



SURVEY MAINTAINING TRAFFIC TYPICALS

| | | | | |
|--|--|-------------|--------------------|--------------------|
|  FILE: Cover for Survey.dgn | | COVER SHEET | SURVEY COVER SHEET | DATE: JUNE 2021 |
| | | NO: | | |
| | | | | 1 OF 1 |

Table of Contents

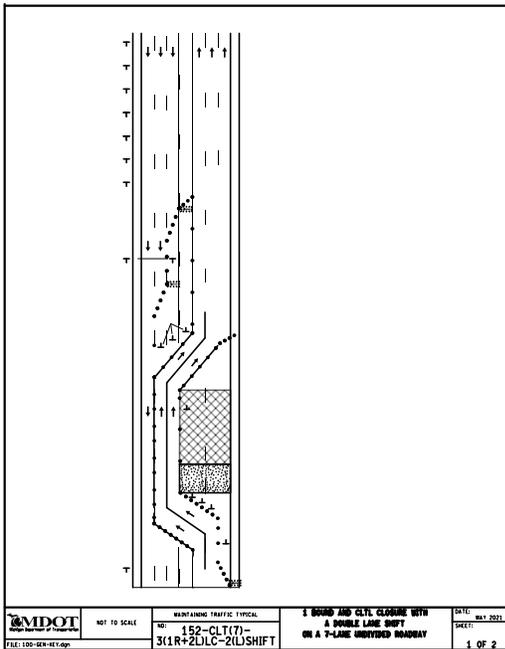
| <u>Code</u> | <u>Title / Description</u> | <u>Page</u> |
|------------------------|--|-------------|
| 100-GEN-KEY | Typical Numbering Key | 4 |
| 101-GEN-SPACING-CHARTS | "B", "D", and "L" Tables, Channelizing Device Spacing, Sign Border Key, and Roll-Ahead Spacing | 5 |
| 102-GEN-NOTES | Traffic Control Typical Notes Sheet | 8 |
| 103-GEN-SIGN | Traffic Control Typical Sign Sheet | 10 |
| 104-GEN-AB | Use of Arrow Board on Hill or Curve | 15 |
| 105-GEN-SPEED-FW | Supplemental Speed Limit Treatment on Limited Access Roadways | 16 |
| 106-GEN-SPEED-NFW | Supplemental Speed Limit Treatment on a 2-Way Roadway, WWP | 17 |
| 107-GEN-SPEED | Speed Limit Layout | 18 |
| 5000-S-SHL-OUT | Work Outside Shoulder | 20 |
| 5110-S-TR-NFW-2L | Lane Closure on a 2-Lane, 2-Way Roadway Utilizing Traffic Regulators | 21 |
| 5122-S-NFW-SHL | Shoulder Closure on a 2-Lane, 2-Way Roadway | 22 |
| 5123-S-NFW-1LC-(R) | Single Lane Closure on an Undivided Multi-Lane Roadway | 23 |
| 5125-S-NFW-2LC-(IN) | Lane Closure, Inside 2 Lanes of an Undivided Multi-Lane Roadway | 24 |
| 5133-S-CLT-1LC-(L) | Center and Left Lane Closure of an Undivided Multi-Lane Roadway | 25 |
| 5181-S-NFW-1LC | Lane Closure on a 3-Lane, 2-Way Roadway | 26 |
| 5182A-S-NFW-MID | Closure of the Center of a 2-Lane, 2-Way Roadway for Posted Speeds of 55 MPH or Less | 27 |
| 5182B-S-NFW-MID | Closure of the Center of a 2-Lane, 2-Way Roadway with Low Traffic Volumes | 28 |
| 5200-S-FW-SHL | Shoulder Closure on a Divided Roadway or Freeway | 29 |
| 5203-S-FW-1LC | Single Lane Closure on a Freeway | 30 |
| 5205-S-FW-2LC-(L) | 2-Lane Closure on a Freeway | 31 |

| | | |
|---------------|---|----|
| 5401-S-SHL | Shoulder Work on a Divided Roadway, Freeway, Or 2-Lane 2-Way Roadway Within 150 Feet of Vehicle | 32 |
| 5403-S-NFW-2L | Mobile Operation on a 2-Lane Roadway within 150 Feet of Work Vehicle | 33 |
| 5421-S-FW-1LC | Mobile Operation on a Multi-Lane Roadway - 1 Lane | 34 |
| 5422-S-FW-2LC | Mobile Operation on a Multilane Roadway - 2 Lanes | 35 |

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 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 RAMPS
- 230 - FREEWAY EXIT RAMPS
- 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

| | | | | |
|--|--------------|-----------------------------|-----------------------|-------------------|
| | NOT TO SCALE | MAINTAINING TRAFFIC TYPICAL | TYPICAL NUMBERING KEY | DATE: MAY 2021 |
| | | NO: 100-GEN-KEY | | SHEET: 1 OF 1 |

FILE: 100-GEN-KEY.dgn

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

| | | | | |
|--|--------------|-----------------------------|---|-------------------|
|  | 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 |

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)

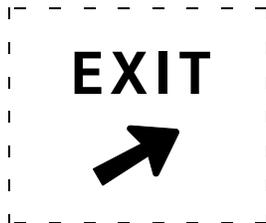
100' (PER LANE)

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 | "B", "D" AND "L" TABLES CHANNELIZING DEVICE SPACING SIGN BORDER KEY AND ROLL-AHEAD SPACING | DATE: MAY 2021 |
| | | NO: 101-GEN-SPACING-CHARTS | | 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.



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 101-GEN-SPACING-CHARTS

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

DATE: MAY 2021

SHEET: 3 OF 3

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.

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 VERTICAL PANELS 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.
- 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: 102-GEN-NOTES

TRAFFIC TYPICALS
NOTE SHEET

DATE: MAY 2021

SHEET:

1 OF 2

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.



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 102-GEN-NOTES

TRAFFIC TYPICALS
NOTE SHEET

DATE: MAY 2021
SHEET:

2 OF 2

SIGN NUMBER KEY



E5-1f
48" x 48"
60" x 48"



E5-2
48" x 36"



E5-2a
48" x 36"



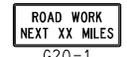
E5-3
48" x 36"



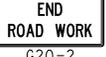
E13-1P
VAR x 24"



E13-1aP
36" x 24"



G20-1
60" x 24"



G20-2
48" x 24"



G20-4
36" x 18"



I-6a
18" x 18"
24" x 24"
30" x 30"



M1-1
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-1
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-2
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-2
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-3
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-3
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-4
18" x 18"
24" x 24"
36" x 36"
48" x 48"



M1-4
22.5" x 18"
30" x 24"
45" x 36"
60" x 48"



M1-5
18" x 18"
24" x 24"
30" x 30"
36" x 36"



M1-5a
18" x 18"
24" x 24"



M1-6
18" x 18"
24" x 24"
36" x 36"



M1-6
22.5" x 18"
30" x 24"
45" x 36"



M3-1
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M3-2
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M3-3
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M3-4
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-1
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-1a
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-2
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-3
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-4
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-5
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-6
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-7
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-7a
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M4-8
12" x 6"
18" x 9"
24" x 12"
30" x 15"



M4-8a
24" x 18"



M4-8b
24" x 12"



M4-9L
30" x 24"
48" x 36"
60" x 48"



M4-9R
30" x 24"
48" x 36"
60" x 48"



M4-9j
30" x 24"
48" x 36"
60" x 48"



M4-9kL
30" x 30"
48" x 42"
60" x 54"



M4-9kR
30" x 30"
48" x 42"
60" x 54"



M4-9mL
30" x 30"
48" x 42"
60" x 54"



M4-9mR
30" x 30"
48" x 42"
60" x 54"



M4-9dL
12" x 18"



M4-9dR
12" x 18"



M4-9e
12" x 18"



M4-9f
12" x 18"



M4-9gL
12" x 18"



M4-9gR
12" x 18"



M4-9h
12" x 24"



M4-9i
12" x 18"



M4-10L
48" x 18"



M4-10R
48" x 18"



M4-11a
12" x 6"
18" x 9"
24" x 12"
30" x 15"
36" x 18"



M5-1L
12" x 9"
21" x 15"
30" x 21"



M5-1R
12" x 9"
21" x 15"
30" x 21"



M5-2L
12" x 9"
21" x 15"
30" x 21"



M5-2R
12" x 9"
21" x 15"
30" x 21"



M5-3
12" x 9"
21" x 15"
30" x 21"



M6-1L
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-1R
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-2L
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-2R
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-3
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-4
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-5
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-6L
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-6R
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-7L
12" x 9"
18" x 12"
21" x 15"
30" x 21"



M6-7R
12" x 9"
18" x 12"
21" x 15"
30" x 21"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: 103-GEN-SIGN

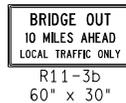
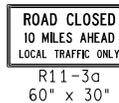
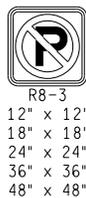
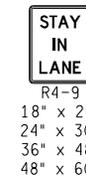
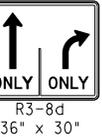
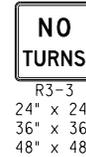
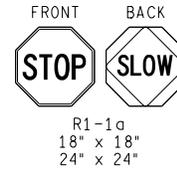
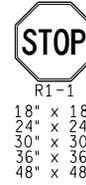
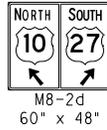
TRAFFIC TYPICALS
SIGN SHEET

DATE: JUNE 2021

SHEET:

1 OF 5

SIGN NUMBER KEY



SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICALS SIGN SHEET

DATE: JUNE 2021
SHEET:

SIGN NUMBER KEY



W1-1L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-1R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-2L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-2R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-2bL
36" x 36"
48" x 48"



W1-2bR
36" x 36"
48" x 48"



W1-3L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-3R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4L
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4R
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4bL
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4bR
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4cL
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W1-4cR
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W24-1L
30" x 30"
36" x 36"
48" x 48"

ALL LANES

W24-1cP
24" x 18"
30" x 24"



W24-1R
30" x 30"
36" x 36"
48" x 48"



W24-1aL
30" x 30"
36" x 36"
48" x 48"



W24-1aR
30" x 30"
36" x 36"
48" x 48"



W24-1bL
30" x 30"
36" x 36"
48" x 48"



W24-1bR
30" x 30"
36" x 36"
48" x 48"



W1-6L
24" x 12"
36" x 18"
48" x 24"
60" x 30"
96" x 48"



W1-6R
24" x 12"
36" x 18"
48" x 24"
60" x 30"
96" x 48"



W1-8L
12" x 18"
18" x 24"
24" x 30"
30" x 36"
36" x 48"



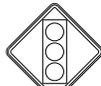
W1-8R
12" x 18"
18" x 24"
24" x 30"
30" x 36"
36" x 48"



W3-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W3-2
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W3-3
18" x 18"
30" x 30"
36" x 36"
48" x 48"



W3-4
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W3-4b
30" x 30"
36" x 36"
48" x 48"



W3-5
36" x 36"
48" x 48"



W3-5a
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W3-5b
30" x 30"
36" x 36"
48" x 48"



W4-1L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-1R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-2L
30" x 30"
36" x 36"
48" x 48"



W4-2R
30" x 30"
36" x 36"
48" x 48"



W4-3L
30" x 30"
36" x 36"
48" x 48"



W4-3R
30" x 30"
36" x 36"
48" x 48"



W4-5L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-5R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-5P
18" x 24"
24" x 30"



W4-6L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-6R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W4-7L
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W4-7R
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W5-1
30" x 30"
36" x 36"
48" x 48"



W5-2
18" x 18"
30" x 30"
36" x 36"
48" x 48"



W5-3
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W5-4
30" x 30"
36" x 36"
48" x 48"



W6-1
30" x 30"
36" x 36"
48" x 48"



W6-2
30" x 30"
36" x 36"
48" x 48"



W6-3
30" x 30"
36" x 36"
48" x 48"



W6-4
12" x 18"



W7-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W7-1a
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-1
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICAL
SIGN SHEET

DATE:
JUNE 2021

SHEET:

3 OF 5

SIGN NUMBER KEY



W8-2
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-3
18" x 18"
30" x 30"
36" x 36"
48" x 48"



W8-4
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-5
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-5P
24" x 18"
30" x 24"
36" x 30"



W8-7
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-8
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-9
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-11
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-12
30" x 30"
36" x 36"
48" x 48"



W8-14
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-15
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-15P
24" x 18"
30" x 24"
36" x 30"



W8-17L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-17R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-17P
24" x 18"
30" x 24"
36" x 30"



W8-18
24" x 24"
36" x 36"
48" x 48"



W8-23
24" x 24"
36" x 36"
48" x 48"



W8-24
30" x 30"
36" x 36"
48" x 48"



W8-25
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W8-26
36" x 36"
48" x 48"



W9-1L
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W9-1R
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W9-2L
30" x 30"
36" x 36"
48" x 48"



W9-2R
30" x 30"
36" x 36"
48" x 48"



W9-3C
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3L
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3R
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3a
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W9-3b
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W11-10
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W11-10a
30" x 30"
36" x 36"
48" x 48"



W11-24
36" x 36"
48" x 48"



W12-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"



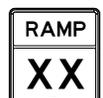
W12-2
18" x 18"
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W13-1P
18" x 18"
24" x 24"
30" x 30"



W13-2
24" x 30"
36" x 48"
48" x 60"



W13-3
24" x 30"
36" x 48"
48" x 60"



W13-4P
24" x 24"
36" x 36"



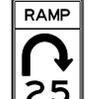
W13-6
24" x 42"
36" x 60"
48" x 84"



W13-6a
24" x 42"
36" x 60"
48" x 84"



W13-7
24" x 42"
36" x 60"
48" x 84"



W13-7a
24" x 42"
36" x 60"
48" x 84"



W14-3
36" x 24"
40" x 30"
48" x 36"
64" x 48"



W16-2P
18" x 12"
24" x 18"
30" x 24"



W16-4aP
18" x 12"
24" x 18"
30" x 24"
36" x 30"



W16-12P
24" x 18"



W16-13P
24" x 18"
30" x 24"



W20-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1a
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1b
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1c
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-1d
24" x 24"
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W20-2
30" x 30"
36" x 36"
48" x 48"



W20-3
30" x 30"
36" x 36"
48" x 48"



W20-3a
30" x 30"
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

103-GEN-SIGN

TRAFFIC TYPICALS
SIGN SHEET

DATE:
JUNE 2021

SHEET:

4 OF 5

SIGN NUMBER KEY



W20-3b
30" x 30"
36" x 36"
48" x 48"



W20-4
30" x 30"
36" x 36"
48" x 48"



W20-4c
36" x 36"
48" x 48"



W20-5C
30" x 30"
36" x 36"
48" x 48"



W20-5L
30" x 30"
36" x 36"
48" x 48"



W20-5L1
30" x 30"
36" x 36"
48" x 48"



W20-5L2
30" x 30"
36" x 36"
48" x 48"



W20-5R
30" x 30"
36" x 36"
48" x 48"



W20-5R1
30" x 30"
36" x 36"
48" x 48"



W20-5R2
30" x 30"
36" x 36"
48" x 48"



W20-5aL2
30" x 30"
36" x 36"
48" x 48"



W20-5aL3
30" x 30"
36" x 36"
48" x 48"



W20-5aR2
30" x 30"
36" x 36"
48" x 48"



W20-5aR3
30" x 30"
36" x 36"
48" x 48"



W20-7a
30" x 30"
36" x 36"
48" x 48"



W20-8
24" x 18"



W20-9
54" x 48"



W20-10
48" x 24"
66" x 30"



W20-11
12" x 18"



W20-12P
VARIABLE x 12"



W20-13P
VARIABLE x 12"



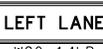
W20-14L
36" x 36"
48" x 48"



W20-14R
36" x 36"
48" x 48"



W20-14dP
36" x 12"
48" x 12"



W20-14bP
36" x 12"
48" x 12"



W20-15
36" x 36"
48" x 48"



W20-15a
36" x 36"
48" x 48"



W20-15c
48" x 54"



W20-15d
48" x 54"



W20-16
36" x 36"
48" x 48"



W20-17
36" x 36"
48" x 48"



W21-1
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-2
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-2
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-3
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-4
36" x 18"



W21-5
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-5aL
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-5aR
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-5bL
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-5bR
30" x 30"
36" x 36"
48" x 48"
60" x 60"



W21-6
24" x 24"
30" x 30"
36" x 36"
48" x 48"



W21-7
30" x 30"
36" x 36"
48" x 48"



W21-8
30" x 30"
36" x 36"
48" x 48"



W22-1
30" x 30"
36" x 36"
48" x 48"



W22-2
42" x 36"



W22-3
36" x 30"
42" x 36"



W23-1
48" x 24"



W23-2
36" x 36"
48" x 48"

SEE MDOT SHS 13-WORK ZONE FOR SIGN DETAILS



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO:

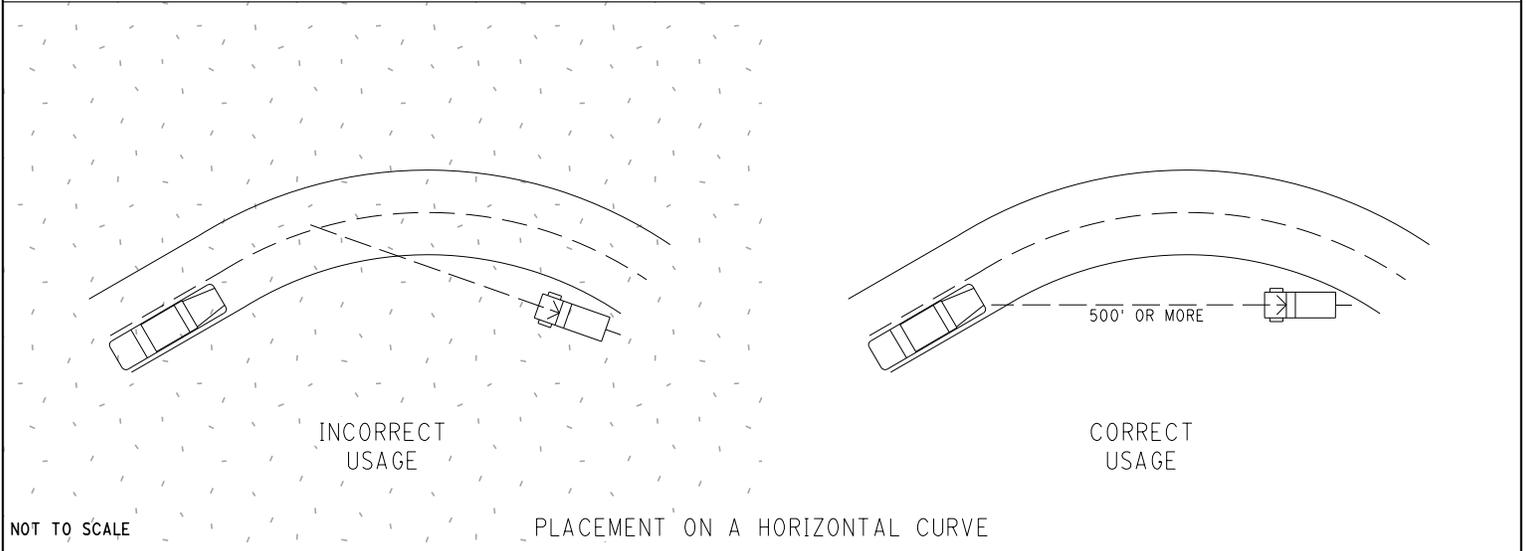
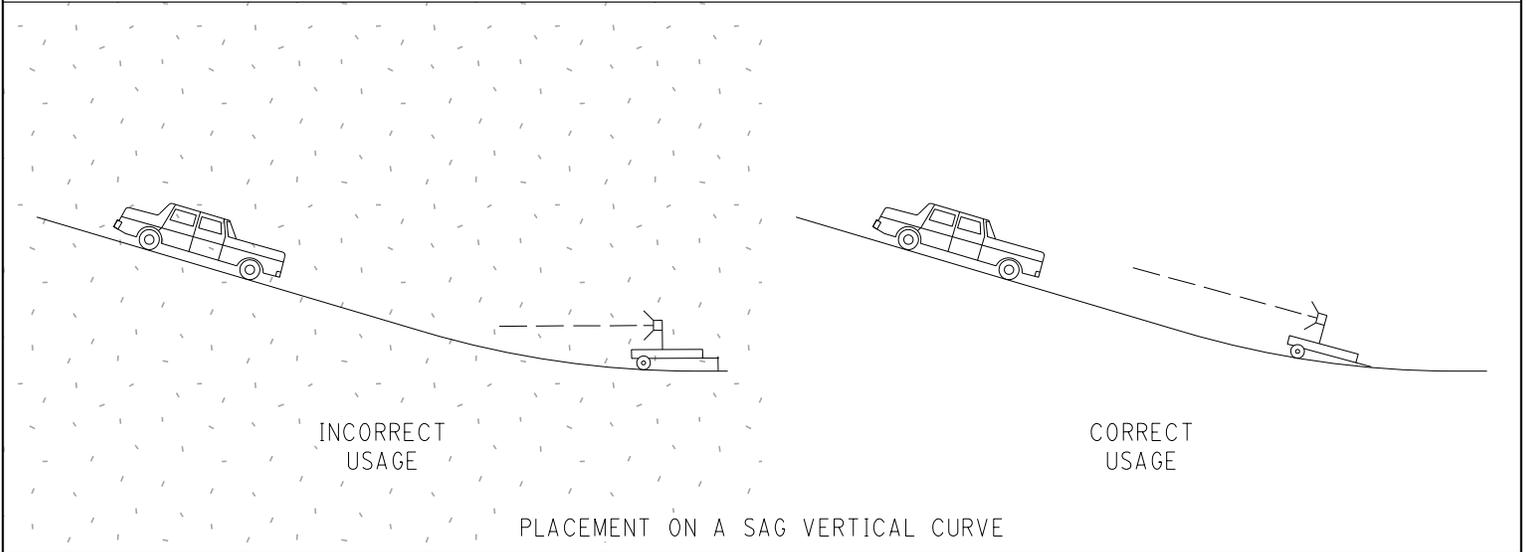
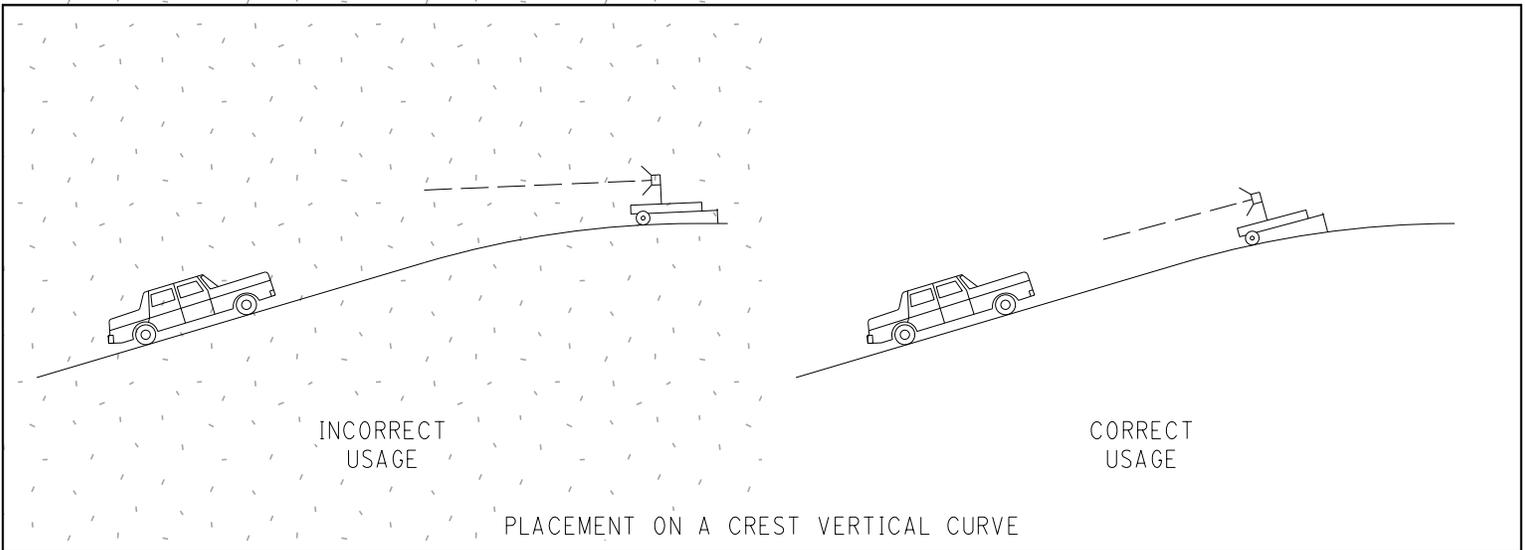
103-GEN-SIGN

TRAFFIC TYPICAL
SIGN SHEET

DATE:
JUNE 2021

SHEET:

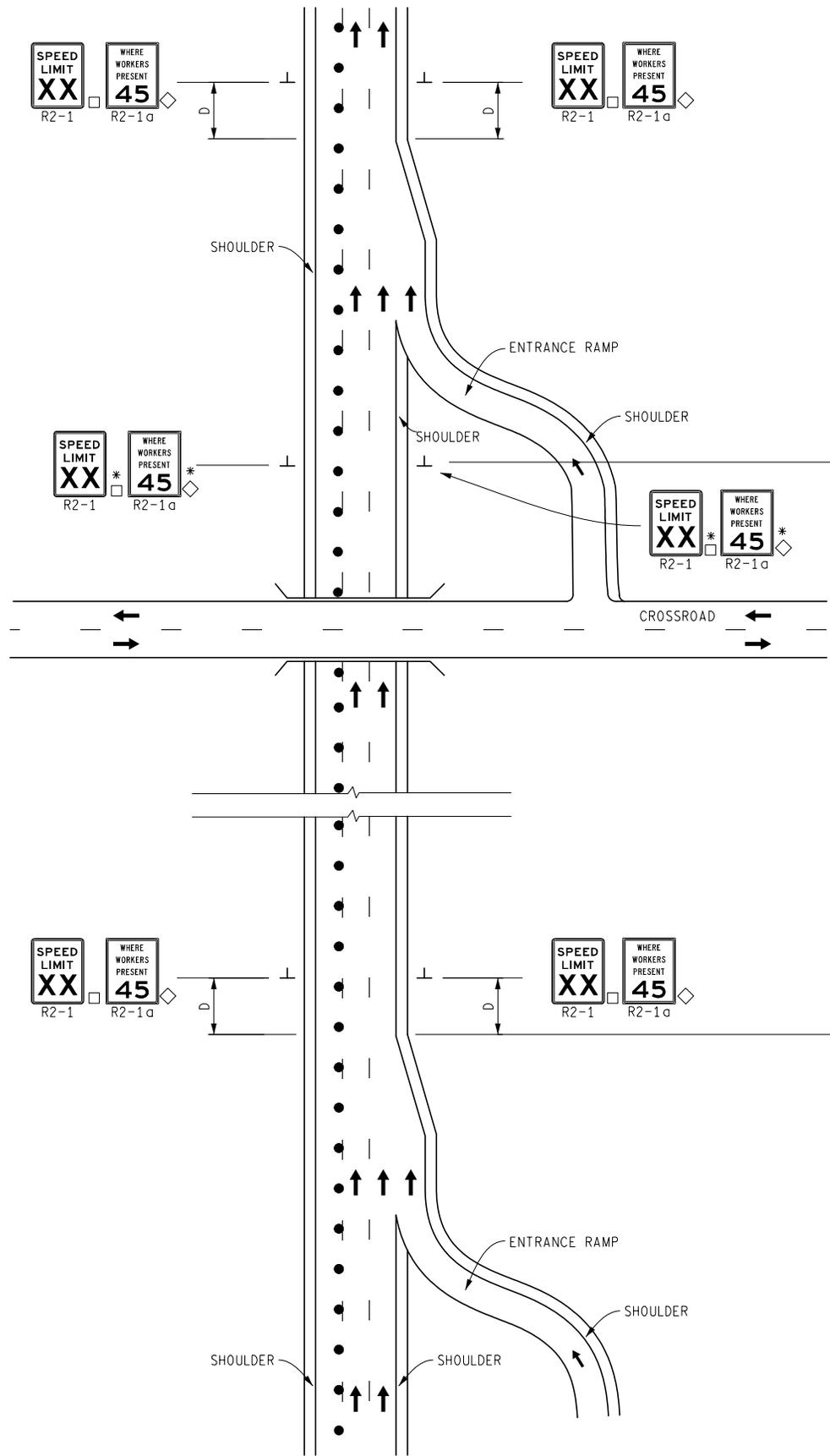
5 OF 5



NOTE:

ENSURE THE ARROW REMAINS CLEARLY LEGIBLE AT DISTANCES FROM 2,500 FEET TO 200 FEET, FROM ALL TRAFFIC LANES AND ROADWAY ENTRANCES. DO NOT PLACE THE LIGHTED ARROW ON A HORIZONTAL OR VERTICAL CURVE THAT MIGHT INTERFERE WITH THIS LEGIBILITY REQUIREMENT.

| | | | | |
|--|--------------|-----------------------------|---|-------------------|
| | NOT TO SCALE | MAINTAINING TRAFFIC TYPICAL | USE OF ARROW BOARD ON HILL OR CURVE AND WORK ZONE LAYOUT | DATE: MAY 2021 |
| | | NO: 104-GEN-AB | | SHEET: 1 OF 1 |



KEY

- CHANNELIZING DEVICE
- ← TRAFFIC FLOW
- PLACE AS INDICATED IN NOTE S5
- ◇ R2-1a OPTIONAL

STANDARD NOTES

(SEE GEN-NOTES)

GENERAL: G1, G2, G3, G4

SIGNING: S1, S5, S8

DEVICES: TCD2

KEY

- CHANNELIZING DEVICE
- ↑ TRAFFIC FLOW
- ⚡ LIGHTED ARROW PANEL
- ⊥ TYPE III BARRICADE
- ◊ PART OF LEAD-IN SIGNING SEQUENCE
- ◊ REQUIRED AFTER MAJOR INTERSECTIONS

STANDARD NOTES

(SEE GEN-NOTES)

GENERAL: G1, G2, G3, G4
 SIGNING: S1, S5
 DEVICES: TCD1, TCD2, TCD3, TCD6

MAJOR INTERSECTION

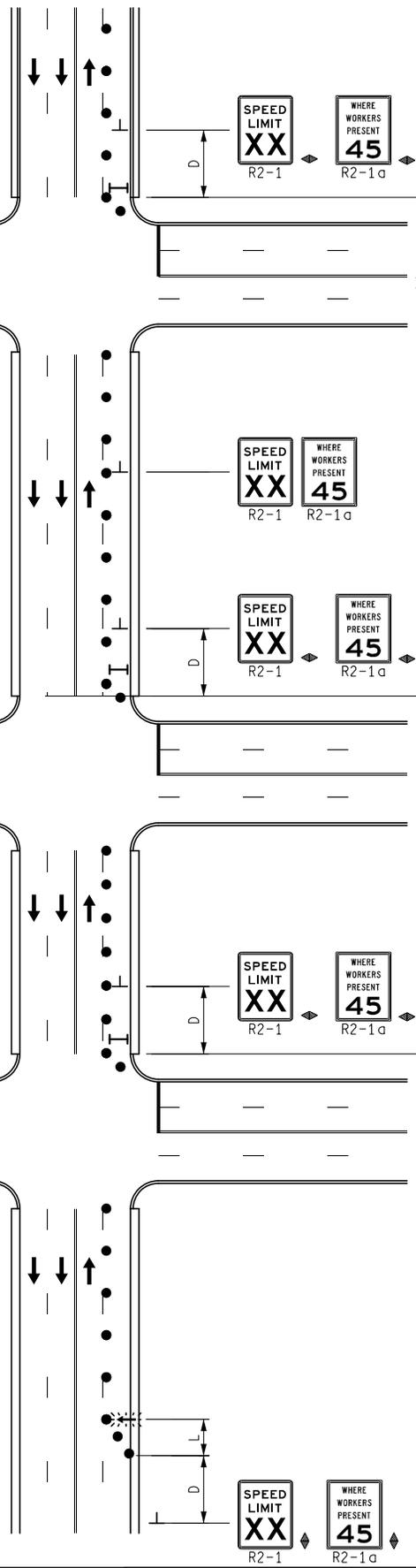
MAJOR INTERSECTION

MAJOR INTERSECTION

GREATER THAN 2 MILES
 LESS THAN 4 MILES

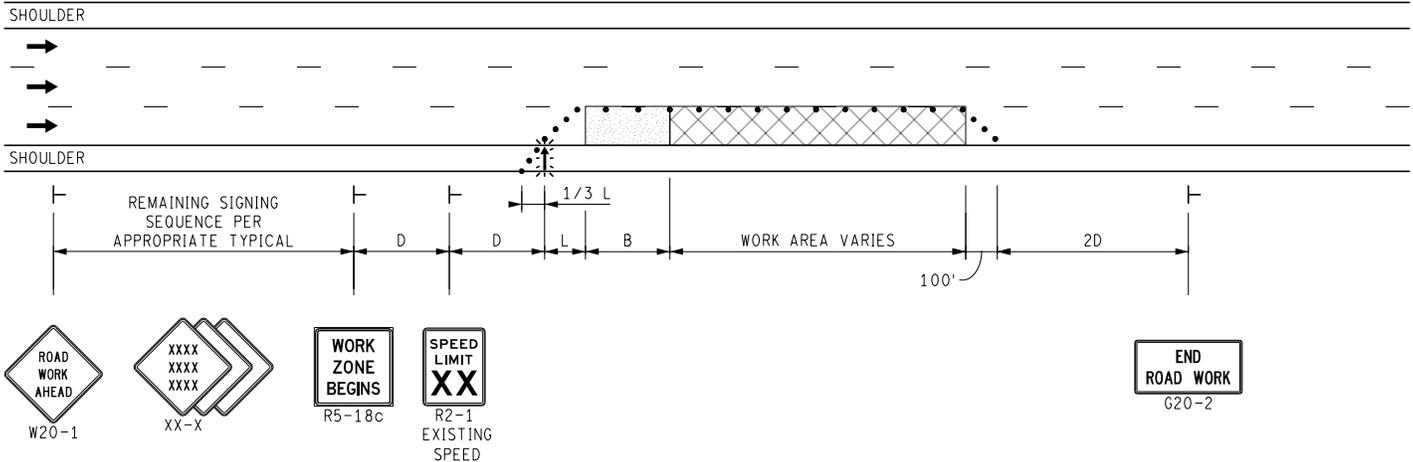
LESS THAN 2 MILES

LESS THAN 2 MILES

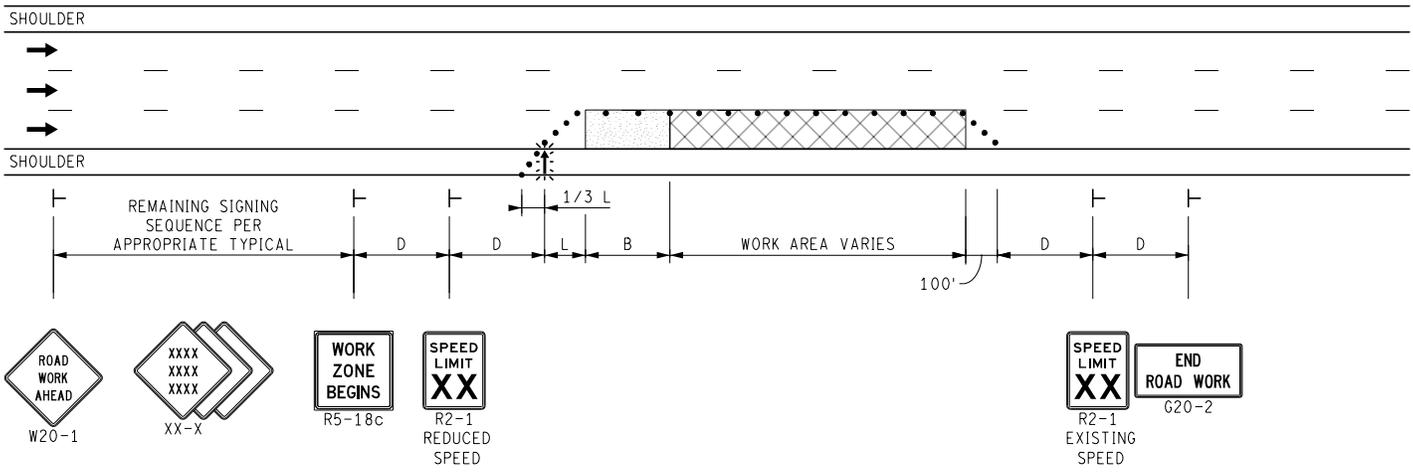


| | | | | |
|--|--------------|-----------------------------|---|-------------------|
| | NOT TO SCALE | MAINTAINING TRAFFIC TYPICAL | SUPPLEMENTAL SPEED LIMIT TREATMENT ON A 2-WAY ROADWAY WHERE WORKERS PRESENT | DATE: MAY 2021 |
| | | NO: 106-GEN-SPEED-NFW | | SHEET: 1 OF 1 |

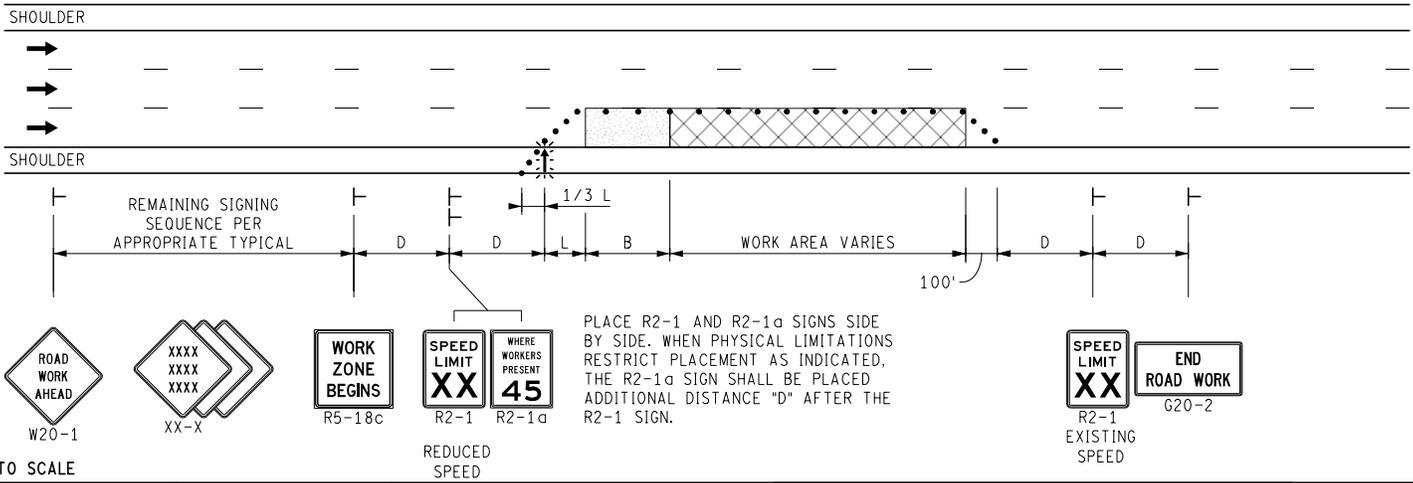
NO SPEED REDUCTION THROUGH WORK ZONE



REDUCED SPEED THROUGH WORK ZONE



REDUCED SPEED THROUGH WORK ZONE USING "WHERE WORKERS PRESENT"



NOT TO SCALE



NOT TO SCALE

MAINTAINING TRAFFIC TYPICAL

NO: **107-GEN-SPEED**

SPEED LIMIT LAYOUT

DATE: MAY 2021
SHEET: 1 OF 2

KEY

← TRAFFIC FLOW

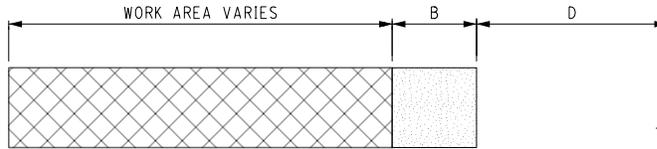
STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G4
SIGNING: S1
MAINT & SURV: MS2, MS4



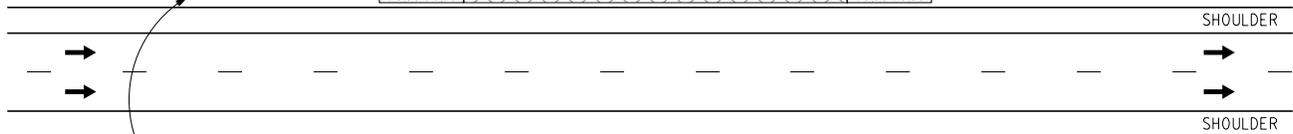
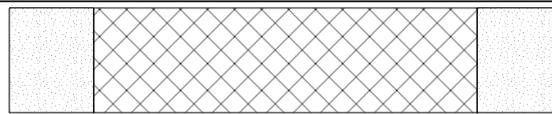
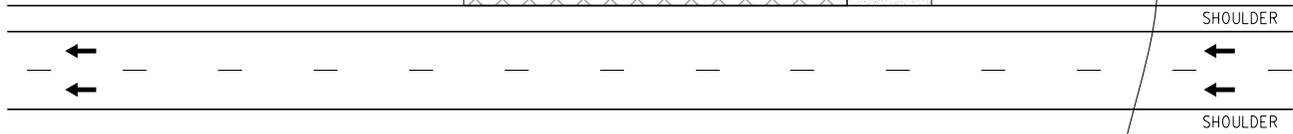
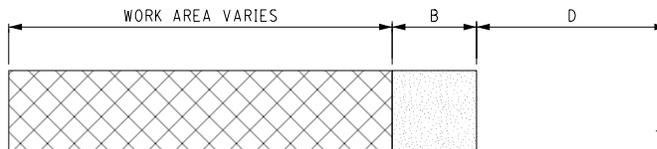
W21-6



UNDIVIDED MULTI-LANE ROADWAY



W21-6



W21-6

DIVIDED ROADWAY

NOTES

1. FOR SHORT-DURATION OR MOBILE OPERATIONS, NO SIGNS ARE REQUIRED IF APPROPRIATELY EQUIPPED VEHICLES ARE USED.
2. IF THE OPERATION HAS VEHICLE(S) PARKED ON THE SHOULDER OR VEHICLES ACCESSING THE WORK SITE VIA THE HIGHWAY OR CROSSING THE HIGHWAY TO PERFORM OPERATIONS, A W21-6 SIGN, W20-1 SIGN, OR AN ARROW BOARD IN CAUTION MODE SHALL BE USED.
3. WORK VEHICLES SHOULD BE PARKED AS FAR OFF THE TRAVELED WAY AS PRACTICAL.
4. IF THE WORK SPACE IS IN THE MEDIAN OF A DIVIDED ROADWAY, ADVANCE WARNING SIGNS SHALL BE PLACED IN BOTH DIRECTIONS OF TRAVEL.
5. VEHICLES AND PERSONNEL SHOULD ALL BE LOCATED AND PARKED ON THE SAME SIDE OF THE ROADWAY TO THE EXTENT PRACTICAL.

NOT TO SCALE

| | | | | |
|--------------------------|---|---------------------------------------|-----------------------|-----------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: APPLIES TO ALL DURATIONS | WORK OUTSIDE SHOULDER | DATE: MAY 2021 |
| | | | | NO: 5000-S-SHL-OUT |
| FILE: 5000-S-SHL-OUT.dgn | | | | SHEET: 1 OF 1 |

KEY

- CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL (CAUTION MODE)
- ← TRAFFIC FLOW
- ▬ TRAFFIC REGULATOR

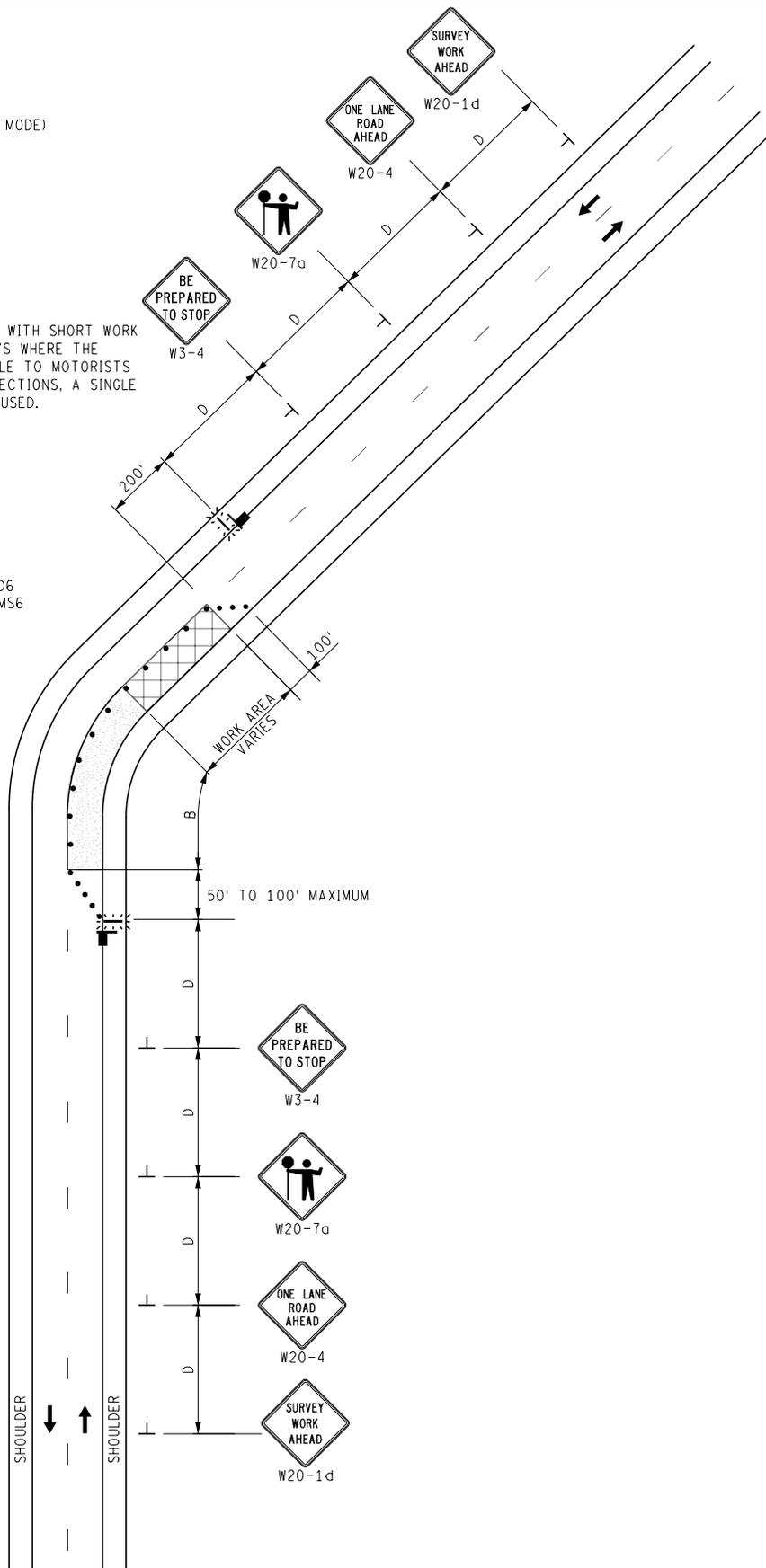
NOTES

1. FOR LOW VOLUME SITUATIONS WITH SHORT WORK ZONES ON STRAIGHT ROADWAYS WHERE THE TRAFFIC REGULATOR IS VISIBLE TO MOTORISTS APPROACHING FROM BOTH DIRECTIONS, A SINGLE TRAFFIC REGULATOR MAY BE USED.

STANDARD NOTES

(SEE 102-GEN-NOTES)

- GENERAL: G1, G2, G3, G4
- SIGNING: S1
- TRAF REG: TR1, TR2, TR3
- DEVICES: TCD1, TCD2, TCD6
- MAINT & SURV: MS2, MS3, MS4, MS6



NOT TO SCALE

| | | | | |
|----------------------------|---|------------------------------------|---|---|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | LANE CLOSURE ON A TWO-LANE, TWO-WAY ROADWAY UTILIZING TRAFFIC REGULATORS | DATE: MAY 2021 |
| | | | | NO: 5110-S-TR-NFW-2L SHEET: 1 OF 1 |
| FILE: 5110-S-TR-NFW-2L.dgn | | | | |

KEY

- CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL (CAUTION MODE)
- ← TRAFFIC FLOW
-  SHADOW VEHICLE WITH OPTIONAL TRUCK MOUNTED ATTENUATOR

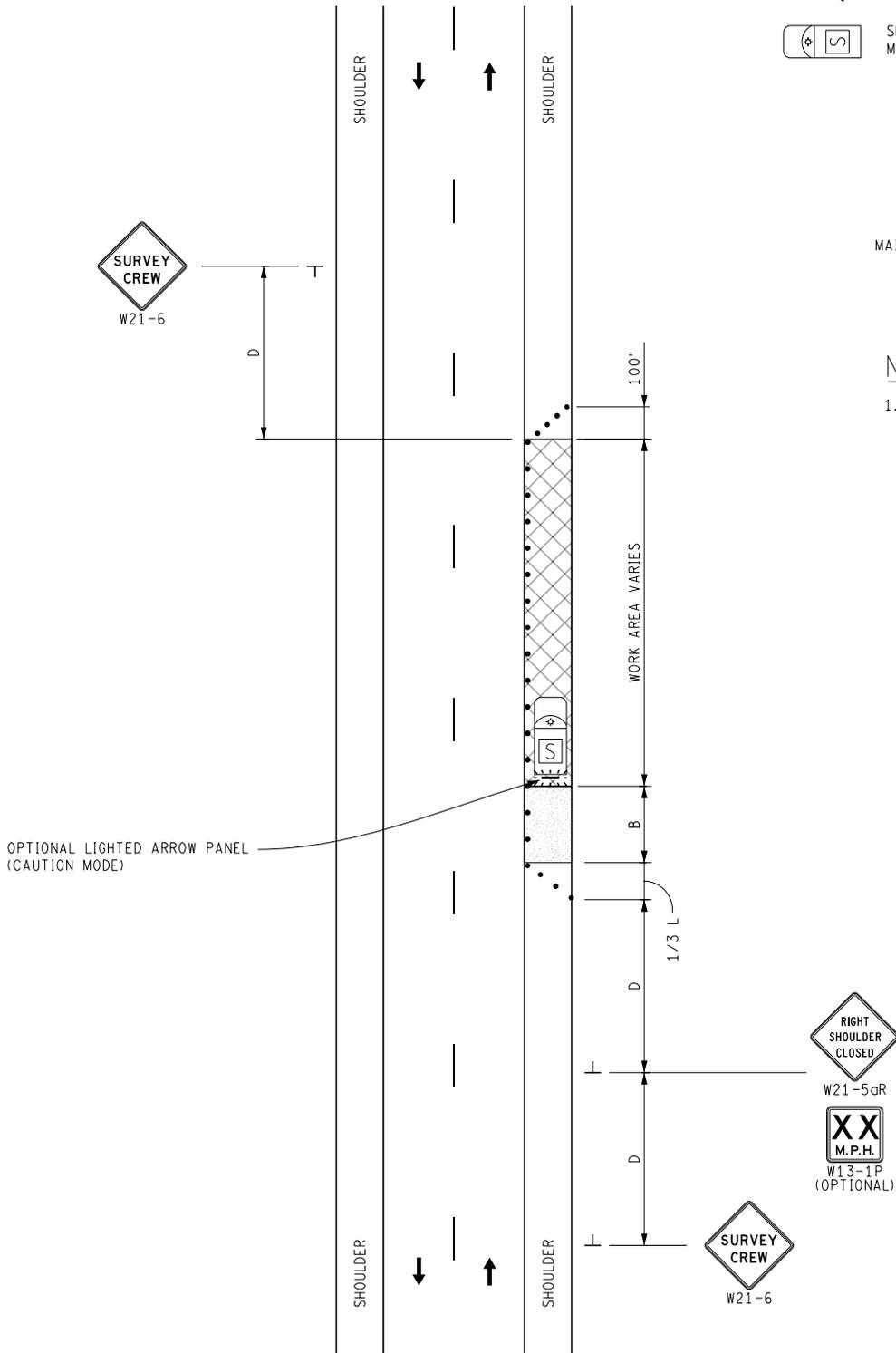
STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
 SIGNING: S1
 DEVICES: TCD1, TCD2, TCD6
 MAINT & SURV: MS1, MS2, MS3, MS4, MS6

NOTES

1. IF MINOR ENCROACHMENT INTO THE TRAVEL LANE OCCURS, ALL LANES SHOULD BE A MINIMUM OF 10 FEET IN WIDTH, OTHERWISE THE APPROPRIATE LANE CLOSURE SHOULD BE USED.



NOT TO SCALE

| | | | | | |
|--|---|------------------------------------|--|--|-----------------------|
|  | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | SHOULDER CLOSURE ON A TWO-LANE, TWO-WAY ROADWAY | | DATE: MAY 2021 |
| | | | | | NO: 5122-S-NFW-SHL |
| FILE: 5122-S-NFW-SHL.dgn | | | | | SHEET: 1 OF 1 |

KEY

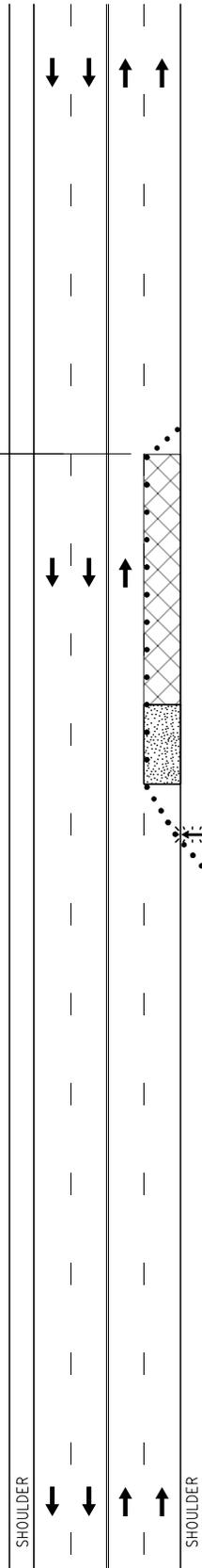
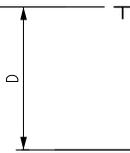
- CHANNELIZING DEVICES
- ⊘ LIGHTED ARROW PANEL
- ← TRAFFIC FLOW

NOTES

1. FOR SHORT DURATION OPERATIONS, AT LEAST ONE ADVANCE WARNING SIGN (W21-6 OR W20-1) MUST BE USED.

STANDARD NOTES
(SEE 102-GEN-NOTES)

- GENERAL: G1, G2, G3, G4
- SIGNING: S1
- DEVICES: TCD1, TCD2, TCD6
- MAINT & SURV: MS2, MS3, MS4, MS6



100'

WORK AREA VARIES

B

L

1/3 L

D

D

D

D

D



W4-2R



W20-5R



W20-1d

NOT TO SCALE

| | | | | |
|------------------------------|---|--|---|------------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY SHORT DURATION | SINGLE LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY | DATE: MAY 2021 |
| | | | | NO: 5123-S-NFW-1LC-(R) |
| FILE: 5123-S-NFW-1LC-(R).dgn | | | | SHEET: 1 OF 1 |

KEY

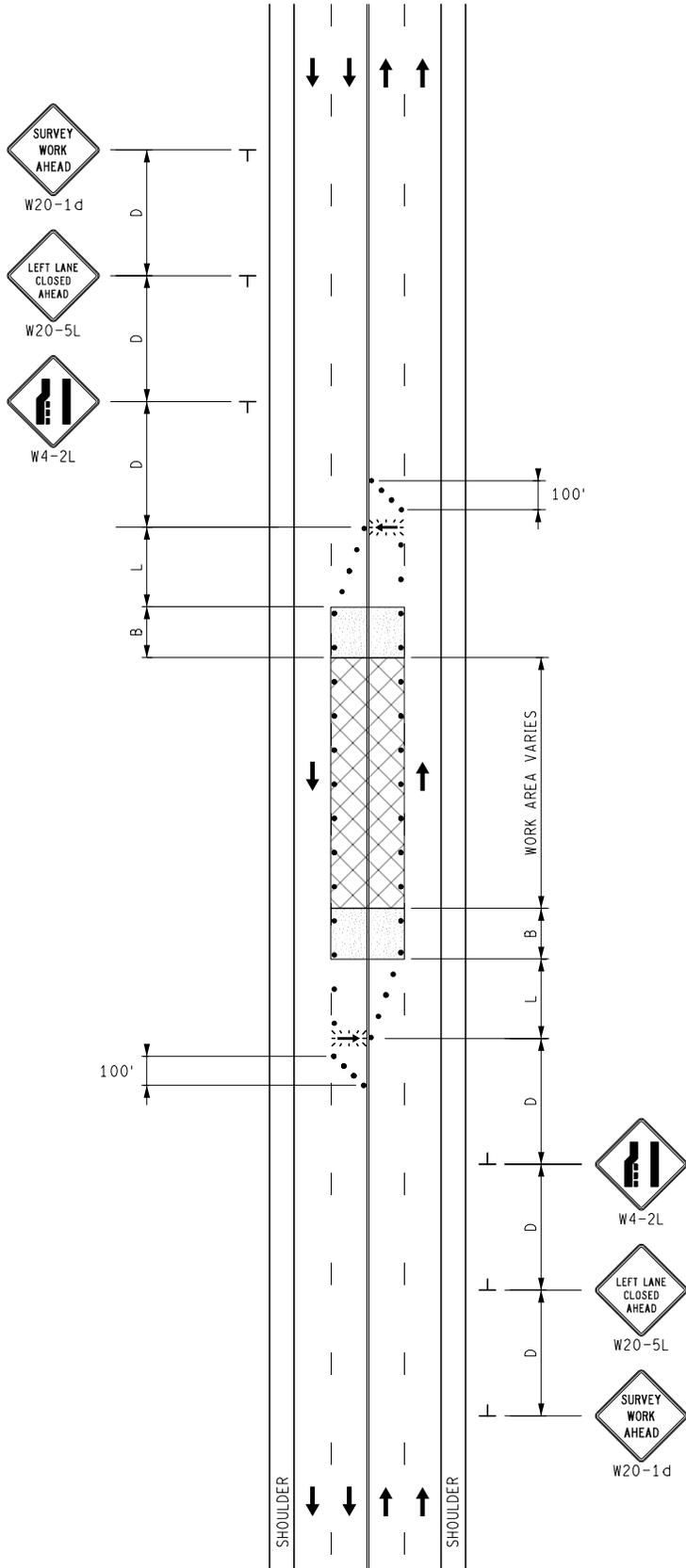
- CHANNELIZING DEVICES
- ⊘ LIGHTED ARROW PANEL
- ← TRAFFIC FLOW

NOTES

1. FOR SHORT DURATION OPERATIONS, AT LEAST ONE ADVANCE WARNING SIGN (W20-1 OR W21-6) SHALL BE USED.

STANDARD NOTES
(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
SIGNING: S1
DEVICES: TCD1, TCD2, TCD6
MAINT & SURV: MS2, MS3, MS4, MS6



NOT TO SCALE

| | | | | |
|-------------------------------|---|--|---|-------------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY SHORT DURATION | LANE CLOSURE – INSIDE TWO LANES OF AN UNDIVIDED MULTI-LANE ROADWAY | DATE: MAY 2021 |
| | | | | NO: 5125-S-NFW-2LC-(IN) |
| FILE: 5125-S-NFW-2LC-(IN).dgn | | | | SHEET: 1 OF 1 |

KEY

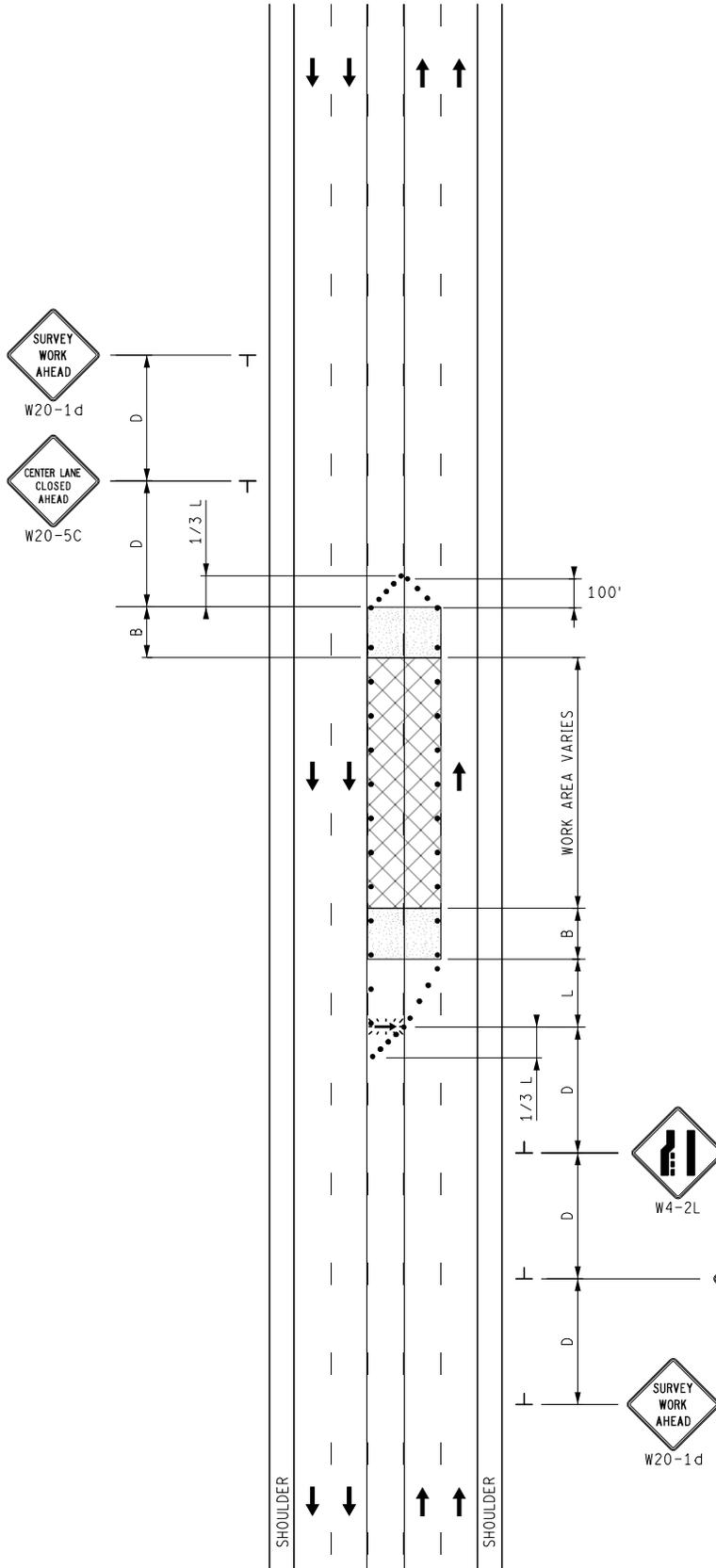
- CHANNELIZING DEVICES
- ⊘ LIGHTED ARROW PANEL
- ← TRAFFIC FLOW

NOTES

1. FOR SHORT DURATION OPERATIONS, AT LEAST ONE ADVANCE WARNING SIGN (W21-6 OR W20-1) SHALL BE USED.

STANDARD NOTES
(SEE 102-GEN-NOTES)

- GENERAL: G1, G2, G3, G4
- SIGNING: S1
- DEVICES: TCD1, TCD2, TCD6
- MAINT & SURV: MS2, MS3, MS4, MS6



NOT TO SCALE

| | | | | |
|------------------------------|---|--|--|------------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY SHORT DURATION | CENTER AND LEFT LANE CLOSURE OF AN UNDIVIDED MULTI-LANE ROADWAY | DATE: MAY 2021 |
| | | | | NO: 5133-S-CLT-1LC-(L) |
| FILE: 5133-S-CLT-1LC-(L).dgn | | | | SHEET: 1 OF 1 |

KEY

- CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL
- ← TRAFFIC FLOW

NOTES

1. IF THE WORK SPACE IS LESS THAN $\frac{1}{2}$ MILE FROM THE BEGINNING OF THE PASSING LANE, THE PASSING LANE SHOULD BE CLOSED FROM THE BEGINNING.
2. IF THERE IS LESS THAN 1000 FEET OF PASSING LANE REMAINING BEYOND THE WORK SPACE, THE PASSING LANE SHOULD BE CLOSED TO THE END.
3. COVER CONFLICTING PERMANENT ADVANCED PASSING LANE SIGNS PRIOR TO THE WORK SPACE.

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
 SIGNING: S1
 DEVICES: TCD1, TCD2, TCD6
 MAINT & SURV: MS2, MS3, MS4, MS6

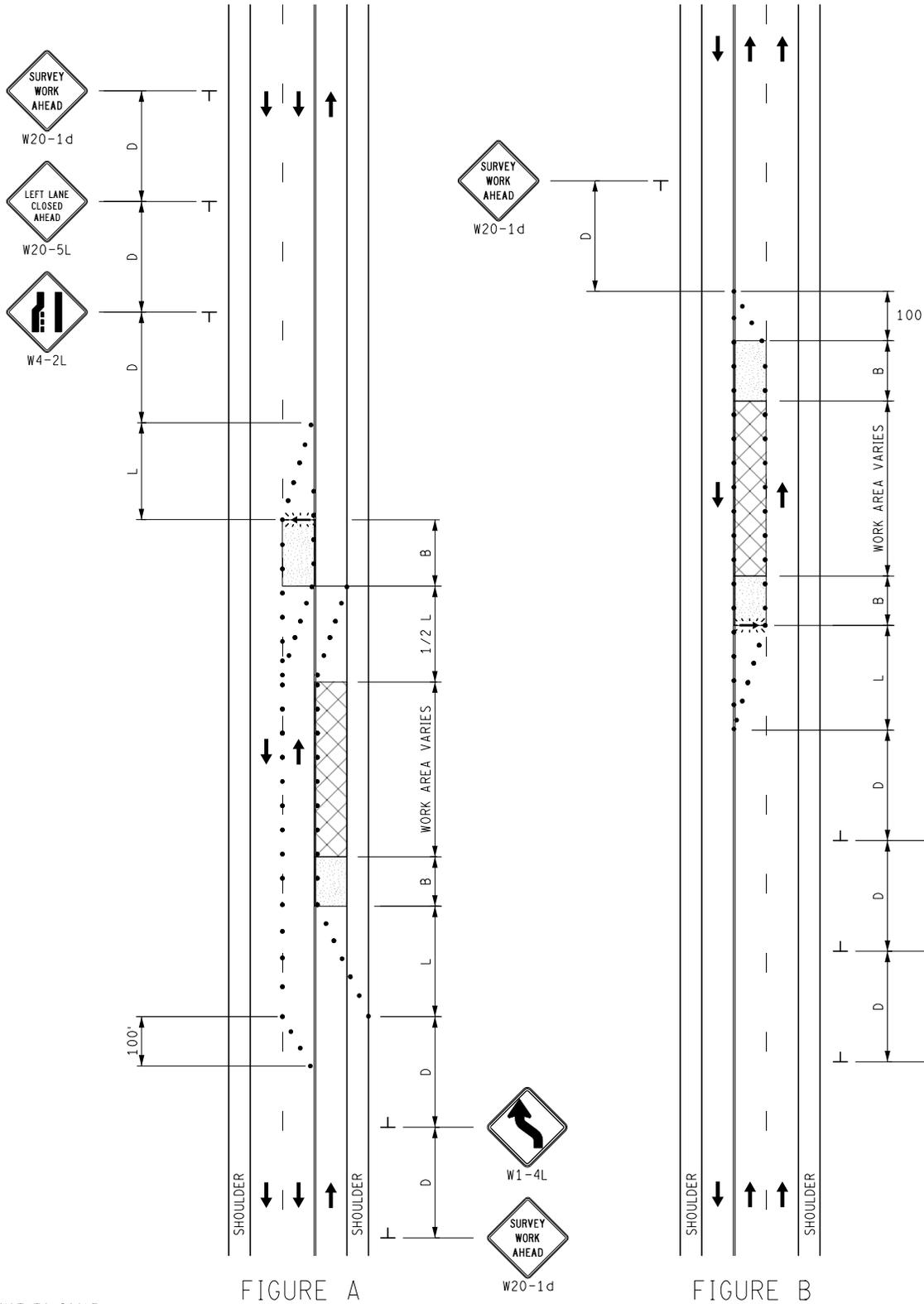


FIGURE A

FIGURE B

NOT TO SCALE

| | | | | |
|--------------------------|---|------------------------------------|--|--------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | LANE CLOSURE ON A 3-LANE, TWO-WAY ROADWAY | DATE: MAY 2021 |
| | | | | NO: 5181-S-NFW-1LC |
| FILE: 5181-S-NFW-1LC.dgn | | | | SHEET: 1 OF 1 |

KEY

- CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL (CAUTION MODE)
- ← TRAFFIC FLOW
- ▬ TRAFFIC REGULATOR

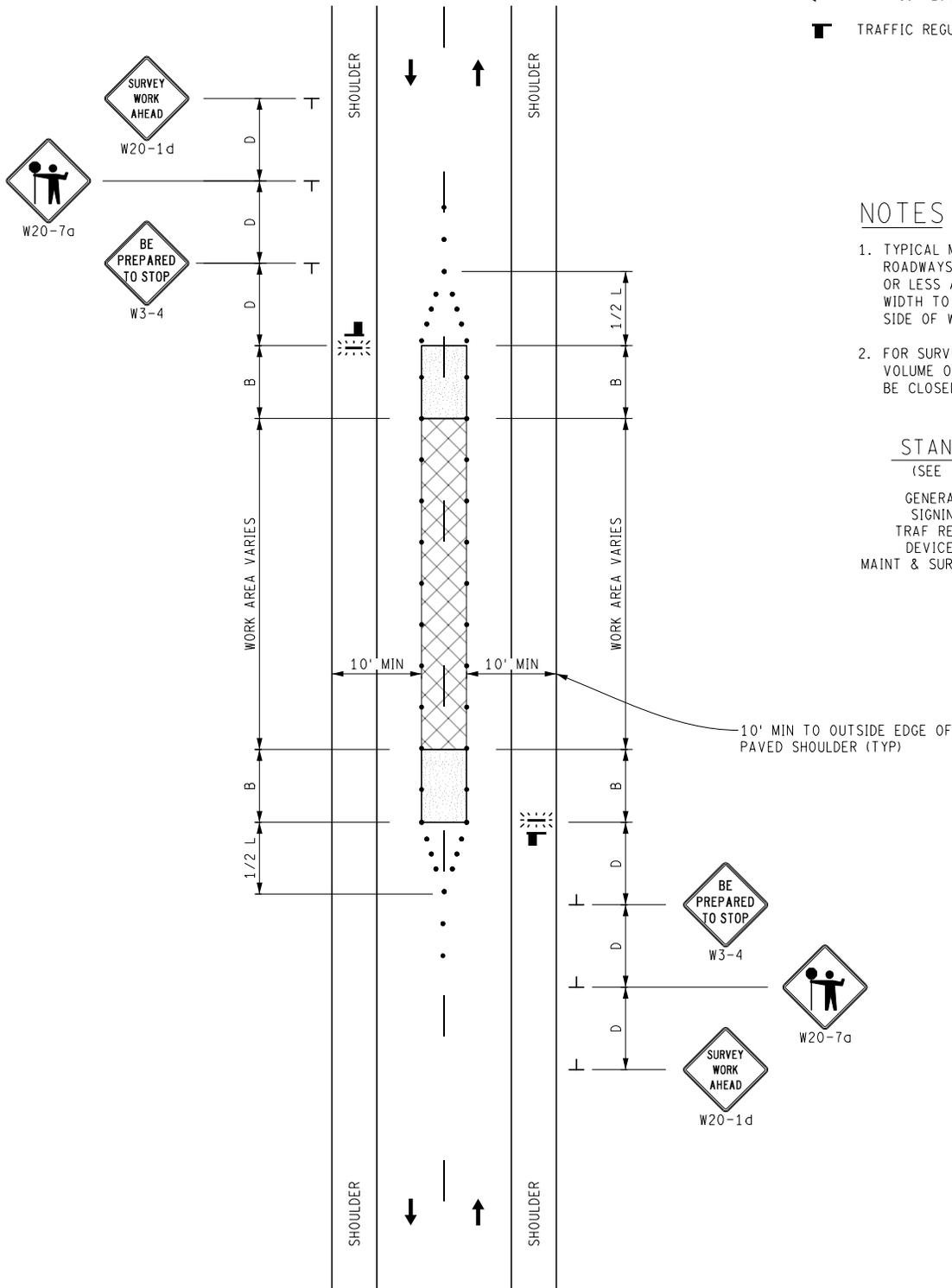
NOTES

1. TYPICAL MAY ONLY BE USED ON LOW VOLUME ROADWAYS WITH POSTED SPEED LIMIT OF 55 MPH OR LESS AND SUFFICIENT LANE AND SHOULDER WIDTH TO ALLOW 10 FT TRAVEL LANES ON EACH SIDE OF WORK SPACE.
2. FOR SURVEYING ON THE CENTERLINE OF A HIGH VOLUME OR HIGHER SPEED ROAD, ONE LANE SHALL BE CLOSED USING APPROPRIATE LANE CLOSURE.

STANDARD NOTES

(SEE 102-GEN-NOTES)

- GENERAL: G1, G2, G3, G4
- SIGNING: S1
- TRAF REG: TR1, TR2
- DEVICES: TCD1, TCD2, TCD6
- MAINT & SURV: MS2, MS3, MS4, MS6



NOT TO SCALE

| | | | | |
|---------------------------|---|------------------------------------|--|------------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | CLOSURE OF THE CENTER OF A TWO-LANE, TWO-WAY ROADWAY UTILIZING TRAFFIC REGULATORS FOR POSTED SPEEDS OF 55 MPH OR LESS | DATE: MAY 2021 |
| | | | | NO: 5182A-S-NFW-MID |
| FILE: 5182A-S-NFW-MID.dgn | | | | SHEET: 1 OF 1 |

KEY

••• CHANNELIZING DEVICES

← TRAFFIC FLOW

 WORK VEHICLE

NOTES

1. TYPICAL MAY ONLY BE USED ON LOW VOLUME ROADWAYS WITH POSTED SPEED LIMIT OF 55 MPH OR LESS AND SUFFICIENT LANE AND SHOULDER WIDTH TO ALLOW 10 FT TRAVEL LANES ON EACH SIDE OF WORK SPACE.

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4

SIGNING: S1

DEVICES: TCD1, TCD2, TCD6

MAINT & SURV: MS2, MS3, MS4, MS6

(OMIT WHEN SPEED LIMIT IS BELOW 55 MPH)

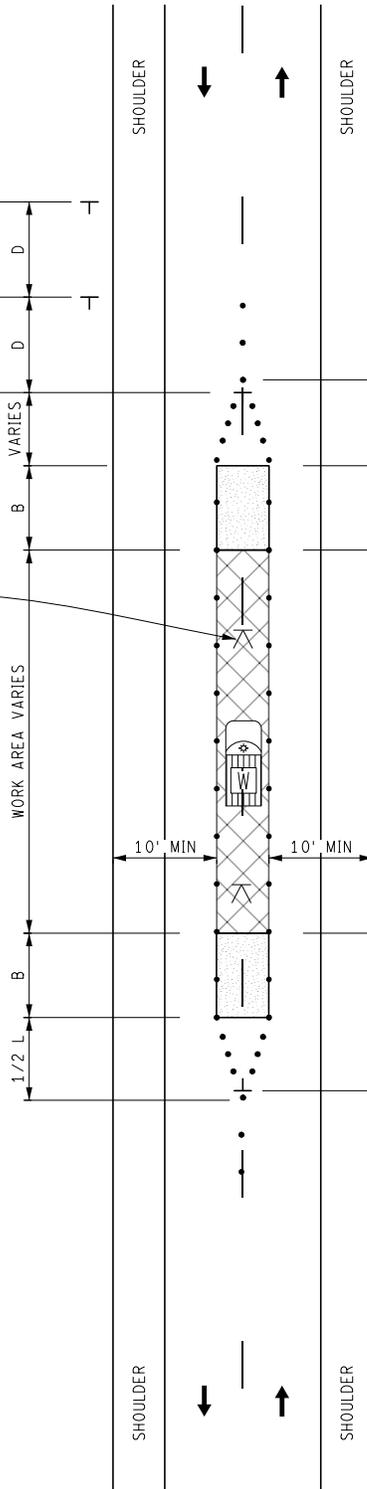


W20-1d



R4-7

INSTRUMENT (TYP)



10' MIN TO OUTSIDE EDGE OF PAVED SHOULDER (TYP)



R4-7



R2-1a



W20-1d

NOT TO SCALE

| | | | | |
|--|---|------------------------------------|---|------------------------|
|  | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | CLOSURE OF THE CENTER OF A TWO-LANE, TWO-WAY ROADWAY WITH LOW TRAFFIC VOLUMES | DATE: MAY 2021 |
| | FILE: 5182B-S-NFW-MID.dgn | | | NO: 5182B-S-NFW-MID |
| | | | | SHEET: 1 OF 1 |

KEY

- CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL (CAUTION MODE)
- ← TRAFFIC FLOW
-  SHADOW VEHICLE WITH AMBER BEACON AND OPTIONAL TRUCK MOUNTED ATTENUATOR

NOTES

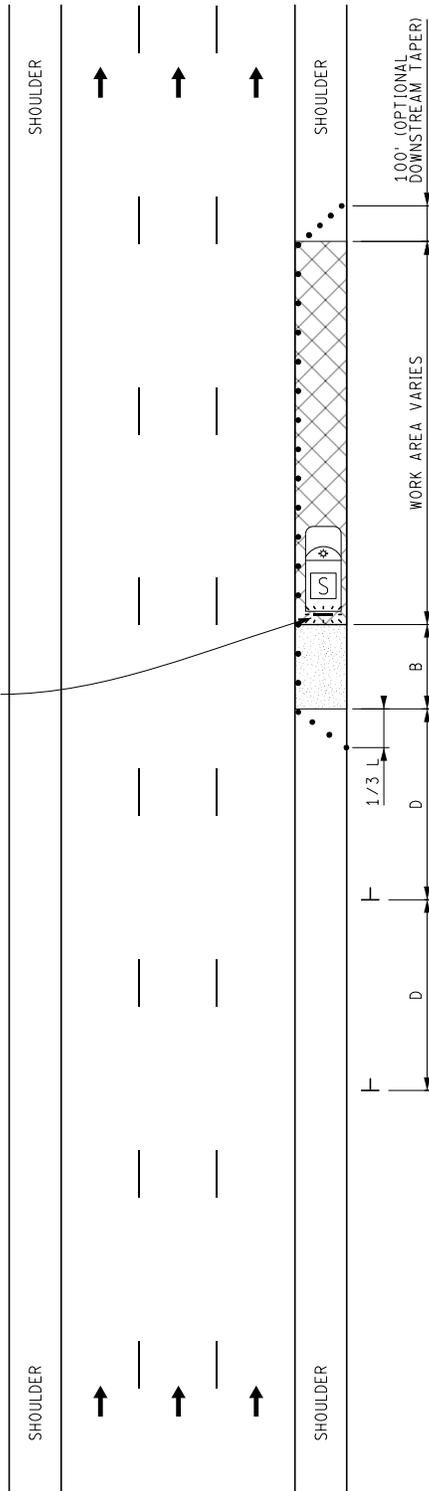
THIS TYPICAL ALSO MAY BE USED WHEN WORK IS BEING PERFORMED ON THE LEFT SHOULDER ADJACENT TO THE MEDIAN OF THE FREEWAY. IN THAT CASE, THE "LEFT SHOULDER CLOSED" SIGN SHALL BE SUBSTITUTED.

STANDARD NOTES

(SEE 102-GEN-NOTES)

- GENERAL: G1, G2, G3, G4
- SIGNING: S1
- DEVICES: TCD1, TCD2, TCD6
- MAINT & SURV: MS2, MS3, MS4, MS6

OPTIONAL LIGHTED ARROW PANEL (CAUTION MODE) AND TMA



SEE GUIDANCE NOTE 03 IN SECTION 66.07 OF THE MMUTCD FOR WHY THE SIGN ON THE SIDE WITHOUT THE SHOULDER CLOSURE IS NOT NEEDED.



NOT TO SCALE

| | | | | |
|---|---|------------------------------------|---|----------------------|
|  FILE: 5200-S-FW-SHL.dgn | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | SHOULDER CLOSURE ON A DIVIDED ROADWAY OR FREEWAY | DATE: MAY 2021 |
| | | | | NO: 5200-S-FW-SHL |

KEY

- CHANNELIZING DEVICES
- ⊘ LIGHTED ARROW PANEL
- ← TRAFFIC FLOW

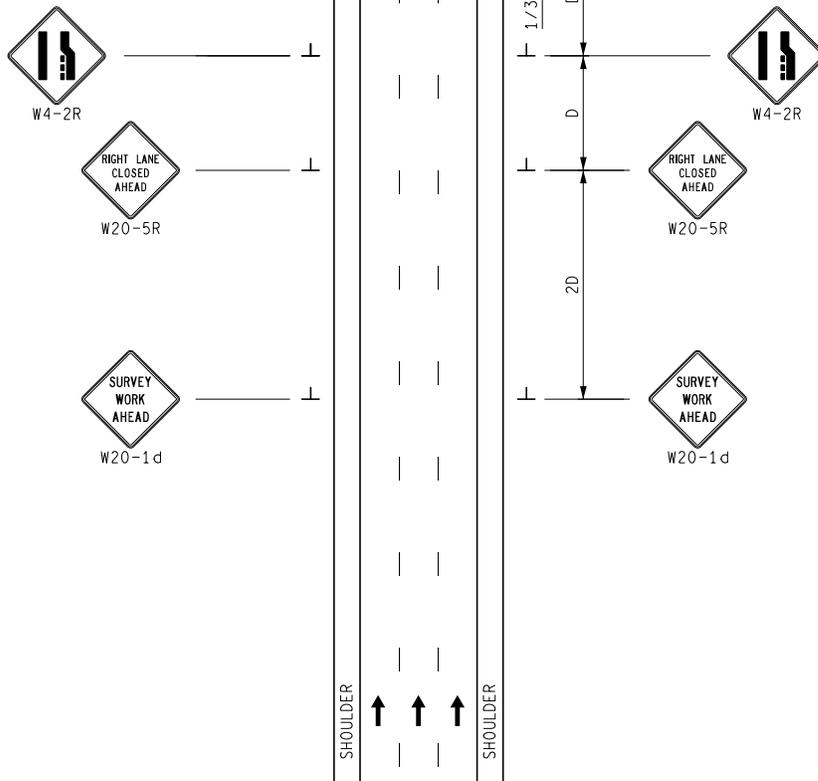
NOTES

1. THIS TYPICAL MAY ALSO BE USED WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN. IN THIS CASE, THE "LEFT LANE CLOSED AHEAD" SIGNS AND THE CORRECT CORRESPONDING LANE ENDS SIGN SHALL BE SUBSTITUTED.

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
 SIGNING: S1
 DEVICES: TCD1, TCD2, TCD6
 MAINT & SURV: MS2, MS3, MS4, MS6



NOT TO SCALE

| | | | | |
|--|---|------------------------------------|----------------------------------|----------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | SINGLE LANE CLOSURE ON A FREEWAY | DATE: MAY 2021 |
| | | | | NO: 5203-S-FW-1LC |
| | | | | SHEET: 1 OF 1 |

FILE: 5203-S-FW-1LC.dgn

KEY

- CHANNELIZING DEVICES
- ⚡ LIGHTED ARROW PANEL
- ← TRAFFIC FLOW

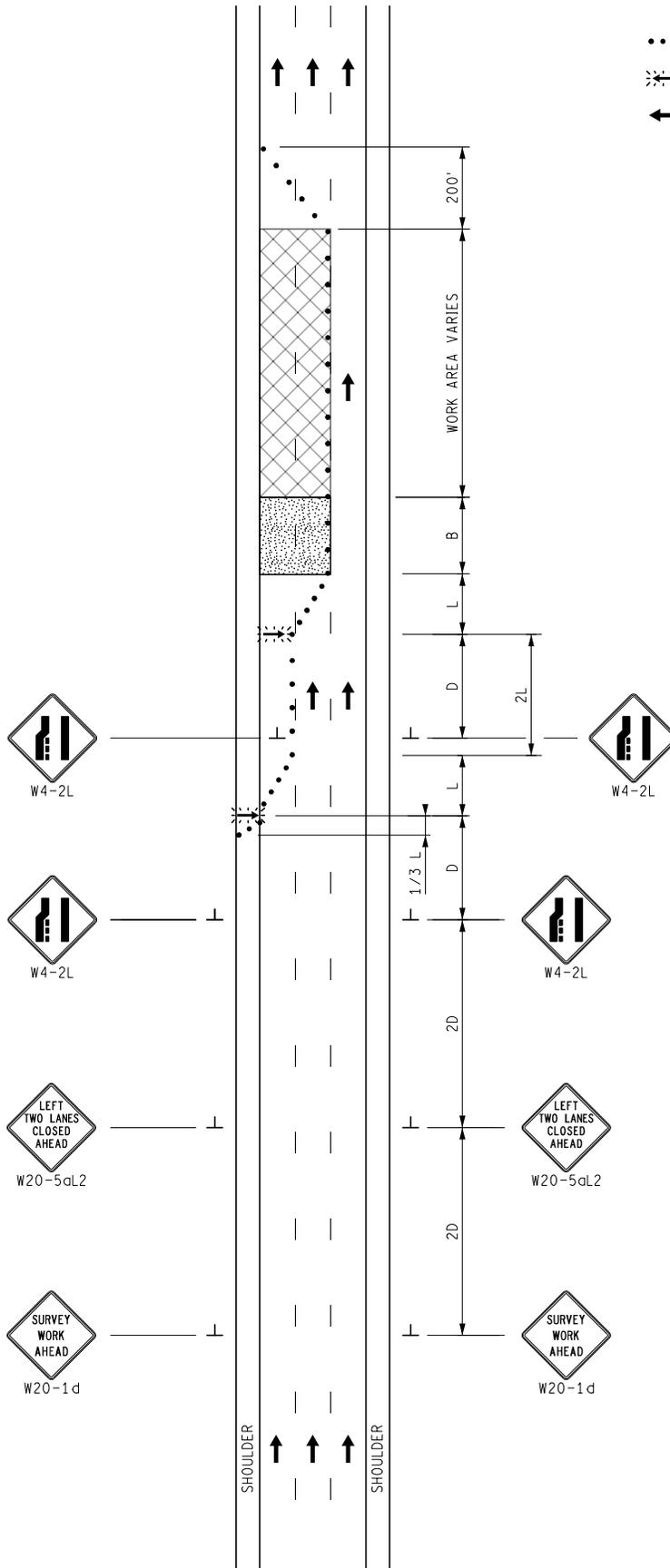
NOTES

1. THIS TYPICAL MAY ALSO BE USED WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE OUTSIDE OF THE FREEWAY. IN THAT CASE, W20-5aL2 AND W4-2L MUST BE SUBSTITUTED WITH W20-5aR2 AND W4-2R.
2. A LIGHTED ARROW PANEL IN ARROW MODE IS REQUIRED FOR EACH LANE CLOSURE.

STANDARD NOTES

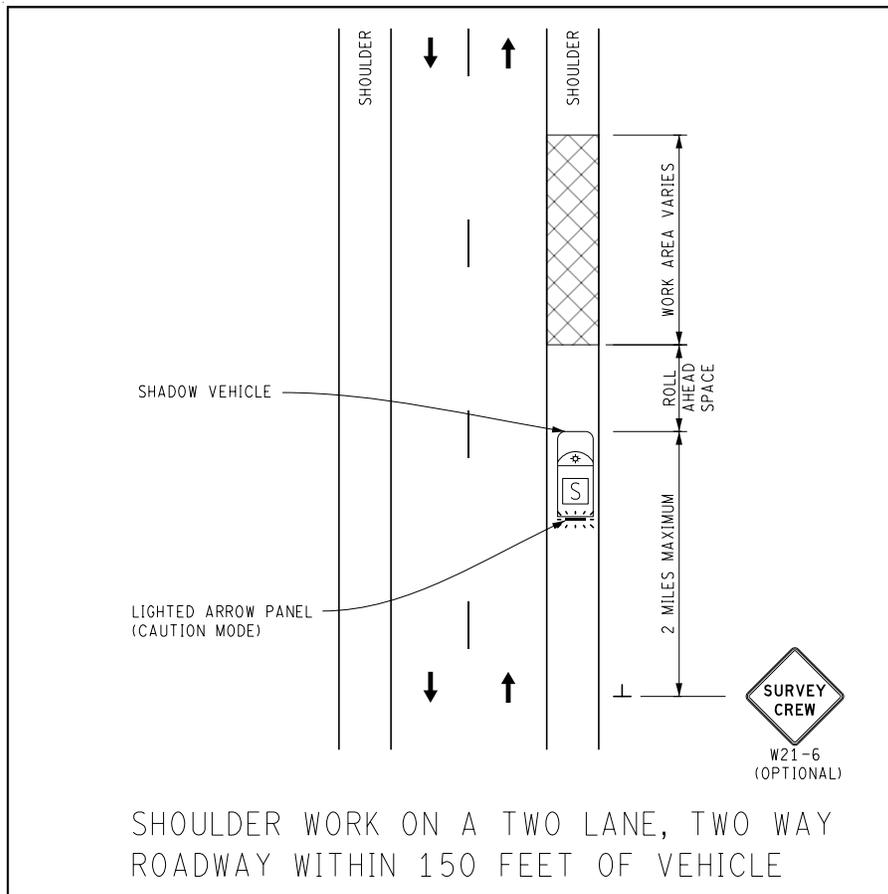
(SEE 102-GEN-NOTES)

- GENERAL: G1, G2, G3, G4
- SIGNING: S1
- DEVICES: TCD1, TCD2, TCD6
- MAINT & SURV: MS2, MS3, MS4, MS6

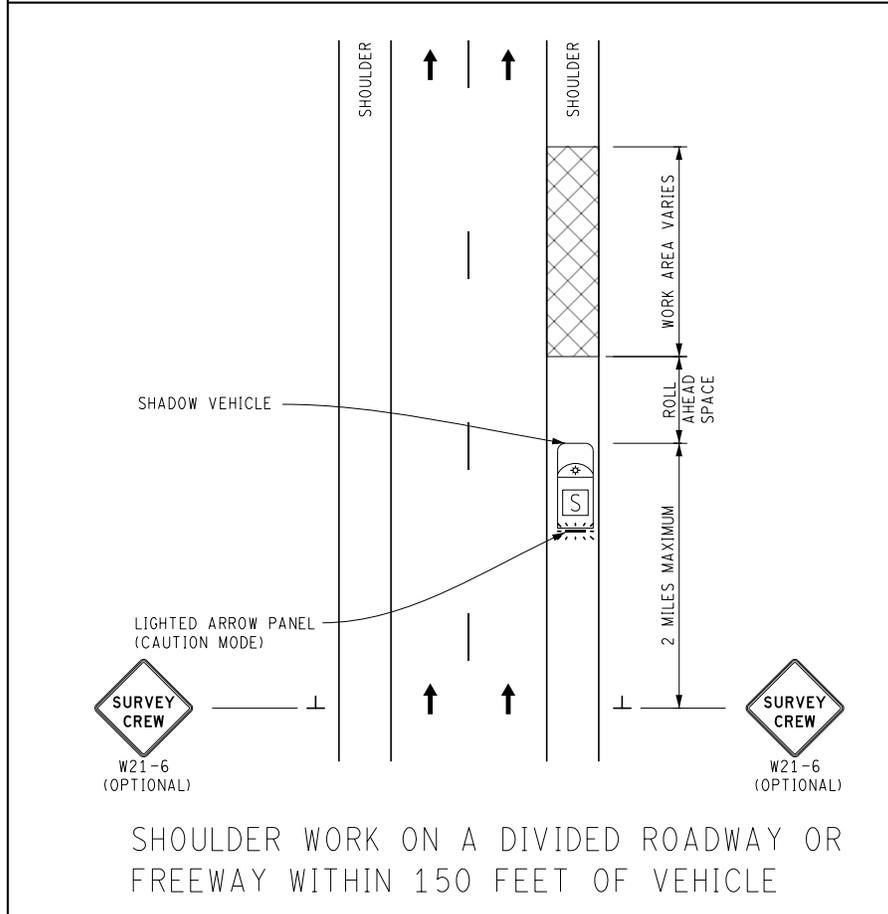


NOT TO SCALE

| | | | | |
|-----------------------------|---|------------------------------------|-------------------------------|--------------------------|
| | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT-TERM STATIONARY | TWO-LANE CLOSURE ON A FREEWAY | DATE: MAY 2021 |
| | | | | NO: 5205-S-FW-2LC-(L) |
| FILE: 5205-S-FW-2LC-(L).dgn | | | | SHEET: 1 OF 1 |



SHOULDER WORK ON A TWO LANE, TWO WAY ROADWAY WITHIN 150 FEET OF VEHICLE



SHOULDER WORK ON A DIVIDED ROADWAY OR FREEWAY WITHIN 150 FEET OF VEHICLE

KEY

- LIGHTED ARROW PANEL (CAUTION MODE)
- TRAFFIC FLOW
- SHADOW VEHICLE

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
SIGNING: S1
MAINT & SURV: MS1, MS2, MS3, MS4, MS6

NOTES

1. AT A MINIMUM, MAINTAINING TRAFFIC SHALL CONSIST OF A VEHICLE WITH AN AMBER BEACON. NO SIGNS OR CHANNELIZING DEVICES ARE REQUIRED.
2. IF THE OPERATION HAS A VEHICLE(S) PARKED ON THE SHOULDER OR VEHICLE(S) ACCESSING THE WORK SITE VIA THE HIGHWAY OR CROSSING THE HIGHWAY TO PERFORM OPERATIONS, A "SURVEY CREW" SIGN(S) SHOULD BE USED. THE W21-6 SIGN(S) SHOULD BE PLACED PRIOR TO WORK ARE TO INDICATE TO THE PUBLIC THAT A SURVEY CREW IS IN THE AREA. THE ADVANCED SIGNAGE SHOULD BE WITHIN 2 MILES OF THE SURVEY AREA.
3. WORK IN THE ROADWAY COINCIDES WITH GAPS IN THE TRAFFIC SO FLOW IS NOT IMPEDED. A SPOTTER SHOULD BE USED AND LOCATED SUFFICIENTLY IN ADVANCE OF THE WORKERS TO WARN WORKERS OF APPROACHING TRAFFIC.
4. DO NOT USE THIS TYPICAL IF TRAFFIC MUST BE CONTROLLED TO GAIN SAFE ACCESS TO THE WORK SPACE DUE TO HIGH TRAVEL SPEEDS OR TRAFFIC VOLUMES. USE THE APPROPRIATE LANE CLOSURE TYPICAL.

NOT TO SCALE

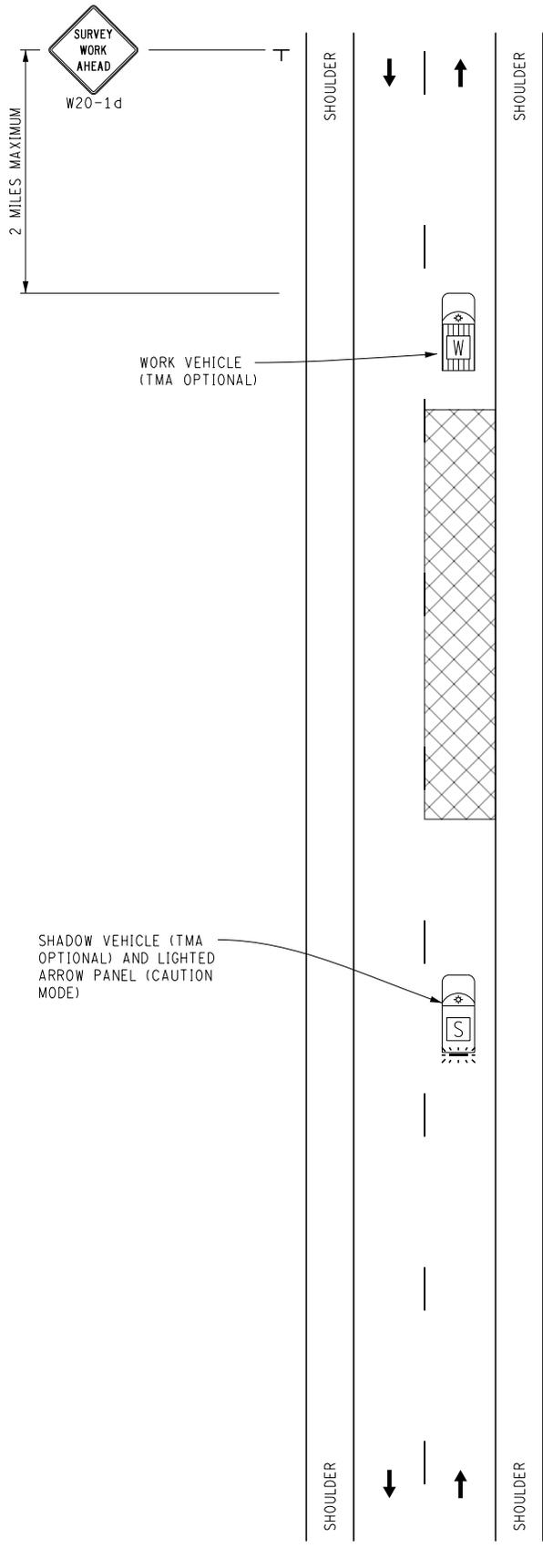


SURVEYING
MAINTAINING TRAFFIC
TYPICAL

DURATION:
SHORT DURATION
MOBILE

SHOULDER WORK ON A
DIVIDED ROADWAY, FREEWAY, OR
TWO-LANE, TWO-WAY ROADWAY
WITHIN 150 FEET OF VEHICLE

DATE: MAY 2021
NO: 5401-S-SHL
SHEET: 1 OF 1



KEY

-  LIGHTED ARROW PANEL (CAUTION MODE)
-  TRAFFIC FLOW
-  SHADOW VEHICLE
-  WORK VEHICLE

NOTES

1. IF A LIGHTED ARROW PANEL IS USED, IT SHALL BE IN CAUTION MODE.
2. THE SIGN(S) SHOULD BE PLACED PRIOR TO WORK AREA TO INDICATE TO THE PUBLIC THAT A SURVEY CREW IS IN THE AREA. THE ADVANCED SIGNAGE SHOULD BE WITHIN 2 MILES OF THE SURVEY AREA.
3. WHERE PRACTICAL AND WHEN NEEDED, THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW VEHICULAR TRAFFIC TO PASS.

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4
 SIGNING: S1
 MAINT & SURV: MS1, MS2, MS3, MS4, MS5, MS6

NOT TO SCALE

| | | | | |
|--|---|---------------------------------------|---|----------------------|
|  | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT DURATION MOBILE | MOBILE OPERATION ON A TWO-LANE ROADWAY WITHIN 150 FEET OF WORK VEHICLE | DATE: MAY 2021 |
| | | | | NO: 5403-S-NFW-2L |
| FILE: 5403-S-NFW-2L.dgn | | | | SHEET: 1 OF 1 |

KEY

 LIGHTED ARROW PANEL

 TRAFFIC FLOW

 SHADOW VEHICLE WITH OPTIONAL TRUCK MOUNTED ATTENUATOR

 WORK VEHICLE WITH OPTIONAL TRUCK MOUNTED ATTENUATOR

NOTES

1. THIS TYPICAL ALSO MAY BE USED WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN OF THE ROADWAY. IN THIS CASE, THE "LEFT LANE CLOSED AHEAD" SIGNS SHALL BE SUBSTITUTED.
2. THE LEAD IN SIGNS SHOULD BE PLACED PRIOR TO THE WORK AREA TO INDICATE TO THE PUBLIC THAT A SURVEY CREW IS IN THE AREA. THE ADVANCED SIGNAGE SHOULD BE WITHIN 2 MILES OF THE SURVEY AREA.

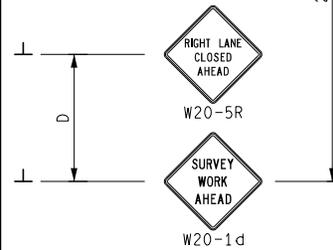
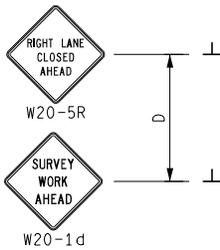
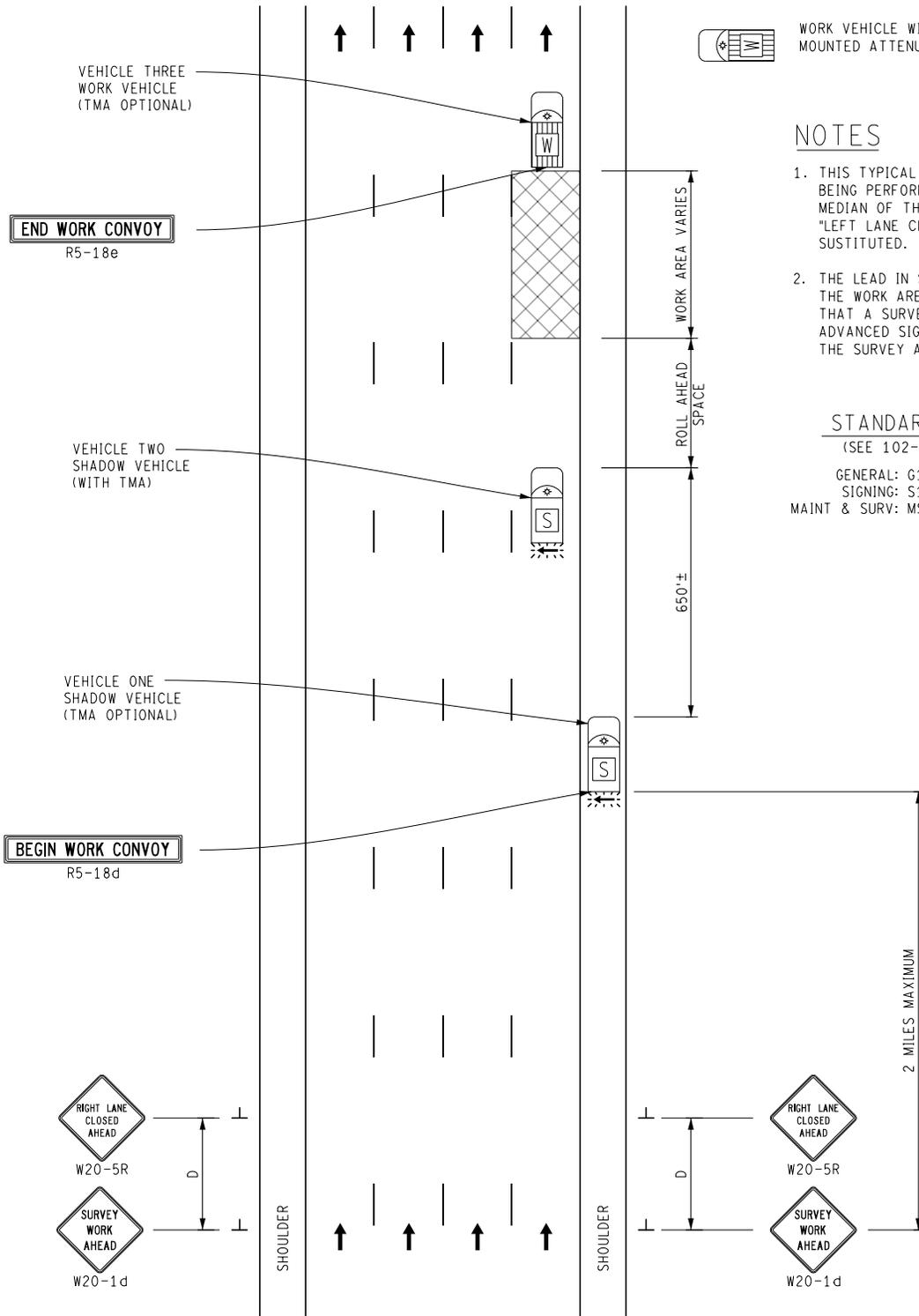
STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4

SIGNING: S1

MAINT & SURV: MS1, MS2, MS3, MS4, MS5, MS6



NOT TO SCALE

| | | | | |
|--|---|---|---|----------------------|
|  | SURVEYING MAINTAINING TRAFFIC TYPICAL | DURATION: SHORT DURATION MOBILE | MOBILE OPERATION ON A MULTI-LANE ROADWAY | DATE: MAY 2021 |
| | | | | NO: 5421-S-FW-1LC |
| FILE: 5421-S-FW-1LC.dgn | | | | SHEET: 1 OF 1 |

KEY

-  LIGHTED ARROW PANEL
-  TRAFFIC FLOW
-  SHADOW VEHICLE WITH OPTIONAL TRUCK MOUNTED ATTENUATOR
-  WORK VEHICLE WITH OPTIONAL TRUCK MOUNTED ATTENUATOR

NOTES

1. THIS TYPICAL ALSO MAY BE USED WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN OF THE ROADWAY. IN THIS CASE, THE "LEFT TWO LANES CLOSED AHEAD" SIGNS SHALL BE SUBSTITUTED.
2. THE LEAD IN SIGNS SHOULD BE PLACED PRIOR TO THE WORK AREA TO INDICATE TO THE PUBLIC THAT A SURVEY CREW IS IN THE AREA. THE ADVANCED SIGNAGE SHOULD BE WITHIN 2 MILES OF THE SURVEY AREA.

STANDARD NOTES

(SEE 102-GEN-NOTES)

GENERAL: G1, G2, G3, G4

SIGNING: S1

MAINT & SURV: MS1, MS2, MS3, MS4, MS5, MS6

PLACE "END WORK CONVOY" SIGN ON LAST VEHICLE IN WORK AREA (TMA OPTIONAL)

END WORK CONVOY
R5-18e

VEHICLE THREE (WITH TMA)

VEHICLE FOUR (OPTIONAL) (TMA OPTIONAL)

VEHICLE TWO (WITH TMA), MAY STRADDLE SHOULDER

VEHICLE ONE (TMA OPTIONAL)

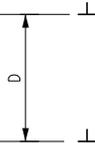
BEGIN WORK CONVOY
R5-18d



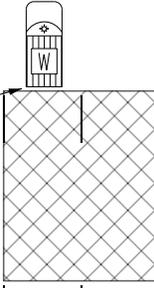
W20-5dR2



W20-1d



SHOULDER



WORK AREA VARIES

ROLL AHEAD SPACE

650'±

650'±

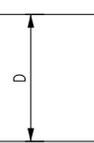
SHOULDER



W20-5dR2



W20-1d



2 MILES MAXIMUM

NOT TO SCALE



SURVEYING
MAINTAINING TRAFFIC
TYPICAL

DURATION:
SHORT DURATION
MOBILE

MOBILE OPERATION
ON A MULTILANE ROADWAY - 2 LANES

DATE: MAY 2021
NO: 5422-S-FW-2LC
SHEET: 1 OF 1