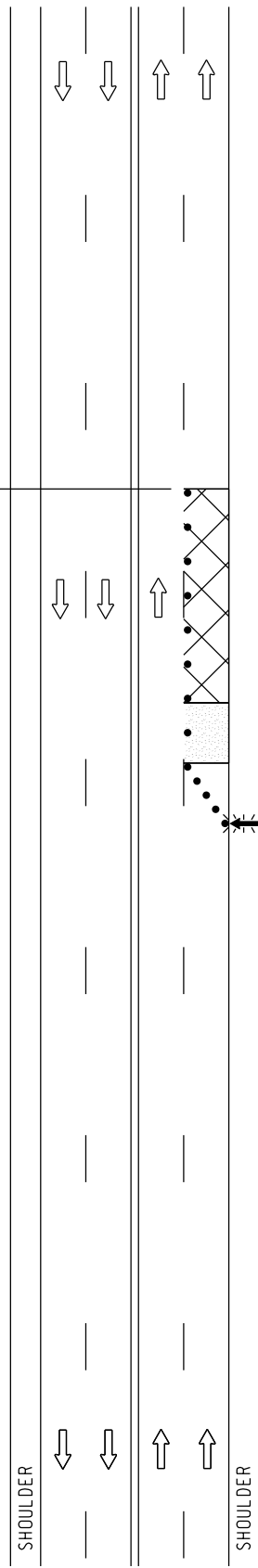
PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.



PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.



PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



**MDOT**  
Michigan Department of Transportation  
TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC  
TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL  
FOR A ONE-LANE CLOSURE ON AN  
UNDIVIDED MULTI-LANE ROADWAY,  
NO SPEED REDUCTION

DRAWN BY: CON:AE:djf	OCTOBER 2011	M0240a	SHEET 1 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0240a.dgn REV. 10/11/2011			

NOT TO SCALE


## NOTES

- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES  
 L = MINIMUM LENGTH OF TAPER  
 B = LENGTH OF LONGITUDINAL BUFFER  
 SEE M0020a FOR "D," "L," AND "B" 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.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED 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.
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8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
26. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE TAPER AS POSSIBLE.

### SIGN SIZES

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

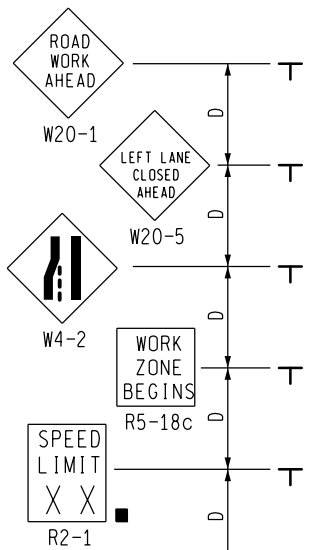
NOT TO SCALE

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY, NO SPEED REDUCTION						
DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; border-bottom: 1px solid black;">OCTOBER 2011</td> <td style="width: 40%; border-bottom: 1px solid black;">M0240a</td> <td style="width: 30%; border-bottom: 1px solid black;">SHEET</td> </tr> <tr> <td style="font-size: x-small;">PLAN DATE:</td> <td></td> <td style="font-size: x-small;">2 OF 2</td> </tr> </table>	OCTOBER 2011	M0240a	SHEET	PLAN DATE:		2 OF 2
OCTOBER 2011	M0240a	SHEET					
PLAN DATE:		2 OF 2					
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0240a.dgn REV. 10/11/2011							

**KEY**

- • • CHANNELIZING DEVICES
- ← LIGHTED ARROW PANEL
- TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT

SIGN = 168 ft<sup>2</sup> - TYPE B PLUS ADDITIONAL R2-1s THROUGHOUT WORK AREA.

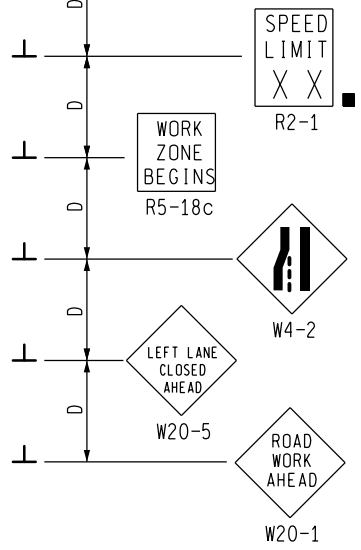
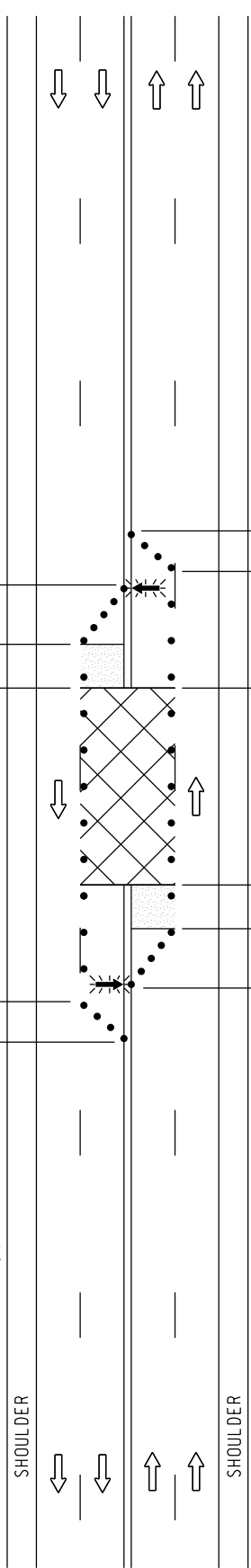


END ROAD WORK  
PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

SPEED LIMIT X X R2-1  
PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

SPEED LIMIT X X R2-1  
PLACE THROUGHOUT WORK AREA AS INDICATED AND AFTER ALL MAJOR CROSSROADS IF PERMANENT SIGNS ARE NOT IN PLACE.

END ROAD WORK  
PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.



**MDOT**  
Michigan Department of Transportation  
TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC  
TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING THE CENTER TWO LANES OF A MULTI-LANE UNDIVIDED ROADWAY, (NO CLFLTO) NO SPEED REDUCTION

DRAWN BY: CON:AE:djf	OCTOBER 2011	M0270a	SHEET 1 OF 2
CHECKED BY: BMM:CRB	PLAN DATE:		
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0270a.dgn REV. 10/12/2011			

NOT TO SCALE




## NOTES

- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES  
L = MINIMUM LENGTH OF TAPER  
B = LENGTH OF LONGITUDINAL BUFFER  
SEE M0020a FOR "D," "L," AND "B" 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.
- 4B. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON MERGING TAPER(S), TWICE THE POSTED SPEED IN THE PARALLEL AREA(S), AND 25 FEET IN THE DOWNSTREAM TAPER 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.
8. WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
21. ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
- 26C. THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE MERGING TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE MERGING TAPER AS POSSIBLE.

### SIGN SIZES

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

NOT TO SCALE

 <b>MDOT</b> Michigan Department of Transportation TRAFFIC AND SAFETY <b>MAINTAINING TRAFFIC TYPICAL</b>	<b>TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING THE CENTER TWO LANES OF A MULTI-LANE UNDIVIDED ROADWAY, (NO CLFLT0) NO SPEED REDUCTION</b>		
DRAWN BY: CON:AE:djf	OCTOBER 2011	<b>M0270a</b>	SHEET
CHECKED BY: BMM:CRB	PLAN DATE:		2 OF 2
FILE: PW RD/TS/Typicals/Signs/MT NON FWY/M0270a.dgn REV. 10/12/2011			




## NOTES

- 1F. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES  
 $1/2 L$ , AND  $1/3 L$  = MINIMUM LENGTH OF TAPER  
 B = LENGTH OF LONGITUDINAL BUFFER  
 SEE M0020a FOR "D," "L," AND "B" 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.
- 4E. THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
5. FOR OVERNIGHT CLOSURES, TYPE III BARRICADES SHALL BE LIGHTED.
6. 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.
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### SIGN SIZES

DIAMOND WARNING	- 48" x 48"
W1-6 WARNING	- 48" x 24"
R2-1 REGULATORY	- 48" x 60"
R5-18c REGULATORY	- 48" x 48"

NOT TO SCALE

 TRAFFIC AND SAFETY <b>MAINTAINING TRAFFIC TYPICAL</b>	<b>TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING ONE LANE OF A FIVE-LANE UNDIVIDED ROADWAY AND MAINTAINING TWO THROUGH LANES IN EACH DIRECTION, NO SPEED REDUCTION</b>	
	DRAWN BY: CON:AE:djf	OCTOBER 2011
CHECKED BY: BMM:CRB	PLAN DATE:	SHEET 2 OF 2
FILE: K:\-DGN-TSR-STDS-ENGLISH-MNTTRF-M0400a.dgn		REV. 10/19/2011