

GOGEBIC COUNTY ROAD COMMISSION
US-2 Ironwood: 2025 CATCH BASIN REPAIR SERVICES BID

Bid of _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of _____ doing business as _____*, to the Gogebic County Road Commission (hereinafter called "OWNER").

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all work for the construction of **US-2 Ironwood: 2025 Catch Basin Repair Services** in accordance with the Contract Documents, within the time set forth herein, and at the prices stated below.

1. NOTICE TO BIDDERS

GCRC Bidding Instructions

The intent of the bid is to include all paving projects scheduled for work in Gogebic County. This includes areas of cold milling and paving mainline roads that the road commission intends to complete in 2025. All work described below (including Measurement and Payment) shall be as described in the MDOT "2020 Standard Specifications for Construction" (Standard Specifications), except as modified herein.

2. DESCRIPTION OF WORK

Per attached Log of Project.

3. PROGRESS CLAUSE

Per attached Log of Project.

4. METHOD OF MEASUREMENT AND PAYMENT

Per attached Log of Project.

5. BID DEADLINE

Sealed bids for the 2025 US-2 Ironwood: 2025 Catch Basin Repair Services will be received by the Gogebic County Road Commission, Courthouse Annex, Bessemer, MI 49911 until **10:00 A.M., central time on Wednesday, June 25, 2025.** All bids shall be publicly opened and read aloud at said office at that time.

The BIDDER agrees to perform all described work in the Contract Documents for the following unit and/or lump sum prices. The BIDDER further agrees that the unit and/or lump sum prices include the furnishing of all labor, materials, tool, equipment, utilities, transportation, taxes, fees, etc., required to complete the work in strict accordance with the Contract Documents.

By submission of this Bid, each party thereto certifies as to his/her own organization, that this Bid has been arrived at independently, without consultation, communication or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

The Board reserves the right to reject or accept any bid or all bids or to waive irregularities and to accept any bid that, in the opinion of the Board, is to the best interest and advantage of the County of Gogebic. The successful bidder shall comply with and execute the attached Contract for Construction of a Small Project and its associated documents with the GCRC.

The BIDDER acknowledges receipt of the following Addendum(s):

The BIDDER agrees to perform all described work in the Contract Documents for the following unit and/or lump sum prices. The BIDDER further agrees that the unit and/or lump sum prices include the furnishing of all labor, materials, tool, equipment, utilities, transportation, taxes, fees, etc., required to complete the work in strict accordance with the Contract Documents. The quantity shown in the Bid Schedule is an estimated minimum. If some of the optional sections are selected by the Townships, more will be added to the contract, but to be included in the two mobilizations.

BID SCHEDULE

A) US-2 Ironwood: 2025 Catch Basin Repair Services (City of Ironwood)

ITEM DESCRIPTION	APPROX QUANTITY	UNIT	UNIT PRICE	BID AMOUNT
All Work as Described in Log of Project	1	Lsum		

The BIDDER declares that he/she has carefully examined the Contract Documents for the Project. The BIDDER declares, by submission of the Bid that the Bid is made according to the provisions and under the terms of the Contract Documents, which Contract Documents are hereby made part of the Bid.

The BIDDER understands that the OWNER reserves the right to reject any or all Bids.

The BIDDER agrees that this Bid shall be good and may not be withdrawn for a period of thirty (30) calendar days after the scheduled closing time for receiving Bids.

IN WITNESS WHEREOF, the undersigned has caused this instrument to be executed (and its seal affixed) by its duly authorized officer this _____ day of _____, 20_____.

(SEAL)

Signature

Typed name

Title

Attest _____

Bidder Address:

Bidder Phone Number: _____

Bids will be received until **10:00 a.m. (CST) on Wednesday, June 25, 2025**. The Board will accept a fax bid at (906) 663-4807, provided it is followed by receipt of the original signed bid by mail. Bids will be opened and publicly read at the Board Room of the Gogebic County Road Commission office: 200 North More Street, Courthouse Annex, Bessemer, MI 49911. Any bids received after the time and date stated above will not be accepted. The Board reserves the right to reject or accept any bid or all bids or to waive irregularities and to accept any bid that, in the opinion of the Board, is to the best interest and advantage of the County of Gogebic.

PROJECT LOCATION

The project is located on eastbound US-2 between N Hemlock Street and N Lowell Street in the city of Ironwood, Gogebic County.

PROJECT SCHEDULE

Work shall not begin prior to approval by Dale Sauvola, MDOT Maintenance Coordinator. All work under this contract shall be completed by September 30th, 2025.

PROJECT DESCRIPTION

This project involves removing concrete curb, removing part of a concrete driveway apron, HMA surface remove, repairing two failed drainage structures, storm sewer cleanout, structure cleanout, filling two voids under the curb and HMA, replacing curb, replacing concrete driveway pavement, and HMA paving. Two additional structures in the curblane will also be adjusted as part of this work.

Between N Hemlock Street and Nightingale Street:

There is a structure on the west edge of the driveway for European Car Sales & Service where the curb has collapsed. Remove the curb west of the structure to the existing joint in the curb and sawcut the curb east of the structure as shown on the attached sketch. Sawcut and remove the existing HMA and part of the concrete driveway apron as shown on the attached sketch.

Remove the casting and block portion of the failed drainage structure down to the top of the precast sump. Rebuild the block portion of the structure using new block and placing mortar between the block. Wrap the outside of the structure with geotextile fabric and coat the inside of the structure with mortar to ensure the surface is sealed. Place and adjust the casting to match existing curb line and ensure positive drainage.

Place and compact aggregate base to fill the void under the roadway, curb line, and driveway approach to ensure a solid base for concrete and HMA that matches existing grades and road profile. Ensure compacted gravel is 98% compaction under HMA pavement and 95% compaction under curb and driveway apron. Pour new curb to match existing curb alignment and ensure positive drainage. Pour concrete driveway apron to match existing footprint and grades.

There are two additional drainage structures between Hemlock Street and the failed structure in front of European Car Sales & Service. Both structures need to be adjusted. Remove the curb and sawcut HMA (no more than 1.0 feet from flag line of curb) as shown on the attached detail to allow for structure adjustment. Adjust the drainage structures to match existing curb lines and ensure positive drainage. Replace curb to match existing curb lines and ensure positive drainage. Place aggregate base as necessary to bring base material to bottom of HMA surface.

Place and compact 6.5 inches of HMA in removal area near the failed structure in three lifts to match existing HMA thickness. Match existing roadway slopes. Place the top course with a paver to ensure a smooth driving surface. Match existing HMA elevation mid lane and place 1/4 inch above the flag line of the curb to ensure positive drainage.

Place and compact HMA in the sawcut areas in front of the two additional adjusted drainage

structures in lifts. Ensure the top course of HMA is placed to match existing HMA and is 1/4 inch above the flag line of the curb to ensure positive drainage.

Clean out sumps on all three adjusted structures and clean out the two runs of storm sewer that connect the three structures to ensure they are free of the material that washed out from under the roadway and curb.

Between N Lawrence Street and N Lowell Street:

There is a structure approximately 150 feet east of the Krist gas station in the south curb line of US-2 where the HMA and curb are undermined. Sawcut and remove the existing curb 4.0 feet from the existing casting both east and west as shown on the attached sketch. Sawcut and remove the existing HMA as shown on the attached sketch.

Remove the casting and block portion of the failed drainage structure down to the top of the precast sump. Rebuild the removed block portion of the structure using new block and placing mortar between the block. Wrap the outside of the completed structure with geotextile fabric and coat the inside of the structure with mortar to ensure the surface is sealed. Place and adjust the casting to match existing curb line and ensure positive drainage.

Place and compact aggregate base to fill the void under the roadway and curb line to ensure a solid base for concrete and HMA that matches existing grades and road profile. Ensure compacted gravel is 98% compaction under HMA pavement and 95% compaction under curb and driveway apron. Pour new curb to match existing curb alignment and ensure positive drainage.

Place and compact 6.5 inches of HMA in removal area near the failed structure in three lifts to match existing HMA thickness. Match existing roadway slopes. Place the top course with a paver to ensure a smooth driving surface. Match existing HMA elevation mid lane and place 1/4 inch above the flag line of the curb to ensure positive drainage.

Clean out the sump on this structure and the structure to the north that discharge from this structure flows into. Clean out the storm sewer run that connects these two drainage structures. Ensure the structures and connecting storm sewer are free of the material that washed out from under the roadway.

Complete restoration of the greenspace behind the curb using an MDOT approved weed-free seed spread over salvaged existing topsoil and covered with mulch blanket.

MAINTAINING TRAFFIC

Perform work utilizing a closure of the outside eastbound lane of US-2 that encompasses the entire work area. Protect the work area with tightly spaced plastic drums during non-working hours. US-2 traffic shall be maintained in accordance with 100-GEN-KEY, 101-GEN-SPACING-CHARTS, 102-GEN-NOTES, 4123A-M-NFW-1LC-(R). Plastic drums shall be used instead of cones for channelizing devices. Ensure the outside eastbound lane closure occurs at a location with adequate visibility for motorists to merge into the inside lane safely. Use additional drums to delineate approach roads and commercial driveways.

An additional closure of the outside westbound lane will be needed for the structure cleanout to the north of the work area between N Lawrence St and N Lowell St. This closure shall only be in

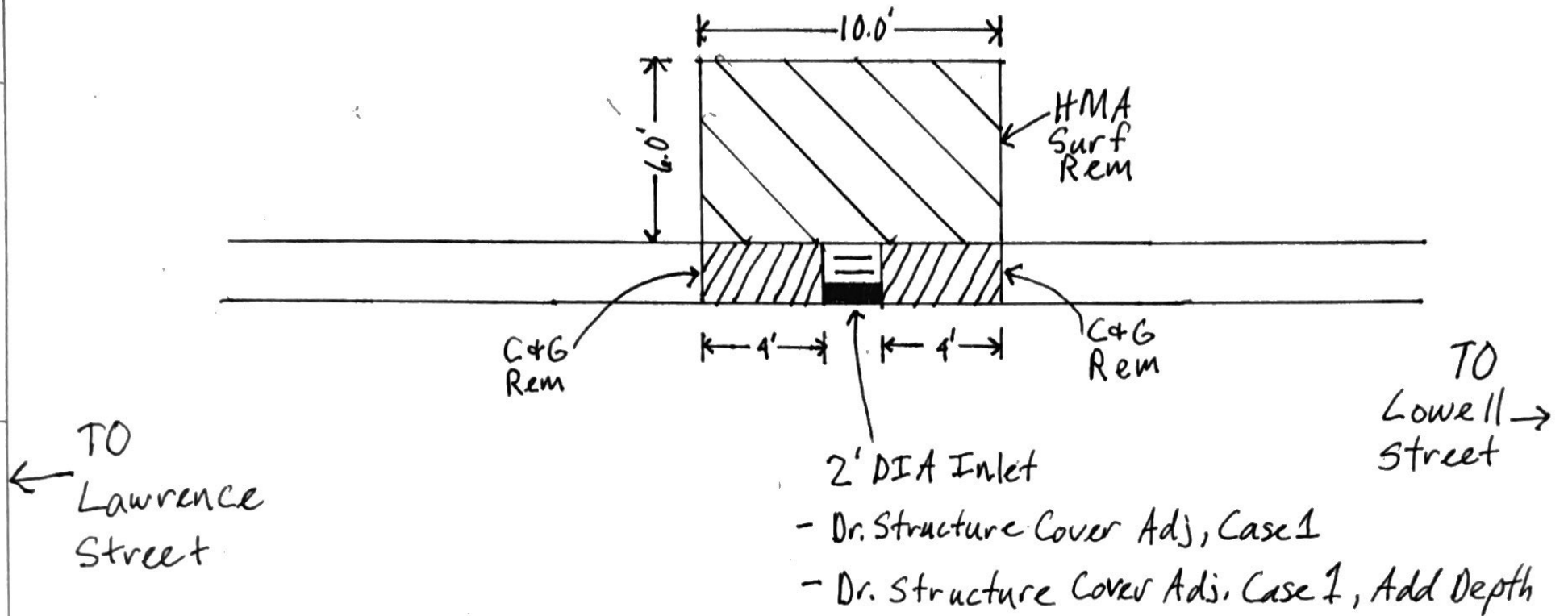
place for the completion of the structure and storm sewer cleanout at this location and the length of closure should be limited to the amount of space needed to safely complete this work.

MEASUREMENT AND PAYMENT

The proposed work shall be bid as “ONE LUMP SUM”. The following list of estimated work items and quantities are provided for information:

Mobilization, Max. ____	1	LS
Traffic Control	1	LS
HMA Surface, Rem	22	Syd
Curb and Gutter, Rem	47	Ft
Pavt, Rem	6	Syd
Aggregate Base, LM	8	Cyd
_Storm Sewer Cleanout	150	Ft
_Dr Structure Cleanout	5	Ea
Dr Structure Cover, Adj, Case 1	4	Ea
Dr Structure Cover, Adj, Case 1, Add Depth	10	Ea
Curb and Gutter, Conc, Det F4	47	Ft
HMA, 4EML	10	Ton
Driveway, Nonreinf Conc, 6 inch	6	Syd
Slope Restoration, Non-Freeway, Type B	10	Syd

US-2

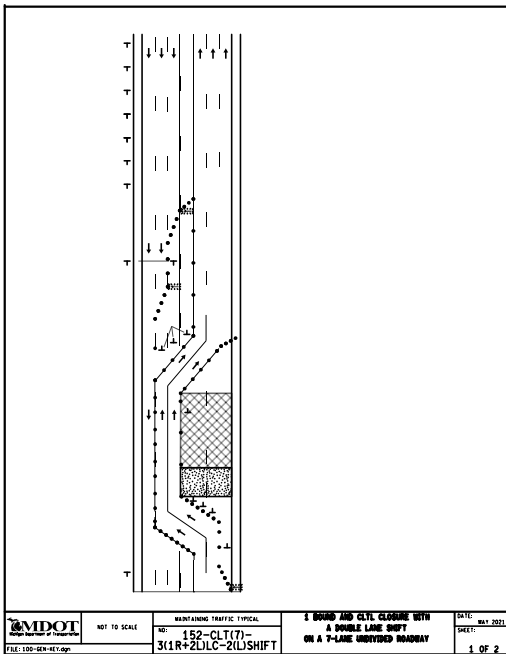


TYPICAL NUMBER KEY

CODES

AB = ARROW BOARD
 AW = ADVANCE WARNING
 C = CLOSURE
 CLT = CENTER LEFT TURN LANE
 CROSS = CROSSOVER
 CruSha = CRUSH AND SHAPE
 EM = EARLY MERGE
 EnR = ENTRANCE RAMP
 ExR = EXIT RAMP
 FW = FREEWAY
 GEN = GENERAL INFORMATION
 GORE = FREEWAY GORE AREA
 IN = INSIDE
 INT = INTERSECTION
 L = LANE
 (L) = LEFT
 LC = LANE CLOSURE
 LD = LONG DURATION

LO = LANE OPEN
 O = OUTSIDE (LANE CLOSURE)
 OUT = OUTSIDE OF SHOULDER
 MID = MIDDLE OF INTERSECTION OR ROAD
 NFW = NON-FREEWAY
 PARK = PARKING LANE
 PCMS = PORTABLE CHANGEABLE MESSAGE SIGN
 (R) = RIGHT
 ROLL = ROLLING ROADBLOCK
 RUM = RUMBLE STRIP
 SD = SHORT DURATION
 SHL = SHOULDER CLOSURE
 SIGN = SIGN
 SP = SPECIAL
 SPEED = SPEED
 STA = STOPPED TRAFFIC ADVISORY
 TR = TRAFFIC REGULATOR
 TS = TEMPORARY SIGNAL
 ZIP = ZIPPER MERGE



100 - GENERAL NOTES
 110 - TRAFFIC REGULATORS
 120 - NON-FREEWAY
 130 - CENTER LEFT TURN (CLT) LANES
 140 - PARKING LANES
 150 - CLT 7 LANE SECTIONS
 160 - SIGNAL WORK
 200 - FREEWAY CLOSURES
 210 - FREEWAY LANE SHIFTS
 220 - FREEWAY ENTRANCE RAMP
 230 - FREEWAY EXIT RAMP
 300 - ADVANCE WARNINGS
 310 - CROSSOVER CLOSURE
 320 - CRUSH AND SHAPE
 340 - MERGE SYSTEMS
 350 - GORE LOCATIONS
 360 - ROLLING ROADBLOCK
 4000 - MAINTENANCE
 5000 - SURVEY

EXAMPLE TYPICAL

CODE: 152-CTL(7)-3(1R+2L)LC-2(L)SHIFT

152 - TYPICAL NUMBER

CTL(7) = CENTER LEFT TURN LANE, 7 LANES TOTAL.

3(1R+2L)LC = 3 LANES CLOSED, (1 RIGHT LANE AND 2 LEFT LANES).

2(L)SHIFT = 2 LANES SHIFTED TO THE LEFT.

NOT TO SCALE

 <p>Michigan Department of Transportation</p>	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL		TYPICAL NUMBERING KEY	DATE: DECEMBER 2021
		NO:	100-GEN-KEY		SHEET:

FILE: 100-GEN-KEY.dgn

1 OF 1

DISTANCE BETWEEN TRAFFIC SIGNS, "D"

"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
D (FEET)	250	300	350	400	450	500	550	600	650	700	750

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE, "B"

"B" LENGTHS	SPEED*, MPH (PRIOR TO WORK AREA)											
	20	25	30	35	40	45	50	55	60	65	70	75
B (FEET)	33	50	83	132	181	230	279	329	411	476	542	625

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

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	75
1	11	15	21	27	45	50	55	60	65	70	75
2	21	30	41	54	90	100	110	120	130	140	150
3	32	45	62	80	135	150	165	180	195	210	225
4	42	60	82	107	180	200	220	240	260	280	300
5	53	75	103	134	225	250	275	300	325	350	375
6	63	90	123	160	270	300	330	360	390	420	450
7	73	105	143	187	315	350	385	420	455	490	525
8	84	120	164	214	360	400	440	480	520	560	600
9	94	135	184	240	405	450	495	540	585	630	675
10	105	150	205	267	450	500	550	600	650	700	750
11	115	165	225	294	495	550	605	660	715	770	825
12	125	180	245	320	540	600	660	720	780	840	900
13	136	195	266	347	585	650	715	780	845	910	975
14	146	210	286	374	630	700	770	840	910	980	1050
15	157	225	307	400	675	750	825	900	975	1050	1125

NOT TO SCALE

 Michigan Department of Transportation	NOT TO SCALE	MAINTAINING TRAFFIC TYPICAL		"B", "D" AND "L" TABLES CHANNELIZING DEVICE SPACING, SIGN BORDER KEY, AND ROLL-AHEAD SPACING	DATE: MAY 2021
		NO: 101-GEN-SPACING-CHARTS			SHEET: 1 OF 3
FILE: 101-GEN-SPACING-CHARTS.dgn					

FILE: 101-GEN-SPACING-CHARTS.dgn

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" = W X S 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
2 TO 1 LANE ROAD TAPER

TAPER LENGTH

L - MINIMUM
1/2 L - MINIMUM
1/3 L - MINIMUM
100' - MAXIMUM

DOWNSTREAM TAPERS

(USE IS RECOMMENDED)

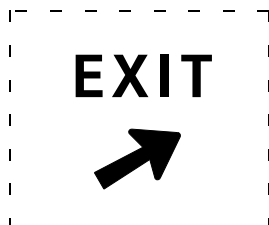
100' (PER LANE)

MAXIMUM SPACING FOR CHANNELIZING DEVICES

WORK ZONE SPEED LIMIT	DRUM AND 42" DEVICE SPACING (FT)		NIGHTTIME 42" DEVICE SPACING (FT)	
	TAPER	TANGENT	TAPER	TANGENT
< 45 MPH	1 x SPEED LIMIT	2 x SPEED LIMIT	25 FEET	50 FEET
≥ 45 MPH	50 FEET	100 FEET	25 FEET	50 FEET

SIGN OUTLINE KEY

DASHED OUTLINES INDICATE A SIGN THAT EXISTS ON SITE, AND NEEDS TO BE COVERED.



SOLID OUTLINES INDICATE A SIGN THAT IS TO BE PLACED ON THE PROJECT



NOT TO SCALE



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 101-GEN-
SPACING-CHARTS

FILE: 101-GEN-SPACING-CHARTS.dgn

"B", "D" AND "L" TABLES
CHANNELIZING DEVICE SPACING
SIGN BORDER KEY AND ROLL-AHEAD SPACING

DATE: MAY 2021

SHEET:

2 OF 3

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES – TEST LEVEL 2

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5.5 TONS (STATIONARY)	40 MPH OR LESS	25 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 4,410 POUND IMPACT VEHICLE WEIGHT.

GUIDELINES FOR ROLL-AHEAD DISTANCES FOR TMA VEHICLES – TEST LEVEL 3

WEIGHT OF TMA VEHICLE	PREVAILING SPEED (POSTED SPEED PRIOR TO WORK ZONE)	ROLL-AHEAD DISTANCE* (DISTANCE FROM FRONT OF TMA VEHICLE TO WORK AREA)
5 TONS (MOBILE)	45 MPH	100 FT
	50-55 MPH	150 FT
	60-75 MPH	175 FT
12 TONS (STATIONARY)	45 MPH	25 FT
	50-55 MPH	25 FT
	60-75 MPH	50 FT

* ROLL-AHEAD DISTANCES ARE CALCULATED USING A 10,000 POUND IMPACT VEHICLE WEIGHT.

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

GENERAL NOTES

- G1: SEE GEN-SPACING-CHARTS FOR COMMON VALUES INCLUDING:
D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES
L = MINIMUM LENGTH OF TAPER
B = LENGTH OF LONGITUDINAL BUFFER
ROLL AHEAD DISTANCE
- G2: DISTANCE BETWEEN SIGNS, "D", THE VALUES FOR WHICH ARE SHOWN IN TYPICAL GEN-KEY ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- G3: ALL TEMPORARY SIGNS, TYPE III BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING MUST MEET NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 (NCHRP 350) TEST LEVEL 3, OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) TL-3 AS WELL AS 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.
- G4: DO NOT STORE EQUIPMENT, MATERIALS OR PERFORM WORK IN ESTABLISHED BUFFER AREAS.
- G5: 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 TRAFFIC PATTERNS FOR WORK LESS THAN THREE DAYS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.

SIGN NOTES

- S1: ALL NON-APPLICABLE SIGNING WITHIN THE CIA MUST BE MODIFIED TO FIT CONDITIONS, COVERED, OR REMOVED. FOR GUIDANCE SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL, SECTIONS 6.01.09 AND 6.01.10.
- S2: R5-18b SIGNS ARE ONLY REQUIRED ON FREEWAY PROJECTS WITH A DURATION OF 15 DAYS OR LONGER OR NON-FREEWAY PROJECTS WITH A DURATION OF 90 DAYS OR LONGER. TO APPLY THIS TYPICAL WITHOUT R5-18b SIGNS, REMOVE THE SIGNS AND CONSOLIDATE THE SEQUENCE AS APPROPRIATE.
- S3: R5-18c IS ONLY REQUIRED IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. OMIT THIS SIGN IN SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE.
- S4: ADDITIONAL SIGNING AND/OR ELONGATED SIGNING SEQUENCES SHOULD BE USED WHEN TRAFFIC VOLUMES ARE SIGNIFICANT ENOUGH TO CREATE BACKUPS BEYOND THE W20-5 SIGNS.
- S5: PLACE ADDITIONAL SPEED LIMIT SIGNS REFLECTING THE WORK ZONE SPEED AFTER EACH MAJOR CROSSROAD THAT INTERSECTS THE WORK ZONE, OR AFTER EACH ENTRANCE RAMP THAT COMES ONTO THE FREEWAY WHERE THE REDUCED SPEED IS IN EFFECT. PLACE ADDITIONAL SPEED LIMIT SIGNS AT INTERVALS ALONG THE ROADWAY SUCH THAT NO SPEED LIMIT SIGNS ARE MORE THAN 2 MILES APART. WHEN REDUCED SPEED LIMITS ARE UTILIZED IN THE WORK AREA, PLACE ADDITIONAL SPEED LIMIT SIGNS RETURNING TRAFFIC TO ITS NORMAL SPEED BEYOND THE LIMITS OF THE WORK AREA AS INDICATED. IF PERMANENT SIGNS DISPLAYING THE CORRECT SPEED LIMIT ARE POSTED, OMIT ALL W3-5b AND R2-1 SIGNS AND REDUCE SPACING ACCORDINGLY.
- S6: FABRICATE SPECIAL SIGNS IN ACCORDANCE WITH CURRENT SIGNING DESIGN STANDARDS.
- S7: PLACE ADDITIONAL R8-3 SIGNS AT A MAXIMUM 500' SPACING THROUGHOUT THE WORK ZONE.
- S8: WHEN SPEED LIMIT SIGNS CANNOT BE PLACED SIDE BY SIDE AS SHOWN, PLACE THEM "D" DISTANCE APART.
- S9: STOP SIGNS NOT REQUIRED IF SIGNALS ARE ON 4-WAY FLASHING RED. STOP AHEAD SIGNS ARE NOT REQUIRED IF THERE IS ADEQUATE VISIBILITY OF THE STOP SIGN OR IF SIGNALS ARE BEING USED TO CONTROL TRAFFIC.
- S10: PLACE REDUCED SPEED ZONE AHEAD SIGN (W3-5b) HERE WHEN USING A SPEED REDUCTION IN THIS DIRECTION.
- S11: THE NUMBER OF W1-6 SHIFT SIGNS TO PLACE FOR A SHIFT IS AS FOLLOWS:
SHIFTS 4FT OR LESS, PLACE ONE W1-6(R)(L)
SHIFTS 5FT TO 12FT, PLACE TWO W1-6(R)(L)
SHIFTS MORE THAN 12FT, PLACE THREE OR MORE W1-6(R)(L) SIGNS DEPENDING UPON LENGTH OF SHIFT AND AS PER THE ENGINEER.
- S12: PLACE R2-1 SIGNS AS DETAILED IN NOTE S5 WHEN THERE IS A SPEED REDUCTION IN THIS DIRECTION

TRAFFIC REGULATOR NOTES

- TR1: TRAFFIC REGULATORS MUST FOLLOW ALL THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS, THE CURRENT VERSIONS OF THE TRAFFIC REGULATOR'S INSTRUCTION MANUAL AND THE VIDEO "HOW TO SAFELY REGULATE TRAFFIC IN MICHIGAN". THE MAXIMUM DISTANCE BETWEEN THE TRAFFIC REGULATORS IS DETERMINED BY THE ROADWAY ADT, GEOMETRICS, AND AS DIRECTED BY THE ENGINEER.
- TR2: PROVIDE APPROPRIATE BALLOON LIGHTING TO SUFFICIENTLY ILLUMINATE TRAFFIC REGULATOR'S STATIONS WHEN TRAFFIC REGULATING IS ALLOWED DURING THE HOURS OF DARKNESS.
- TR3: PROVIDE EITHER A STOP/SLOW AFAD OR A RED/YELLOW LENS AFAD, MEETING THE REQUIREMENTS OF THE MMUTCD

TEMPORARY TRAFFIC CONTROL DEVICE NOTES

- TCD1: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD NOT EXCEED 1.0 TIMES THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 50 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TAPERS ARE NOT TO EXCEED 25 FEET AT NIGHT.
- TCD2: THE MAXIMUM DISTANCE IN FEET BETWEEN CHANNELIZING DEVICES IN A TANGENT SHOULD NOT EXCEED TWICE THE WORK ZONE SPEED LIMIT IN MPH FOR ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT LESS THAN 45 MPH AND SHOULD NOT EXCEED 100 FEET ON ROADWAYS WITH A POSTED WORK ZONE SPEED LIMIT OF 45 MPH OR GREATER. THE SPACING FOR 42 INCH CHANNELIZING DEVICE TANGENTS ARE NOT TO EXCEED 50 FEET AT NIGHT.
- TCD3: TYPE III BARRICADES MUST BE LIGHTED FOR OVERNIGHT CLOSURES.
- TCD4: WHEN THE HAUL ROAD IS NOT IN USE, PLACE LIGHTED TYPE III BARRICADES WITH "ROAD CLOSED" EXTENDING COMPLETELY ACROSS THE HAUL ROAD.
- TCD5: USE OBJECT MARKER SIGNS IN LIEU OF THE TYPE B HIGH INTENSITY LIGHT SHOWN IN THE STANDARD PLAN FOR TEMPORARY CONCRETE BARRIER (R-53, AND R-126) WHEN USED WITH A TEMPORARY SIGNAL SYSTEM. THE OBJECT MARKERS MUST BE A MINIMUM OF 12 INCHES IN WIDTH AND 36 INCHES IN HEIGHT AND HAVE ORANGE AND WHITE RETROREFLECTIVE SHEETING. THE RETROREFLECTIVE SHEETING MUST HAVE ALTERNATING DIAGONAL ORANGE AND WHITE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION VEHICULAR TRAFFIC IS TO PASS.
- TCD6: PLACE LIGHTED ARROW PANELS AS CLOSE TO THE BEGINNING OF TAPERS AS PRACTICAL, BUT NOT IN A MANNER THAT WILL OBSCURE OR CONFUSE APPROACHING MOTORISTS WHEN PHYSICAL LIMITATIONS RESTRICT PLACEMENT. IN CURBED SECTIONS, IF ARROW BOARD CANNOT BE PLACED BEHIND CURB, PLACE ARROW BOARD IN THE CLOSED LANE AS CLOSE TO THE BEGINNING OF TAPER AS POSSIBLE.
- TCD7: ADDITIONAL TYPE III BARRICADES MAY BE REQUIRED TO COMPLETELY CLOSE OFF ROAD FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
- TCD8: WHERE THE SHIFTED SECTION IS SHORTER THAN 600 FEET, A DOUBLE REVERSE CURVE SIGN (W24-1) CAN BE USED INSTEAD OF THE FIRST REVERSE CURVE SIGN, AND THE SECOND REVERSE CURVE SIGN CAN BE OMITTED.
- TCD9: RUMBLE STRIPS ARE TO BE PLACED AS SPECIFIED IN THE CONTRACT. IF NOT SPECIFIED IN THE CONTRACT, PLACE RUMBLE STRIPS AS SHOWN, AND IN ACCORDANCE WITH THE RUMBLE STRIP MANUFACTURER'S RECOMMENDATIONS. AN ARRAY OF RUMBLE STRIPS CONTAINS THREE RUMBLE STRIPS. PLACE THE RUMBLE STRIPS IN THE ARRAY AT A CONSISTENT DISTANCE, BETWEEN 10' AND 20' APART.
- TCD10: SEE THE WORK ZONE SAFETY AND MOBILITY MANUAL, PORTABLE CHANGEABLE MESSAGE SIGN GUIDELINES FOR RECOMMENDED AND CORRECT PCMS MESSAGING. STAGGER PCMS THAT ARE ON OPPOSING SIDES OF THE ROAD 1000 FEET FROM EACH OTHER.

RAMP NOTES

- RMP1: WHEN CONDITIONS ALLOW, E5-1 SIGNS MUST BE REMOVED OR COVERED AND CHANNELIZING DEVICES MUST BE POSITIONED TO ENABLE RAMP TRAFFIC TO DIVERGE IN A FREE MANNER
- RMP2: STOP AND YIELD CONDITIONS SHOULD BE AVOIDED WHENEVER PRACTICAL. WHEN CONDITIONS WARRANT, R1-1 SIGNS MAY BE USED IN PLACE OF R1-2 SIGNS. WHEN R-1 SIGNS ARE USED, W3-1 SIGNS MUST BE USED IN PLACE OF W3-2 SIGNS. CONSIDERATION SHOULD BE GIVEN TO CLOSING THE RAMP TO COMPLETE WORK TO ALLOW AN ADEQUATE MERGE DISTANCE. WORK SHOULD BE EXPEDITED TO AVOID THE STOP AND/OR YIELD CONDITIONS.



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

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THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC TYPICAL

SIGNAL NOTES

- SIG1: EXISTING SIGNAL MUST BE EITHER 4-WAY FLASHING RED, BAGGED, OR TURNED OFF.
- SIG2: SIGNAL IS IN OPERATION.
- SIG3: DELINEATE THE WORK ZONE AREA WITH 28 INCH CONES FOR DAYTIME WORK, OR 42 INCH CHANNELIZING DEVICES FOR NIGHTTIME WORK.
- SIG4: THE CONTRACTOR MUST HAVE A DESIGNATED SPOTTER IF THE AERIAL BUCKET TRUCK IS LOCATED OVER ACTIVE TRAVEL LANES.
- SIG5: THE LOWEST POINT OF THE BUCKET MAY NOT TRAVEL BELOW 14 FOOT VERTICAL CLEARANCE. THE CONTRACTOR MUST UTILIZE AN ALTERNATE SET UP, OR PLACE THE INTERSECTION IN A 4 WAY STOP IF THE 14 FOOT VERTICAL CLEARANCE IS COMPROMIZED. USE TRAFFIC REGULATORS TO CONTROL TRAFFIC THROUGH THE INTERSECTION WHEN TRAFFIC IS PLACED IN A 4 WAY STOP.
- SIG6: DELINEATE THE TRUCK WITH CHANNELIZING DEVICES. THE POSITION OF THE TRUCK MAY BE MOVED TO FACILITATE WORK.

MAINTENANCE AND SURVEYING NOTES

- MS1: WHENEVER STOPPING SIGHT DISTANCE EXISTS TO THE REAR, THE SHADOW VEHICLES SHOULD MAINTAIN THE RECOMENDED DISTANCE FROM THE WORK AREA AND PROCEED AT THE SAME SPEED. THE SHADOW VEHICLE SHOULD SLOW DOWN AND TRAVEL AT A FARTHER DISTANCE TO PROVIDE ADEQUATE SIGHT DISTANCE IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES.
- MS2: WORKERS OUTSIDE OF VEHICLES SHOULD WORK WITHIN 150' OF WORK VEHICLES WITH AN ACTIVATED BEACON, BETWEEN THE "BEGIN WORK CONVOY" SIGN AND THE "END WORK CONVOY" SIGN, OR BETWEEN THE "WORK ZONE BEGINS" AND "END ROAD WORK" SIGN.
- MS3: WORK OR SHADOW VEHICLES WITH OR WITHOUT A TMA MAY BE USED TO SEPARATE THE WORK SPACE FROM TRAFFIC. IF USED, THE VEHICLES SHOULD BE PARKED ACCORDING TO THE ROLL AHEAD DISTANCE TABLES.
- MS4: WORK AND SHADOW VEHICLES SHALL BE APPROPRIATELY EQUIPPED WITH AN ACTIVATED AMBER BEACON.
- MS5: WHEN WORKERS ARE OUTSIDE THEIR VEHICLES IN AN EXISTING LANE WHILE A MOBILE OPERATION IS OCCURRING DURING THE NIGHTTIME HOURS, CHANNELIZING DEVICES TO DELINEATE OPEN OR CLOSED LANES AT 50 FT SPACING MUST BE USED. AN EXAMPLE OF AN OPERATION (BUT NOT LIMITED TO) IS THE LAYOUT OF CONCRETE PATCHES.
- MS6: W21-6 AND W20-1 SIGNS MAY BE SUBSTITUTED AS DETERMINED BY THE TYPE OF WORK TAKING PLACE AS PER THE ENGINEER.



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KEY

- ... CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL
- ← TRAFFIC FLOW
- REFLECTS EXISTING SPEED LIMIT
- * ONLY REQUIRED FOR INTERMEDIATE-TERM STATIONARY AND LONG-TERM STATIONARY

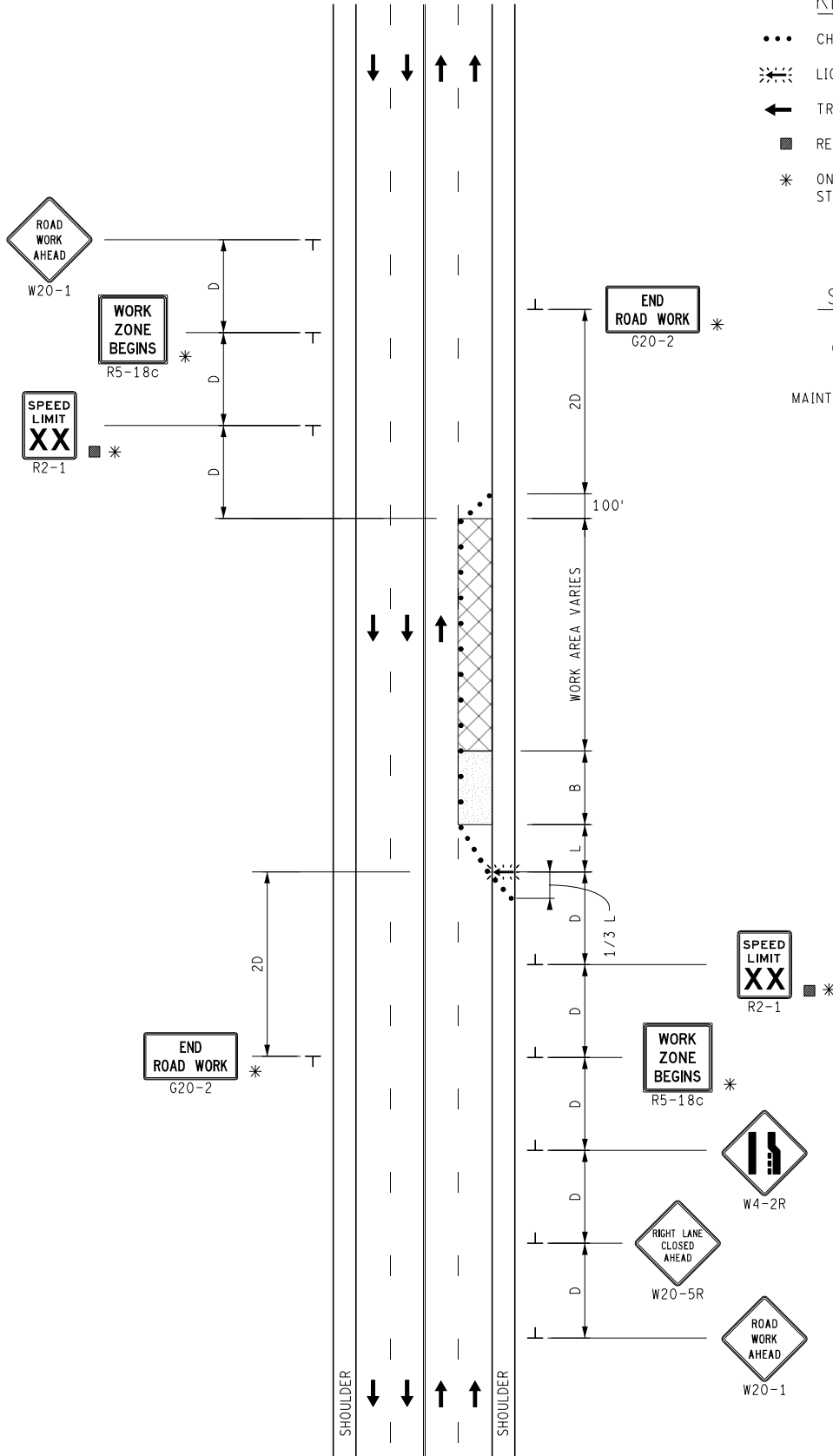
STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4

SIGNING: S1, S3

DEVICES: TCD1, TCD2, TCD6
MAINT & SURV MS2, MS3, MS4



NOT TO SCALE



MAINTENANCE
MAINTAINING TRAFFIC
TYPICAL

DURATION:
LONG-TERM STATIONARY
INTERMEDIATE-TERM STATIONARY
SHORT-TERM STATIONARY

RIGHT LANE CLOSURE ON AN
UNDIVIDED MULTI-LANE ROADWAY,
NO SPEED REDUCTION

DATE:
MAY 2021
NO: 4123A-
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