

REQUEST FOR BIDS

FY 2016 Streets Mill and Fill



Department of Public Services

1015 S Lincoln Avenue

Three Rivers, MI 49093

(269) 273-1845

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Bidding Information

Performance Bids

The City of Three Rivers is committed to the concept of performance bids. All vendors are encouraged to submit bids which conform to the stated specifications, as well as, suggest deviations from the specifications, which in the vendor's opinion would be beneficial to the City in terms of price and performance. The City reserves the right to accept or reject any bid under these terms.

I. Instructions

- A. Bids must be typewritten or clearly printed in ink and signed by a duly-authorized representative of the firm submitting the quote.
- B. Bids must be submitted in sealed envelopes, clearly marked on the outside, "**Bids for FY 2016 Streets Mill and Fill**".
- C. Bids will be received by the Office of the City Clerk, City Hall, 333 West Michigan Avenue, Three Rivers, Michigan, 49093, until **2:00 p.m. local time, Wednesday, September 9, 2015**. All bids will be date stamped and time marked when received.
- D. Faxed or emailed bids shall not be accepted.
- E. If you received this document from our website, please fax your contact information to 269-273-1042 so we can place you on the bidders list for addenda.

II. Conditions Applicable to Bids

- A. Applicable Laws: The Ordinances and Charter of the City, and laws of the State of Michigan concerning competitive bidding, contracts and purchases will be employed.
- B. Taxes: The City of Three Rivers is generally exempt from Federal Excise and Michigan State Sales Tax. Prices should not include tax.
- C. If the bidder elects to deviate from the specifications stated, all exceptions or other changes must be clearly noted.
- D. The City reserves the right to reject any and all bids, waive informalities or defects in bids, or accept such bids as it shall deem to be in the best interest of the City of Three Rivers.
- E. The City does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.
- F. The Contractor shall provide proof of Liability and Workman's Compensation Insurance and a completed W-9 form with this bid. The Contractor shall be MDOT pre-qualified for pavement.
- G. The successful bidder shall provide the City with a copy of this liability insurance policy in the amount of \$2,000,000 (Two million Dollars) which names the City of Three Rivers as second insured.
- H. Anticipated award is at the **September 15** Commission meeting. Final completion of this project shall be no later than **October 31, 2015**.

III. General

**LOG OF PROJECT
CONTROL SECTION 78042
JOB NUMBER 15K001
M-60
City of Three Rivers
in St Joseph County**

LOCATIONS

Location A

On M-60 eastbound beginning approximately 30 feet east of the center of Erie avenue east to approximately 28 feet west of the center of Douglas avenue.

POB = Sta. 50+15, CS 78042 MP 0.381, PR 232106 MP 0.381

POE = Sta. 53+18, CS 78042 MP 0.437, PR 232106 MP 0.437

Total Miles: 0.058

Location A-2

On M-60 westbound beginning approximately 30 feet east of the center of Erie avenue east to approximately 28 feet west of the center of Grant avenue.

POB = Sta. 50+15, CS 78042 MP 0.381, PR 232106 MP 0.381

POE = Sta. 57+00, CS 78042 MP 0.507, PR 232106 MP 0.507

Total Miles: 0.126

Location B

On M-60 westbound beginning approximately 30 feet east of the center of Constantine street east to approximately 30 feet west of the center of Spring street.

POB = Sta. 70+11, CS 78042 MP 0.758, PR 3750035 MP 0.758

POE = Sta. 73+25, CS 78042 MP 0.817, PR 3750035 MP 0.817

Total Miles: 0.059

Location B-2

On M-60 eastbound beginning approximately 30 feet east of the center of Andrew street east to approximately 30 feet west of the center of Spring street.

POB = Sta. 66+43, CS 78042 MP 0.688, PR 3750035 MP 0.688

POE = Sta. 73+25, CS 78042 MP 0.817, PR 3750035 MP 0.817

Total Miles: 0.129

Location C

On M-60 eastbound beginning approximately 30 west of the center of Lincoln avenue east to approximately 30 feet east of the center of Hooker avenue.

POB = Sta. 59+83, CS 78042 MP 0.563, PR 3750035 MP 0.563

POE = Sta. 63+50, CS 78042 MP 0.633, PR 3750035 MP 0.633

Total Miles: 0.070

Location Rocky River Bridge Approaches

On M-60, 40 feet east and west of Rocky River bridge (B01 of 78042), with a width of 48 feet.

POB = Sta. 75+76, CS 78042 MP 0.865, PR 3750035 MP 0.865

POE = Sta. 77+02, CS 78042 MP 0.889, PR 3750035 MP 0.889

Location D

On N. Douglass beginning from the spring point with M-60 north to the south spring point of Pealer street.

Total Miles: 0.164

Location E

On N. Grant beginning from approximately 20 feet north from the spring point with M-60 north to the south spring point of Pealer street.

Total Miles: 0.161

Location F

On N. Hooker beginning from the spring point with M-60 north to approximately 180 feet south of Pealer street spring point.

Total Miles: 0.134

Total Length = 0.901 Miles

DESCRIPTION OF WORK FOR LOCATIONS: A, A-2, B, B-2, C and Rocky River Approaches

The Contractor shall perform the following:

Cold Mill the existing asphalt pavement outside lanes only for Locations A, A-2, B, B-2 & C, 12 feet from edge of curb, to an estimated depth of 2 inches. Cold Mill the entire road width at the Rocky River (B01 of 78042) Approaches.

Surface milling course with HMA Bond Coat estimated at 0.05-0.15 Gal/Syd.

Surface milled pavement with one course of HMA, LVSP, matching existing cross slope, estimated at 220Lb/Syd.

Pavement will be placed prior to opening to traffic.

The Contractor shall maintain traffic according to "Special Provision for Maintaining Traffic and Pavement Marking" in this proposal.

DESCRIPTION OF WORK FOR LOCATIONS: D, E & F

The Contractor shall perform the following:

Cold Mill the existing asphalt pavement edge of curb to edge of curb, to an estimated depth of 2 inches.

Surface milling course with HMA Bond Coat estimated at 0.05-0.15 Gal/Syd.

Surface milled pavement with one course of HMA, LVSP, matching existing cross slope, estimated at 220Lb/Syd.

Pavement will be placed prior to opening to traffic.

The Contractor shall maintain traffic according to "Special Provision for Maintaining Traffic and Pavement Marking" in this proposal.

GENERAL NOTES

UTILITIES

MISS DIG/UNDERGROUND UTILITY NOTIFICATION

For the protection of underground utilities and in conformance with Public Act 174 of 2013, the Contractor shall contact MISS DIG System, Inc. by phone at 811 or 800-482-7171 or via the web at either elocate.missdig.org for single address or rte.missdig.org, a minimum of 3 business days prior to excavating, excluding weekends and holidays.

OUT OF SERVICE UTILITIES

If plan information indicates an existing underground utility is or will be out of service within the limits of this contract, the Contractor is cautioned to treat such a line as if it were still in service and notify "Miss Dig" when working in the area of the out of service facility.

SURVEY

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.

STATIONING

Stationing on this project was taken from old plans and pavement stenciled stationing and is not necessarily accurate.

OLD PLANS

OLD ROAD PLANS

The following old road plans were referred to in the design of this project.
78042-C5

In addition, other old road plans that predate this project may be available. These plans may be reviewed in the Transportation Service Center (TSC) during normal working hours.

PAVEMENT

PAVEMENT AND HMA SURFACE REMOVAL QUANTITIES

Pavement and HMA Surface removal as shown on the plans will be at the discretion of the Engineer. If in his/her judgment, areas of pavement may be left in place, or additional areas added to provide the proper cross-section and base. Changes will be made in the quantities.

ENVIRONMENTAL

RECREATIONAL PROPERTIES

The Contractor shall not park any vehicles or store any equipment on public recreational property. Access to the recreational properties must also be maintained at all times. Non compliance, even without the knowledge and approval of MDOT personnel, can result in penalties up to and including termination of the construction contract and loss of federal funding for the project. Should there be any questions regarding this requirement, contact the MDOT Environmental Services Section at (517) 373-8350.

NOTES APPLYING TO STANDARD PLANS

Where the following items are called for on plans, they are to be constructed according to the standard plan given below opposite each item unless otherwise indicated.

Title	Plan No.
PAVEMENT MARKINGS	
LONGITUDINAL LINE TYPES AND PLACEMENT	PAVE-905-B
INTERSECTION, STOP BAR AND CROSSWALK MARKINGS	PAVE-945-B
WORK ZONE DEVICES	
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS	WZD-100-A *
TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E *

* Denotes Special Detail

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**MAINTAINING TRAFFIC,
AND PAVEMENT MARKING**

KTSC:BCB

1 of 4

KTSC:APPR:BCB:08/25/15

- a. Description.** This work consists of all labor, materials and equipment required to maintain traffic in accordance with this special provision for the Cold Milling, HMA resurfacing and Permanent Pavement Markings on M-60, Douglas avenue, Grant avenue and Hooker avenue in the city of Three Rivers, St. Joseph County.
- b. General.** Maintain traffic according to the 2012 Standard Specifications for Construction, including any Supplemental Specifications, and as specified herein.
1. Notify the Project Engineer a minimum of 3 business days prior to the implementation of any lane closures.
 2. Coordinate operations with Contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).
 3. MDOT maintenance crews and/or contract maintenance agencies may perform maintenance work within or adjacent to the Construction Influence Area (CIA). The Maintenance Division of MDOT and/or contract maintenance agency will coordinate their operations with the Construction Engineer to minimize the interference.

Construction Influence Area (CIA)

The CIA includes the right-of-way of the following roadways, within the approximate limits described below:

1. On M-60, from Day drive to N. Main street.
2. Include in the CIA the rights-of-way of any intersecting roads adjacent to the work zone for a distance noted in signing standards.

c. Traffic Restrictions.

1. Remove lane closures and cease work prior to the Memorial Day, July 4th, or Labor Day holiday periods, as defined by the Engineer.
2. A lane closure shall be removed from the through roadway as directed by the Engineer due to inclement weather conditions that would cause an unsafe traffic situation. A lane closure shall not be placed in the through roadway as directed by the Engineer due to inclement weather conditions that would cause an unsafe traffic situation.
3. Maintain a minimum width of 11 feet for any lane open to traffic.

4. Maintain access to all business and residential drives during construction.
5. Cover existing regulatory, warning and construction signs that are not applicable during construction.
6. Construction signing that refers to work zone speed shall be covered when work at a location is planned to be inactive for a period greater than two working days or as directed by the Engineer.
7. Perform work during daytime hours (7:00 AM to 5:30 PM) only. Allow night work only at the discretion of the Engineer. Any additional cost for maintaining traffic will be borne by the Contractor.
8. Maintain two-way traffic at all times on M-60.
9. Only one (1) of the three local streets (Douglas avenue, Grant avenue and Hooker avenue) will be closed to through traffic at a time. Maintain two-lanes of traffic for the non-working area streets. Utilize a right lane closure for westbound M-60 for local street construction.
10. A lack of work activity for more than one week requires the removal and replacement of lane closures with all the costs borne by the Contractor.
11. The Contractor must submit a work zone traffic control plan to the Engineer in accordance with section 104 of the *2012 Standard Specifications for Construction*. The Engineer will have seven (7) calendar days to review the plan for acceptance or provide comments for plan revisions required to obtain acceptance. At a minimum, the plan shall include the proposed ingress/egress locations for construction equipment and vehicles, traffic control devices that will be utilized to warn the motoring public of ingress/egress locations, and measures that will be taken to ensure compliance with the plan. No work shall begin prior to acceptance of the work zone traffic control plan. Additional time required to obtain an accepted work zone traffic control plan shall not be cause for delay or impact claims. All costs associated with obtaining an acceptable plan, providing and executing all parts of the accepted plan including required traffic control devices, or resolving an incomplete or unacceptable plan shall be borne by the Contractor.
12. Do not occupy any part of the active lane when utilizing a lane closure with personnel or equipment.
13. Do not store equipment or materials within the clear zone, as directed by the Engineer.

d. Traffic Control Devices.

1. General.
 - A. Conform all traffic control devices and their usage to the Michigan Manual of Uniform Traffic Control Devices (MMUTCD). This document can be found at the following website:

<http://mdotcf.state.mi.us/public/tands/plans.cfm>

B. During construction, maintain access to all commercial and residential drives.

2. Temporary Signs.

A. Place temporary sign spacing and taper lengths as shown on attached Typical M0020a.

B. Place ground driven sign supports as shown on attached Traffic and Safety Standard Plan Special Detail WZD-100-A. Refer to Traffic and Safety Special Detail WZD-125-E for portable supports.

C. Place signing for the beginning and ending of the work zone as shown on attached Typical M0050a on M-60.

D. Place signing for center two-lane closures on M-60 at the Rocky River Bridge as shown on attached Typical M0270a.

E. Place signing for lane closures on M-60 as shown on attached Typical M0300a.

F. Mount all temporary signs at a five-foot minimum bottom height in uncurbed areas and seven-foot minimum bottom height in curbed or pedestrian areas.

G. Consider distances shown between construction warning, regulatory and guide signs shown on the typicals as approximate. Signs may require field adjustment, as the Engineer directs.

H. Fabricate all temporary signs with legends and symbols flush to the signs face and do not extend beyond the sign borders or edges.

I. Mount all temporary signs that will be in place for more than 14 days on driven posts.

J. When a portable construction sign is no longer applicable, remove it or lay the sign down with legs pointed in the same direction as traffic flow and with its feet off and laid flat.

K. The Federal Highway Administration (FHWA) requires all signs to be NCHRP 350 crashworthy. The contractor shall submit the FHWA approved details for the temporary sign supports used on the project and have approval by the Engineer before the start of work.

L. Use Type C Lighted Arrows (min 48 inch x 98 inch) to merge traffic and secure by elevating the tires above the ground, or use wheel chocks or sandbags.

3. Channelizing Devices.

A. Use 42-inch channelizing devices during daytime lane closures.

4. Temporary Pavement Markings.

- A. Temporary pavement markings shall consist of:
No temporary pavement markings required.

5. Permanent Pavement Markings.

- A. Permanent pavement markings consist of the following:

4 inch white and 4 inch yellow waterborne for lane lines
Ovly Cold Plastic, 24" Stop Bar
Ovly Cold Plastic, 6" Crosswalk, white

- B. Fabricate all pavement markings per MDOT Pavement Marking Standards PAVE 900 through PAVE 985.

e. Measurement and Payment. Maintain traffic according to Sections 812 and 922 of the Standard Specifications for Construction:

1. Estimated quantities for maintaining traffic on this project is based on the suggested sequence of operations contained in the staging plans and described in this special provision. Payments for these devices are in accordance with the 2012 Standard Specifications for Construction unless otherwise specified.
2. All cost of additional signing or maintaining traffic devices required to expedite the construction will be borne by the Contractor.

Sign, Type_,Temp, Prismatic					
TYPICAL NO.	SUBTOTAL (Sft)		QTY.	SUBTOTAL (Sft) ACTUALLY USED	
	TYPE A	TYPE B		TYPE A	TYPE B
M0050a		48	2		96
M0270a		168	1		168
M0300a		232	2		464
		Chart Total			728

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
1	10	15	20	27	45	50	55	60	65	70
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

TAPER LENGTH "L" IN FEET

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

UPSTREAM TAPERS


- MERGING TAPER
- SHIFTING TAPER
- SHOULDER TAPER
- TWO-WAY TRAFFIC TAPER

DOWNSTREAM TAPERS

(USE IS OPTIONAL)

TAPER LENGTH

- L - MINIMUM
- 1/2 L - MINIMUM
- 1/3 L - MINIMUM
- 100' - MAXIMUM
- 100' - MINIMUM (PER LANE)

 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:	M0020a
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"

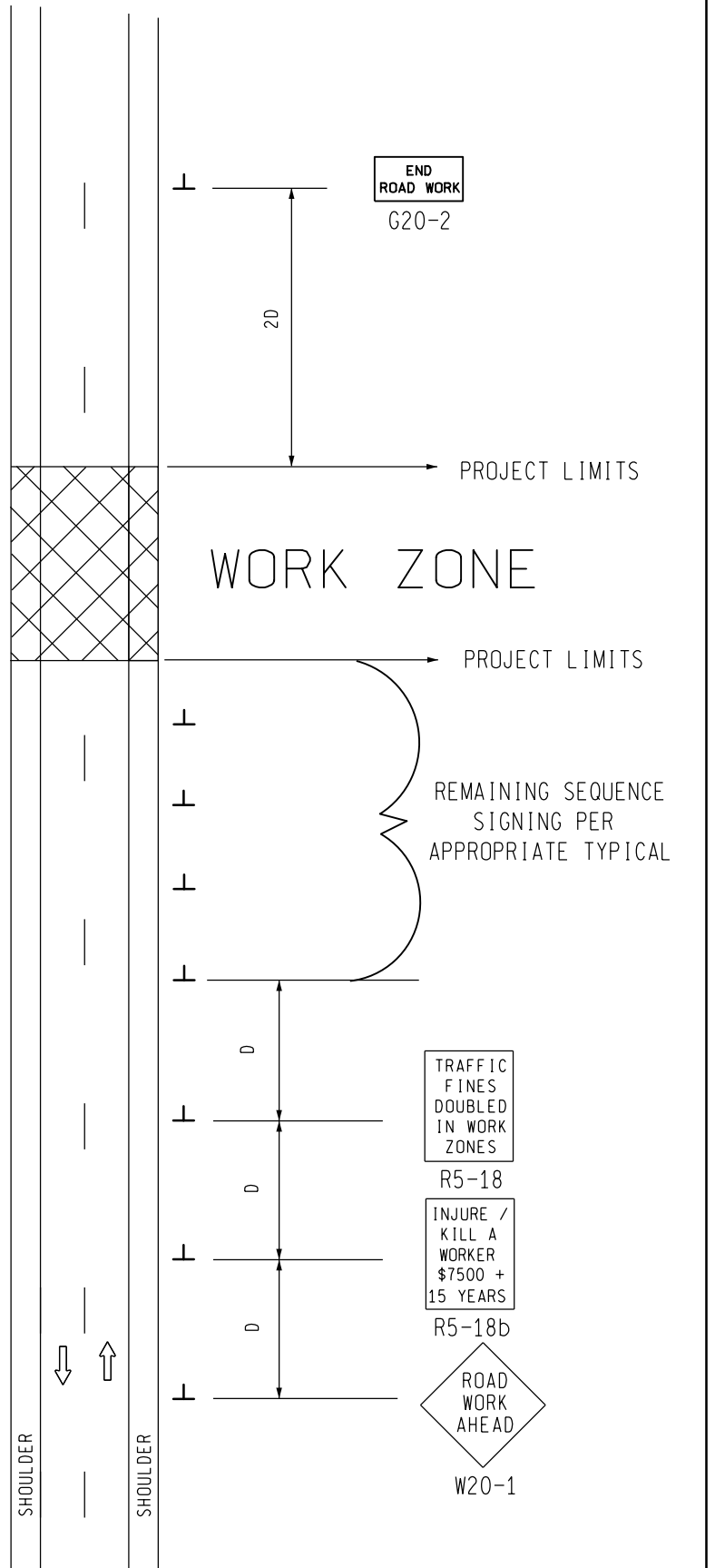
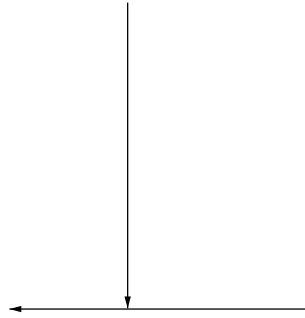
SPEED* MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

* 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.

 Michigan Department of Transportation TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TABLES FOR "L", "D" AND "B" VALUES		
	DRAWN BY: CON:AE:djf CHECKED BY: BMM	JUNE 2006 PLAN DATE:	M0020a
FILE: K:/DGN/TSR/STDS/ENGLISH/MNTTRF/M0020a.dgn REV. 08/21/2006			

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"

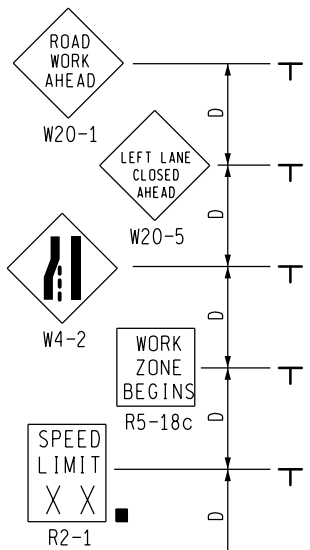
 TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL	TYPICAL ADVANCE SIGNING TREATMENT FOR INTERMEDIATE AND SHORT TERM STATIONARY WORK ZONE OPERATIONS WHERE ALL TRAFFIC CONTROL DEVICES ARE REMOVED AT END OF EACH WORK DAY ON AN UNDIVIDED TWO-WAY ROADWAY	
	DRAWN BY: CON:AE:djf	OCTOBER 2011
CHECKED BY: BMM:CRB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

NOT TO SCALE

KEY

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

SIGN = 168 ft² - TYPE B PLUS ADDITIONAL R2-1s THROUGHOUT WORK AREA.

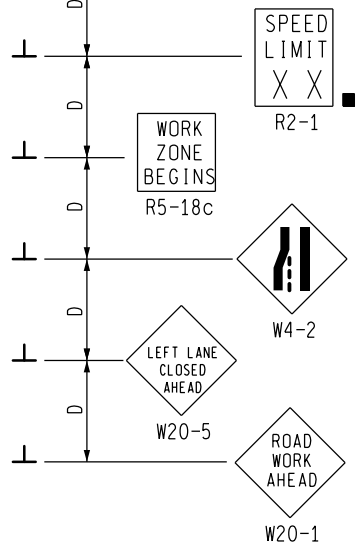
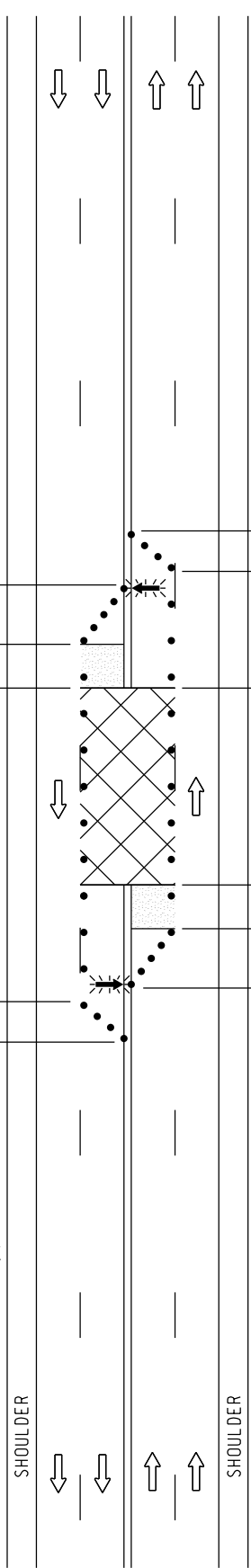


END ROAD WORK
PLACE THIS SIGN ALONG WITH THE ADVANCE WORK ZONE SIGNING AS DEPICTED ON THE APPROPRIATE TYPICAL M0030a-M0080a.

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.



NOT TO SCALE

<p>TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL</p>	<p>TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING THE CENTER TWO LANES OF A MULTI-LANE UNDIVIDED ROADWAY, (NO CLFLTO) NO SPEED REDUCTION</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/M0270a.dgn REV. 10/12/2011</p>		


NOTES

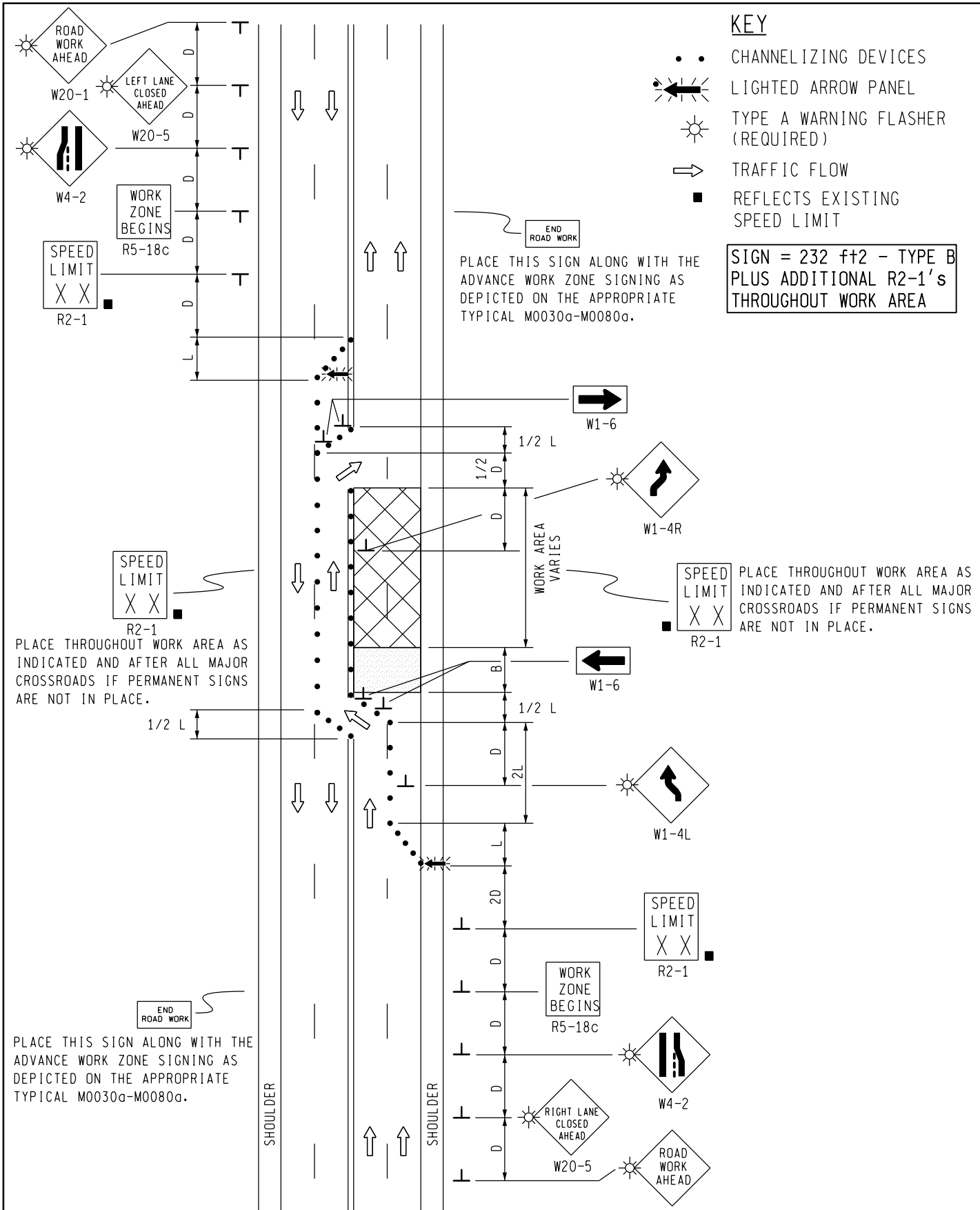
- 1B. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
SEE M0020a FOR "D," "L," AND "B" VALUES
2. ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
3. DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH 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

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



KEY

- • CHANNELIZING DEVICES
- ← LIGHTED ARROW PANEL
- ☀ TYPE A WARNING FLASHER (REQUIRED)
- TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT

SIGN = 232 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.

R2-1

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

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.

<p>TRAFFIC AND SAFETY MAINTAINING TRAFFIC TYPICAL</p>		<p>TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING ONE-HALF OF A FOUR-LANE UNDIVIDED ROADWAY, NO SPEED REDUCTION</p>	
DRAWN BY: CON:AE:djf CHECKED BY: BMM:CRB FILE: K:\-DGN-TSR-STDS-ENGL\SH-MNTRF-M0300a.dgn	OCTOBER 2011 PLAN DATE:	M0300a	SHEET 1 OF 2
<p>NOT TO SCALE</p>		REV. 10/18/2011	


NOTES

- 1C. D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L & 1/2 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.
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"
W1-6 WARNING	- 48" x 24"
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 CLOSING ONE-HALF OF A FOUR-LANE UNDIVIDED ROADWAY, NO SPEED REDUCTION	
	DRAWN BY: CON:AE:djf	OCTOBER 2011
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FILE: K:\-DGN-TSR-STDS-ENGLISH-MNTTRF-M0300a.dgn		REV. 10/18/2011

IV. Specifications for Asphalt Pavement

PART 1 GENERAL

1.01 SCOPE

- A. This Section includes preparation of the base construction of pavements and base courses, adjustment of manhole castings, and valve boxes to conform to new pavement courses, and other work and materials incidental to the construction of pavements.
- B. This Section includes restoration of permanent pavement markings as they exist at the time of bidding unless otherwise specified or directed.

1.02 SUBMITTALS

- A. Submittals shall include:
 - 1. Information for the Record:
 - a. Delivery tickets from the asphalt and aggregate suppliers shall be given to the City. Tickets shall include (as a minimum) name of source, date, type of material, and weight.
 - b. Test results and certificates.

PART 2 PRODUCTS

2.01 ASPHALT EMULSIONS

- A. As specified in the general section of this bid document.

2.02 BITUMINOUS AGGREGATE BASE AND ASPHALT CONCRETE

- A. Bituminous Material - The asphalt cement shall be PG 58-28 performance grade (Design Temperature) and shall meet the requirements of MDOT Table 904-1.
- B. Design Mix - Refer to MDOT Special Provision 03SP501(H) for Mixture Numbers.
 - 1. The wearing course shall meet the requirements of MDOT Division 5, Mixture No. 36A.

PART 3 EXECUTION

3.01 PAVEMENT INSTALLATION

- A. All construction shall be in conformance with applicable portions of MDOT Specifications, except as otherwise specified or called for herein.
- B. A bond or coat at a rate of 0.05 to 0.15 gallon per square yard shall be applied to all existing pavements which are to be overlaid, and between subsequent courses when directed by the City.

3.02 TRANSITION JOINTS FOR BITUMINOUS CONCRETE PAVEMENT OVERLAY

- A. Types of Transition Joints:
 - 1. Transition joints shall be either butt type or feathered type as directed by the City.

2. Butt joints shall be whenever practical. If a butt joint is not practical, then a feathered joint is acceptable.
3. Butt Joints:
 - a. Installation of a butt joint requires the old surface to be cut back for at least 3-feet to a depth of at least 1-inch for the full width of the joint and pavement installed.
 - b. A bituminous seal shall be placed on the finished surface at the junction of the new and old pavements.
4. Feathered Joint:
 - a. Feathered joints shall be constructed by manually raking the paving material to a smooth transition from the full depth material to the existing pavement surface.
 - b. Existing pavement surface shall be bond-coated to include the transition area.
 - c. Feathering shall be done by a workman skilled in the operation and shall be approved by the City.

3.03 INSPECTION

- A. Laboratory services shall be as detailed below:
 1. Asphalt Concrete:
 - a. Plant Certification - The laboratory shall certify or furnish recent certification (within one year) from MDOT that the plant meets State requirements.
 - b. Plant Inspection - For the first day of production and for every day when more than 100 cubic yard of material is being delivered to the project, the laboratory shall provide a representative at the plant who will inspect the plant, make mix design adjustments, check the temperature, and take the required samples.
 - c. Quality Control Testing - A sample of the mix shall be taken for each 200 cubic yard of bituminous material or fraction thereof delivered to the project. An extraction test AASHTO T164-70 and a mechanical analysis AASHTO T30-70 shall be performed on the mix samples.
 - d. Bituminous Material - Provide a satisfactory certificate furnished by the manufacturer stating that the materials conform to MDOT Specifications, Table 904-1, 904-2, or 904-3 as required.
 - e. Aggregate - A sieve analysis (ASTM C-136) shall be performed on each aggregate to be used in the plant mix design.
 - f. Mix Designs - The laboratory shall design the plant mixes in accordance with the Marshall Method of Mix Design (ASTM D-1559) and shall make all mix design adjustments.

3.04 PROTECTION

- A. No heavy construction vehicle shall operate on any pavement after it has been installed.
- B. Traffic shall be prohibited on newly installed pavement until it has cooled sufficiently to avoid marking.
- C. Asphalt Pavements:
 - 1. Bituminous mixtures shall be transported and placed in accordance with MDOT Section 502.03.

Bid Form

The undersigned having familiarized themselves with the local conditions affecting the cost of the work and the Contract Documents hereby proposes to provide and furnish all labor, materials, necessary tools, equipment, utility and transportation services necessary to perform and complete all work required for the project in accordance with the specifications as prepared by the Department of Public Services, City of Three Rivers, Michigan, for, including Addenda No. _____ issued thereto, the following unit prices:

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

SIGNATURE _____ TITLE _____

TELEPHONE _____ DATE _____

FY 2016 Streets Mill and Fill

Item No.	Item Description	Quantity	Unit	Unit Price	Total Price
1	Cold Milling HMA Surface	12600	SY		
2	HMA Quality Initiative	2800	Dlr		
3	HMA, LVSP	1400	Ton		
4	Pavt Mrkg, Ovly Cold Plastic, 6 inch Crosswalk	190	LF		
5	Pavt Mrkg, Ovly Cold Plastic, 24 inch, Stop Bar	40	LF		
6	Pavt Mrkg, Waterborne, 4 inch, White	880	LF		
7	Pavt Mrkg, Waterborne, 4 inch, Yellow	1480	LF		
8	Channelizing Device, 42 inch, Furn	115	Ea		
9	Channelizing Device, 42 inch, Oper	115	Ea		
10	Lighted Arrow, Type C, Furn	2	Ea		
11	Lighted Arrow, Type C, Oper	2	Ea		
12	Minor Traf Devices	1	LS		
13	Sign, Type B, Temp, Prismatic, Furn	728	Sft		
14	Sign, Type B, Temp, Prismatic, Oper	728	Sft		
Total Bid					