

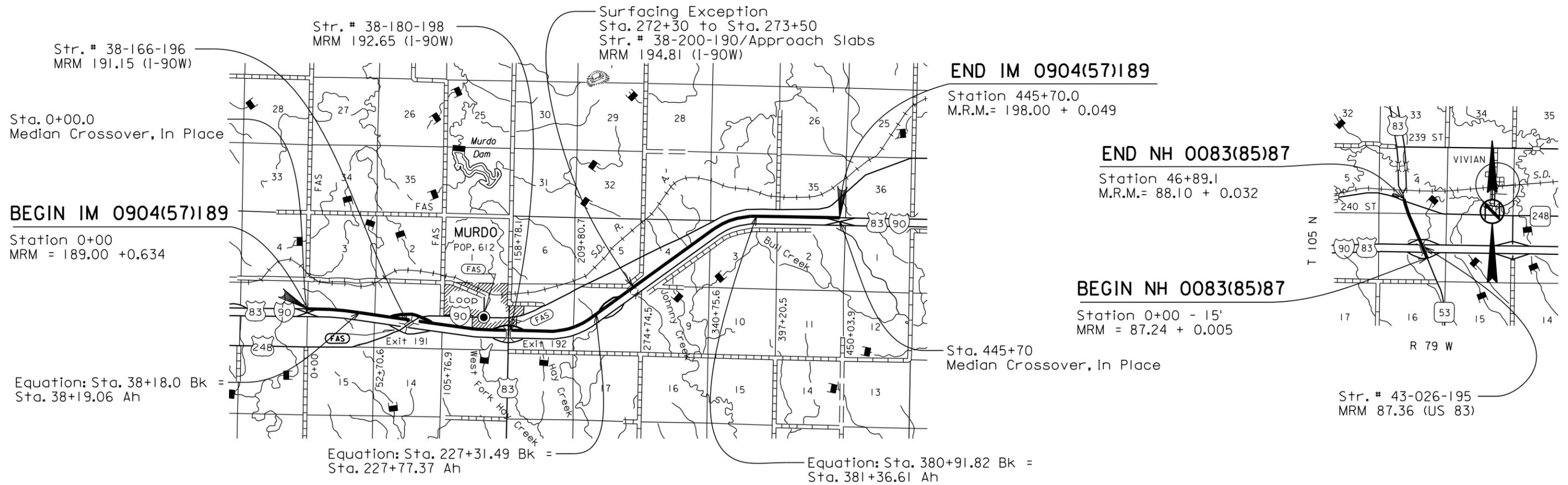
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(57)189, +...	C1	C25

Plotting Date: 07/31/2015

SECTION C: TRAFFIC CONTROL PLANS

INDEX OF SHEETS

- Sheet C2-C6 Estimate & Notes
- Sheet C7 Fixed Location Signs
- Sheet C8-C10 Width Restriction Signage
- Sheet C11-C13 Width Restriction Detour Signage
- Sheet C14-C25 Special and Standard Plates



PLOT SCALE - 1:7920.02

PLOTTED FROM - TRW11N129

PLOT NAME - 1

FILE - ... \DESIGN FILES\TITLE C 035E.DGN

ESTIMATE OF QUANTITIES

Project IM 0904(57)189 PCN 035E

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	500.0	Hour
634E0020	Pilot Car	200.0	Hour
634E0110	Traffic Control Signs	2,388	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	20	Each
634E0340	Temporary Raised Pavement Markers	10.500	Mile
634E0380	Tubular Marker	890	Each
634E0420	Type C Advance Warning Arrow Board	5	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	2,800	Ft
634E0620	Temporary Pavement Marking, Continuous 4" Edge Line	90,195	Ft
634E0630	Temporary Pavement Marking	7.4	Mile
634E1002	Detour Signing	1,335.4	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	2	Each

Project NH 0083(85)87 PCN 05H6

Bid Item Number	Item	Quantity	Unit
634E0010	Flagging	60.0	Hour
634E0020	Pilot Car	20.0	Hour
634E0110	Traffic Control Signs	875	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	18	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0640	Temporary Pavement Marking	4,800	Ft

TRAFFIC CONTROL SEQUENCE PLANNING

The contractor will submit a detailed schedule and sequence to the Engineer prior to the preconstruction meeting as described in the provisions.

The plans have been organized to aid in the guidance and requirements as they pertain to the various conditions and traffic control setups required for the project. Though notes may appear under a specific heading, they are to be applied to the project as a whole as per installation, maintenance, payment, standard plates, etc and where directed by the Engineer.

For the planning of the traffic control sequencing purposes, the Contractor has been allotted, to be used at his discretion, sufficient signage quantities to develop his sequence of operations as follows:

- One – Mobile Shoulder setup for off mainline road work
- One – Temporary Road Work closure for SD248 Asphalt patching
- Two – Temporary Road Work closures for US83 repairs
- One – Center Lane Closure for US83 Work
- Two – 5.0 mile lane closures for I-90 mainline work
- One - Two-Way setup for all traffic in EB lanes
- Two - Emergency Detour closures

The lane closures will be paid for once during their initial use on the project, regardless of the number of times they are moved by the Contractor.

Payment for 4" temporary pavement markings for individual lane closure tapers that must remain overnight, shall be incidental to the various traffic control items.

The Contractor may utilize the above traffic control to best fit his planned sequence and operation. Sufficient traffic control devices have been allotted to be used and for the safe movement of the traveling public The Contractor may submit to the Department an alternative proposal if he finds alternatives that are not covered by these plans for consideration by the Department.

All work activities shall be conducted during daylight hours only, unless approved by the Engineer.

The Contractor is prohibited from using SD Highway 248 for loaded trucks during the I-90 construction unless prior written approval authorization is attained from the Engineer. The authorization will only be given for short segments associated with entering and exiting the plant site area.

TRAFFIC CONTROL SEQUENCE PLANNING-CONTINUED

For sequence planning purposes, the main portion of the project, which consists of the westbound lanes of I-90 from MRM 189.634 to MRM 198.063 and the cold milling and asphalt concrete resurfacing of the WB ramps at Exit 191 will consist primarily of the following main activities. These tables are intended as a guide only to the Contractor to aid in setting up his sequence of operations and are not inclusive of all work activities:

Traffic Control

Fixed Location Signs
Overwidth Detour
Emergency Closures
Two-Way Traffic setup

Structures

Transition Grading
Guardrail Embankment
Guardrail Installation

Mainline

Cold Milling
PCC Overlay
Shoulder work to typical section
Shoulder/Inslope Restoration
Grinding of Median rumble strips
Placement of Gravel Cushion
Permanent Pavement Markings
Permanent Sign Installation
Paving Asphalt Shoulders

Miscellaneous

PCC Repair
Exit 191 Ramp repairs
Asphalt Patching SD248
US83 Repair Work

MAINTENANCE OF TRAFFIC

Traffic control shall be in accordance with Section 634 of the Standard Specifications, and Plan Notes. Traffic shall be maintained in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

The Contractor shall designate an employee who will be available 24 hours/day, 7 days/week to be responsible for the maintenance of traffic. The person designated must have training and experience in the field of construction traffic control and be knowledgeable about the Manual on Uniform Traffic Control Devices (MUTCD). The cost of the traffic control person shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous. The Engineer must approve the employee selected. The name and phone number of person(s) shall be provided to the SD Department of Transportation (842-0810), SD Highway Patrol (Pierre State Radio (773-3536) and Jones County Sheriff Department (669-7111).

Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators or signs damaged or lost shall be replaced by the Contractor at no cost to the State.

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the ground in rural areas. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed location supports, unless approved by the Engineer. If the duration is more than 3 days the signs shall meet the minimum mounting heights of 5 foot for rural areas and 7 foot for urban areas.

Additional standard signs, as ordered by the Engineer, shall be available within 2 working days. Failure to provide signs within this time limit will result in Liquidated Damages being assessed in the amount of \$400.00 per Calendar Day. Payment for additional signs will be paid using the contract unit price per square foot for Traffic Control Signs.

Channelizing devices in a series shall be of the same type. Channelizing drums shall be of a two part construction with breakaway bases. The Contractor may use 42" Grabber Cones for longitudinal delineation only. All tapers and lane transitions shall be accomplished utilizing drums in accordance with the MUTCD.

All traffic control devices shall be in "like new" condition.

All fixed location signs and applicable traffic control devices shall be installed or in place prior to the start of work or mobilization of equipment within the traveled way.

Non-applicable signing shall be covered or removed during periods of in-activity. Improper covering will result in Liquidated Damages being assessed in the amount of \$400 per calendar day. All costs to do this work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

A shadow vehicle, equipped with a flashing amber light and a ROAD MACHINERY AHEAD sign prominently displayed, shall be used in advance of landscaping, clean up and other mobile work activities.

Highway equipment working within traffic or adjacent to traffic shall, at all times, display a flashing or revolving amber light to warn the traveling public.

The Contractor shall furnish, install and maintain TRUCK CROSSING signs. The exact number and location will be determined on construction.

The TRUCK CROSSING signs shall be displayed at all times when haul vehicles are hauling material. When the truck haul condition no longer exists, the signs shall be covered or removed from view. Hinged signs may be used. The exact number and location of "Truck Crossing" signs will be determined on construction.

The use of interstate maintenance crossovers will not be permitted except when both the left (inside) lanes for each directional set of lanes on the same section of interstate are closed.

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	IM 0904(57)189, +...	C4	C25

MAINTENANCE OF TRAFFIC-CONTINUED

The seven (7) Type C Advance Warning Arrow Boards will be paid for only once during initial use regardless the number of times used on the project in single lane closures.

Material stockpiles, vehicles, and equipment not protected by movable concrete barrier shall be marked by Type 3 barricades. Traffic sight distances shall not be obstructed and located as far from the traveled way as feasible.

TRAFFIC CONTROL TWO-WAY TRAFFIC

The Contractor's vehicles and equipment will not be allowed to use the maintenance crossovers at any time during the two-way traffic closure of the project. The crossovers located within the project limits shall be blocked off by the use of four (4) Drums. The Contractor will not be allowed to enter or exit the two way traffic section via the maintenance crossovers. Interchange ramps must be used.

The contractor shall close the westbound on and off ramps at Exit 191 prior to the installation of the two-way traffic control being in place on the eastbound lanes. The contractor shall close the top of each ramp with 4 double sided 8' -Type 3 Barricades. A Road Closed sign (R11-2) shall also be installed at the top of each closure.

The lanes of the interstate that have been closed to traffic shall not be opened to traffic until the Contractor has installed all the permanent pavement marking paint. The permanent pavement markings shall include the edge lines, centerline, gore areas and ramp edge lines at Exits 191 and Exit 192 for the lanes that were closed to traffic.

During the removal or construction of temporary entrances, temporary exit ramps, or work in the median the Contractor shall close both the Eastbound and Westbound passing lanes.

In conjunction with the TWO WAY TRAFFIC SYMBOLS installed at 2 mile intervals on the two-way traffic section, the Contractor shall install a DO NOT PASS warning sign at 2 mile intervals on the two-way traffic section.

INCIDENTS

An incident is an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic such as an accident, hazardous materials spill, or similar event.

The contractor shall set up a meeting, a minimum of one week, prior to the installation of the two-way traffic zone. The contractor will invite the Department of Transportation, the South Dakota Highway Patrol, Jones County Sheriff, and Jones County Emergency Services. The Engineer will conduct the meeting.

EMERGENCY CLOSURE SITES EXIT 183 and EXIT 201

The Contractor shall provide the necessary certified flagmen to direct traffic at Exit 183 EB and Exit 201 WB in the event that I90 must be closed due to an emergency. In any incident, it is the Contractor's responsibility to furnish sufficient personnel on short notice to address emergency flagging and signing needs 24 hours per day, 7 days per week. Flagging and the use of the Contractor's traffic control devices shall be paid for in accordance with the appropriate contract bid item.

The Contractor is responsible for furnishing, installing, and maintaining all traffic control devices for this closure, as shown on the special plan sheet. These devices shall be located at the referenced locations prior to the diverting interstate traffic onto the SD HWY 248. All sign and channelizing devices will have their locations marked and materials in place along the shoulder of the road for rapid deployment if needed. Traffic control devices will be paid for at the time they are located at their respective sites.

If the Contractor's contact person for emergency operations is **not** the same individual identified as the employee whose only responsibility is the maintenance of traffic (see previous Maintenance of Traffic notes above), then another individual's name and cellular telephone number shall be given to the Engineer and Law enforcement

CONTRACTOR FURNISHED PORTABLE MESSAGE SIGNS

Portable Message signs will be utilized as follows:

2 – Two-Way Traffic setup from MRM 189 to MRM 198**

**The portable message signs leading into the two-way traffic closures shall be programmed with the following messages for use during normal traffic flow:

REDUCED SPEED
TWO WAY TRAFFIC

During heavy traffic or during incident management:

SLOW TRAFFIC AHEAD
BE PREPARED TO STOP

Portable message signs which are not being utilized, due to the Contractor's Sequence of Operations, shall be used as directed by the Engineer.

The portable message sign shall be programmed to use standard abbreviations and wording as described in the MUTCD or as directed by the Engineer.

The portable & changeable message signs shall be paid for at the contract unit price per each for CONTRACTOR FURNISHED PORTABLE MESSAGE SIGN. This payment shall be full compensation for furnishing, operating, and maintaining the signs for the duration of the project.

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Revised: 8/7/15 RF

REMOVE PAVEMENT MARKING

Existing pavement marking which conflicts with the desired traffic patterns detailed in the traffic control lay outs in the plans shall be removed by the Contractor unless otherwise shown.

Cost for removing pavement marking shall be incidental to the contract unit price per foot for Remove Pavement Marking, 4" or Equivalent.

TEMPORARY RAISED PAVEMENT MARKERS

Temporary Raised pavement Markers shall be used on the mainline centerline, closure tapers, ramp detours and median crossovers. Temporary Raised pavement markers will not be used for the white temporary edgeline in the two-way traffic section.

Temporary Raised Pavement Markers shall be attached to the roadway surface with a bituminous adhesive capable of being removed from the roadway surface.

Payment will be provided for Temporary Raised Pavement Markers used for the 4" equivalent temporary pavement marking lines on centerline. Cost for furnishing, installing, maintaining (including cleaning and replacing, if necessary), removing markers and bituminous adhesive shall be included in the contract unit price per mile (4" equivalent) for Temporary Raised Pavement Markers.

TUBULAR MARKERS

At Entrance Ramp and Exit Ramp locations, additional Tubular Markers shall be installed at 20' spacing from the gore point to the end of the ramp taper or 600' past the opposite entrance ramp if ramp acceleration/deceleration lands exists as shown in the plans plates.

At the eastbound weigh station pullout and at the end of each crossover where two-way traffic begins, additional Tubular Markers shall be installed at 20' spacing for 600'.

Shoulder marking shall be installed on the shoulders of the eastbound lanes on Interstate 90 from the beginning of the lane closure taper throughout the length of the two-way traffic, extending to the lane reduction. This marking shall consist of white tubular markers at a spacing of 500'. The white tubular markers shall be installed a minimum of 2' laterally from the edge of the driving lane, or as approved by the Engineer.

Cost for furnishing, installing, maintaining (including cleaning, if necessary), removing markers and bituminous adhesive shall be incidental to the contract unit price per Each for Tubular Marker.

TEMPORARY PAVEMENT MARKING, CONTINUOUS EDGELINE

The Contractor shall paint the yellow edgeline white and repaint the existing white edgeline white within the two-way traffic section when two-way traffic is maintained on the eastbound lanes.

Cost for Temporary Pavement Marking, Continuous 4" Edge Line is included in the contract unit price per foot for Temporary Pavement Marking, Continuous 4" Edge Line.

Temporary Pavement Markings shall be applied at the rates as specified in the plans.

TEMPORARY PAVEMENT MARKING

Temporary Flexible Vertical Markers (Tabs) may be used on the interchange crossroad and ramps during resurfacing. If used, the Contractor shall remove and dispose of them after Permanent Pavement Marking is applied. Method of removal shall be nondestructive to the road surface and shall be accomplished within one week of completion of the Permanent Pavement Marking. Payment for placing Temporary Flexible Vertical Markers shall be included in the contract unit price per Mile for Temporary Pavement Marking.

Pavement marking on the SD248 patching work shall be completed prior to establishing two-way traffic on I-90. This pavement marking on SD248 shall be installed on all patches and will include the installation of white edge lines. It is estimated that (5) miles of Temporary Pavement Marking will be required on the SD248 patching work. Payment for placing the pavement marking on SD248 shall be included in the contract unit price per Mile for Temporary Pavement Marking.

Prior to switching traffic over to the EB Two-Way Traffic, SD248 Through the City of Murdo (MRM 203.87 to MRM 205.50) shall be completely repainted. Turn arrows will not require repainting. Of this 1.63 miles, 0.70 miles consist of a rural two lane sections and 0.93 miles are a three lane with no edgelines. Payment for this work shall be included in the contract unit price per Mile for Temporary Pavement Marking.

INVENTORY OF TRAFFIC CONTROL DEVICES

Project IM 0904(57)189 PCN 035E

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	60" x 60"	25	25
R2-1	SPEED LIMIT __	16	36" x 48"	12	192
R2-1	SPEED LIMIT __	6	48" x 60"	20	120
R2-6aP	FINES DOUBLE (plaque)	4	36" x 24"	6	24
R4-1	DO NOT PASS	11	48" x 60"	20	220
R4-7	KEEP RIGHT (symbol)	1	36" x 48"	12	12
R5-1	DO NOT ENTER	2	36" x 36"	9	18
R11-2	ROAD CLOSED	3	48" x 30"	10	30
W1-4	REVERSE CURVE (L or R)	3	48" x 48"	16	48
W1-6	LARGE ARROW (one direction)	2	60" x 30"	13	26
W3-4	BE PREPARED TO STOP	2	48" x 48"	16	32
W3-5	SPEED REDUCTION AHEAD (__ MPH)	8	48" x 48"	16	128
W4-1	MERGE (symbol)	3	48" x 48"	16	48
W4-2	LEFT or RIGHT LANE ENDS (symbol)	12	48" x 48"	16	192
W4-3	ADDED LANE (symbol)	1	48" x 48"	16	16
W6-3	TWO WAY TRAFFIC (symbol)	13	48" x 48"	16	208
W7-3aP	NEXT __ MILES (plaque)	8	36" x 30"	8	64
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W13-1P	ADVISORY SPEED (plaque)	14	30" x 30"	6	84
W13-2	EXIT XX MPH	1	24" x 30"	5	5
W13-3	RAMP XX MPH	1	24" x 30"	5	5
W20-1	ROAD WORK AHEAD	14	48" x 48"	16	224
W20-2	DETOUR AHEAD	6	48" x 48"	16	96
W20-3	ROAD CLOSED AHEAD	1	48" x 48"	16	16
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	16	48" x 48"	16	256
W20-7	FLAGGER (symbol)	6	48" x 48"	16	96
W21-5	SHOULDER WORK	1	48" x 48"	16	16
G20-1	END ROAD WORK NEXT __ MILES	4	48" x 24"	8	32
G20-2	END ROAD WORK	2	48" x 24"	8	16
G20-2	END ROAD WORK	3	36" x 18"	5	15
SPECIAL	EXIT 192 1000 FT	1	60" x 48"	20	20
SPECIAL	EXIT 192 with ARROW	2	60" x 48"	20	40
EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT					2388

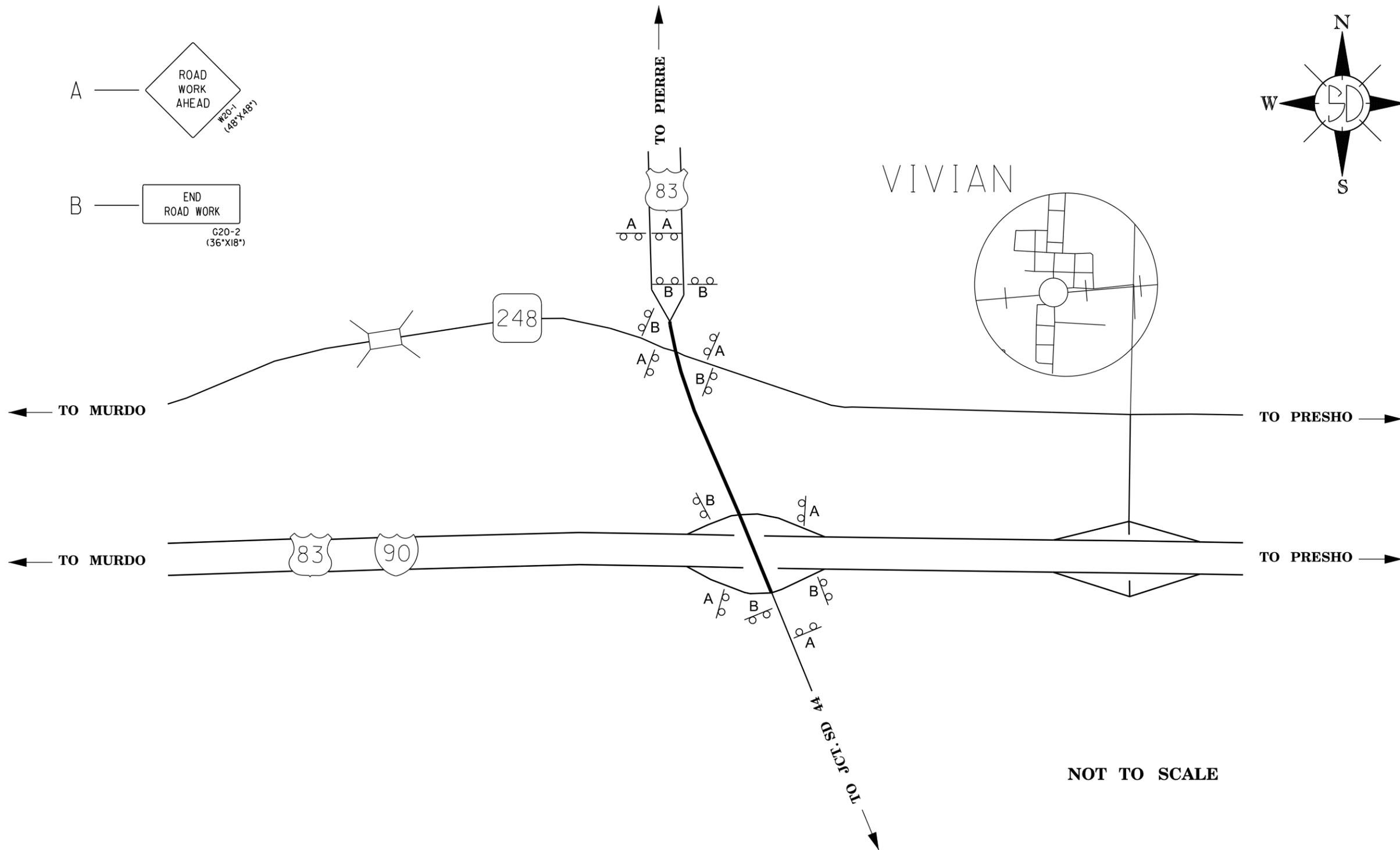
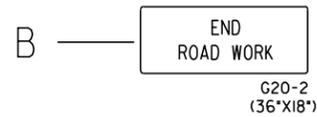
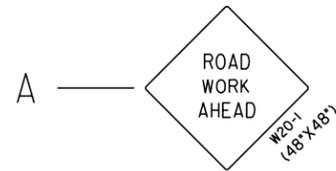
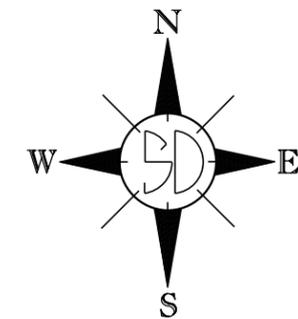
Project NH 0083(85)87 PCN 05H6

SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	4	30" x 30"	6	24
R3-1	NO RIGHT TURN (symbol)	1	24" x 24"	4	4
R3-2	NO LEFT TURN (symbol)	1	24" x 24"	4	4
W1-3	REVERSE TURN (L or R)	2	48" x 48"	16	32
W1-4	REVERSE CURVE (L or R)	2	48" x 48"	16	32
W3-1	STOP AHEAD (symbol)	4	48" x 48"	16	64
W3-4	BE PREPARED TO STOP	4	48" x 48"	16	64
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16	64
W5-4	RAMP NARROWS	2	48" x 48"	16	32
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-17	SHOULDER DROP-OFF (symbol)	2	48" x 48"	16	32
W9-3	CENTER LANE CLOSED AHEAD	2	48" x 48"	16	32
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	6	24
W20-1	ROAD WORK AHEAD	9	48" x 48"	16	144
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16	64
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	4	48" x 48"	16	64
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-2	FRESH OIL	2	48" x 48"	16	32
W21-5	SHOULDER WORK	2	48" x 48"	16	32
W21-5a	LEFT or RIGHT SHOULDER CLOSED	2	48" x 48"	16	32
G20-2	END ROAD WORK	7	36" x 18"	5	35
875					

FIXED LOCATION SIGNS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0904(57)189, +...	C7	C25

Plotting Date: 07/01/2015

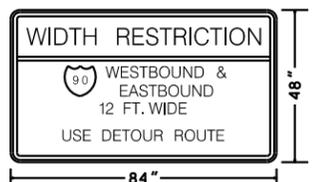
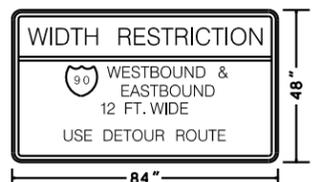
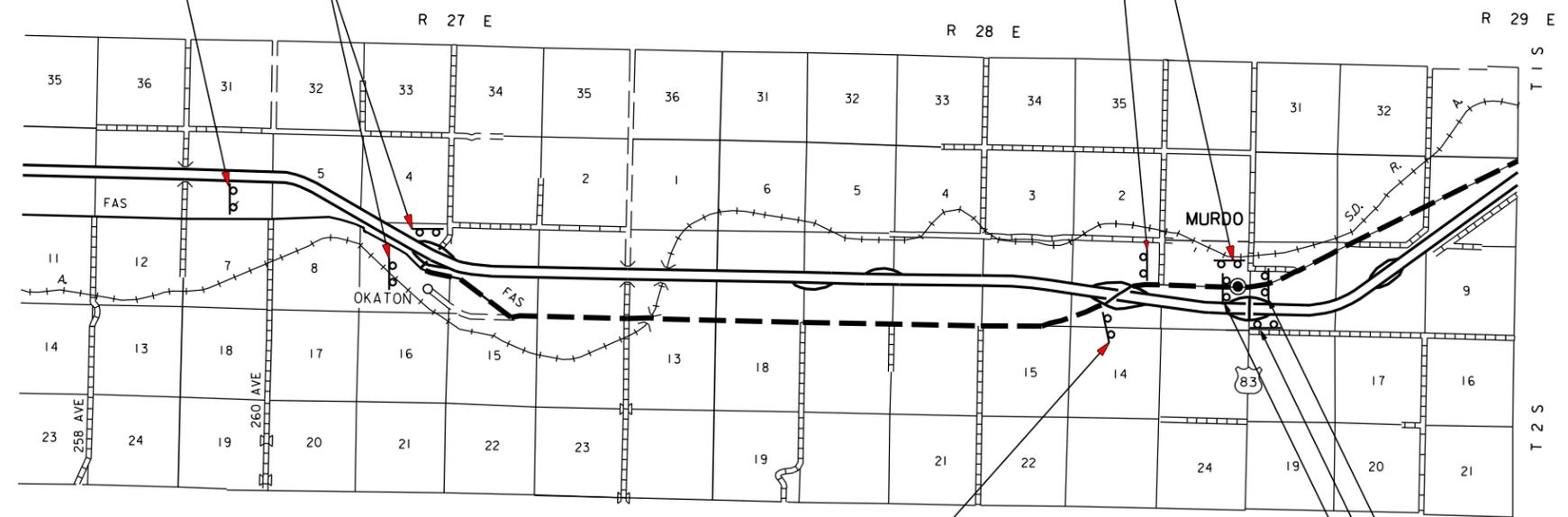
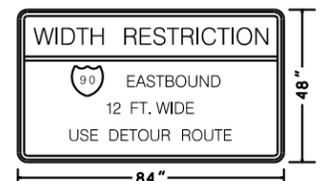
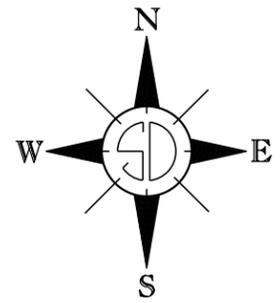


NOT TO SCALE

Sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

Plotting Date: 07/24/2015

**GUIDES FOR TRAFFIC CONTROL DEVICES
SHOWING WIDTH RESTRICTION SIGNS
WESTBOUND EXIT 201 TO EXIT 183
EASTBOUND EXIT 183 TO EXIT 212**



NOTE:
SIGN LOCATIONS WILL BE VERIFIED IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION.

THE WIDTH RESTRICTION SIGNS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR DETOUR SIGNING

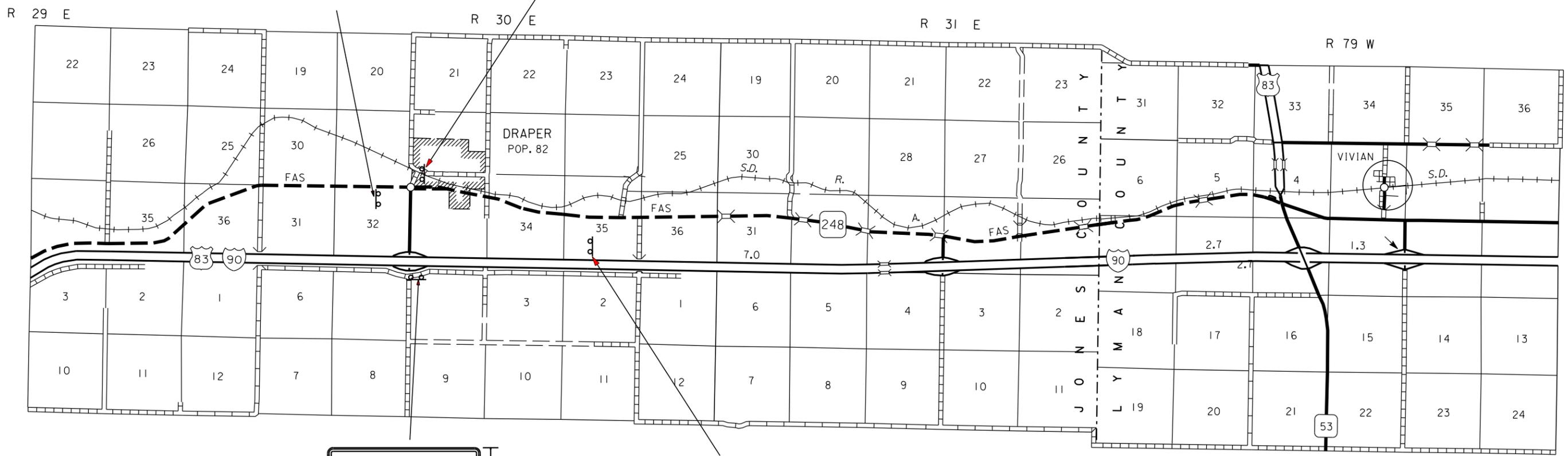
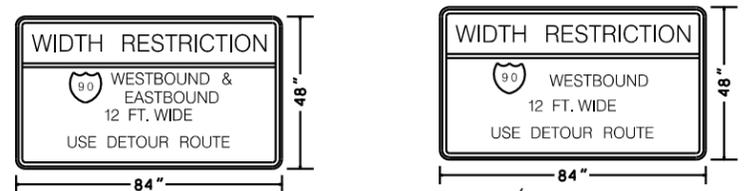
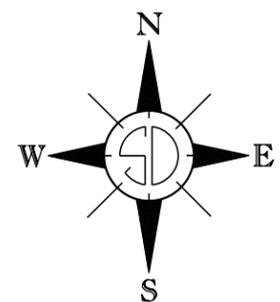
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PLOTTED FROM - TRW11INT29

PLOT NAME - 1

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**GUIDES FOR TRAFFIC CONTROL DEVICES
SHOWING WIDTH RESTRICTION SIGNS
WESTBOUND EXIT 201 TO EXIT 183
EASTBOUND EXIT 183 TO EXIT 212**



NOTE:
SIGN LOCATIONS WILL BE VERIFIED IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION.

THE WIDTH RESTRICTION SIGNS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR DETOUR SIGNING

PLOT SCALE - 1:25616.3

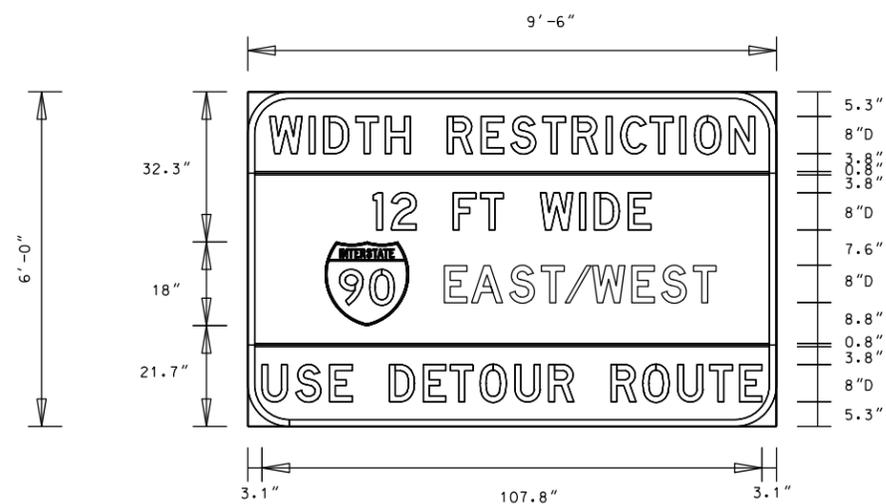
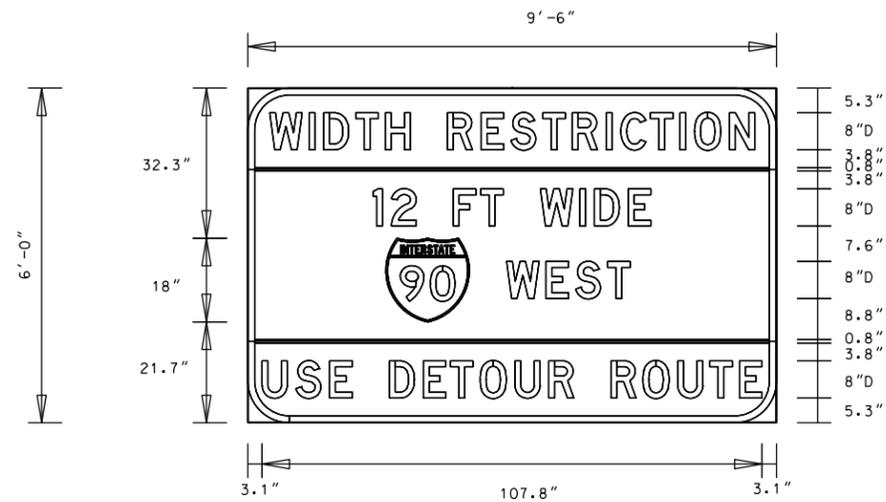
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PLOT NAME - 1

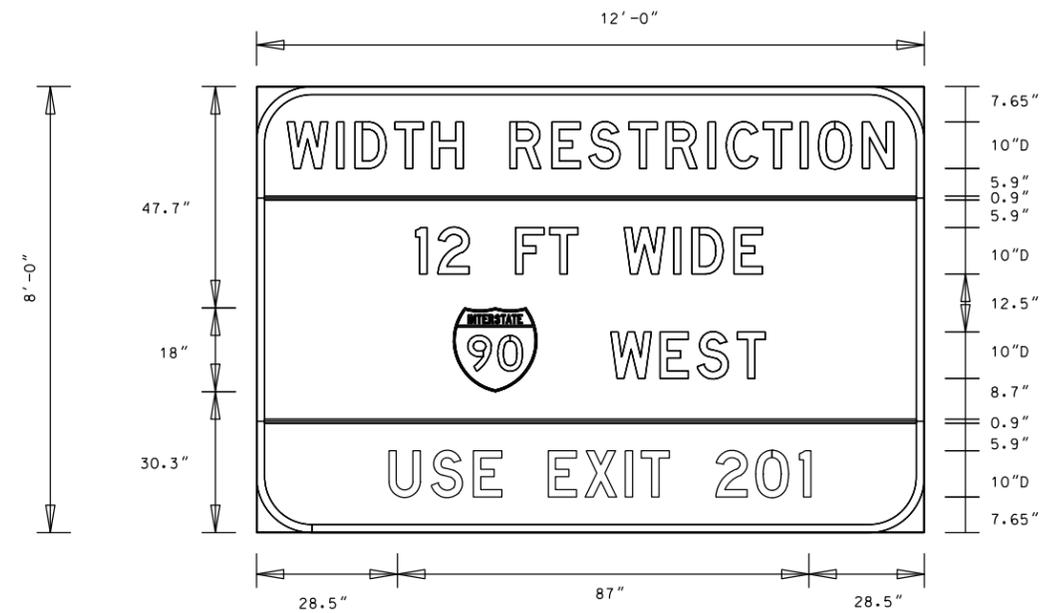
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WIDTH RESTRICTION SIGN DESIGN

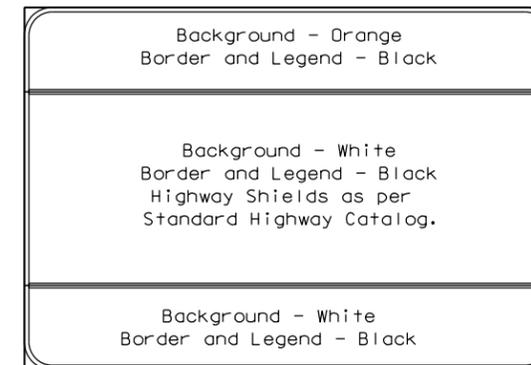
STATE HIGHWAYS



INTERSTATE



Two signs are required, one reading EAST - USE EXIT 183, and one as shown.



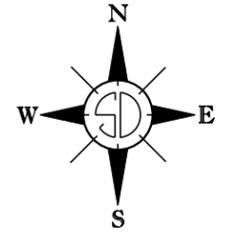
Typical Sign Layout for Overwidth Warning Signs

EXIT 183 two signs around interchange roads are to read EAST
 EXIT 191 two signs around interchange roads are to read EAST/WEST
 EXIT 192 four signs around interchange roads are to read EAST/WEST
 EXIT 201 two signs around interchange roads are to read WEST & one sign is to read EAST/WEST.

THE WIDTH RESTRICTION SIGNS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR DETOUR SIGNING

Plotting Date: 07/24/2015

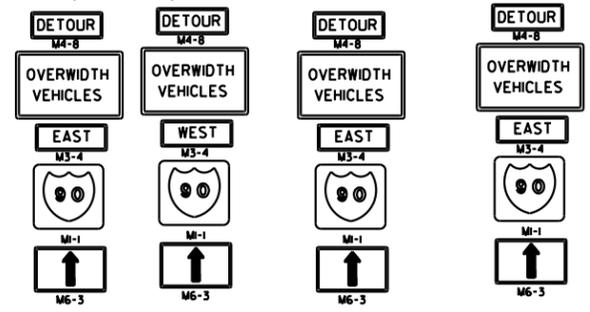
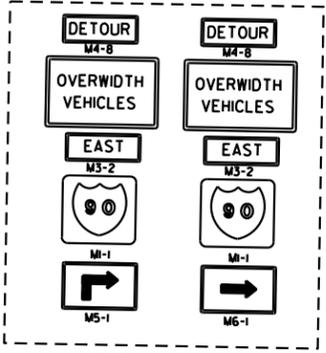
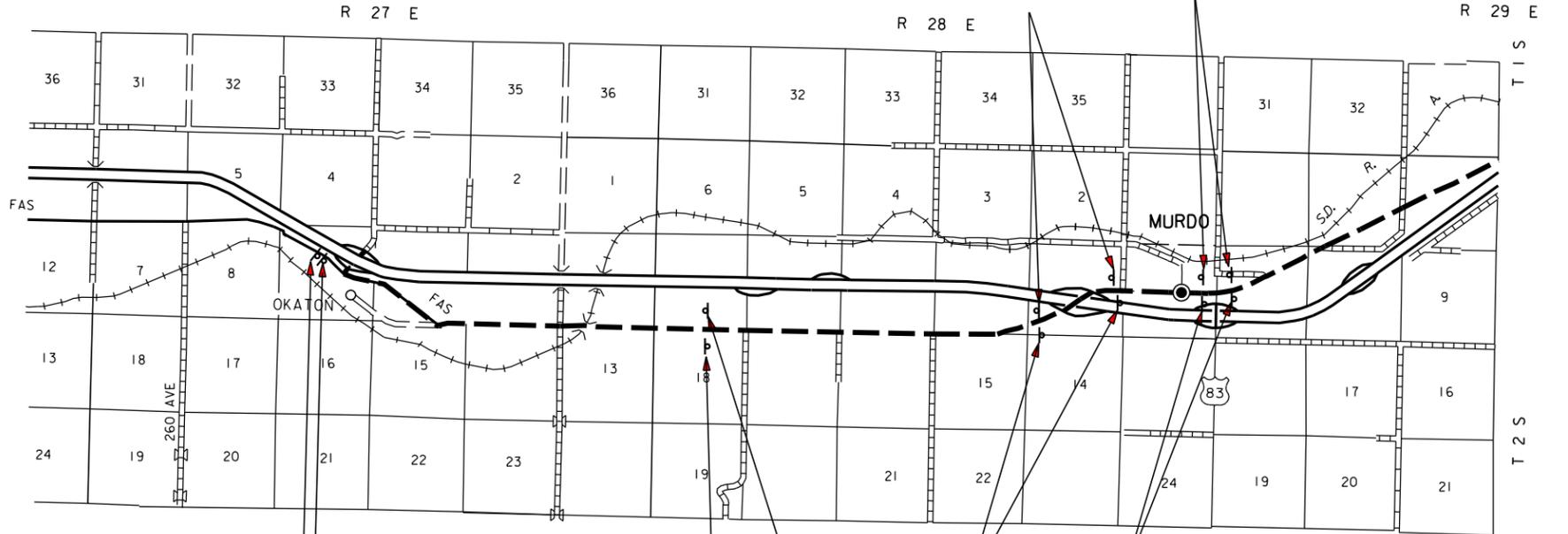
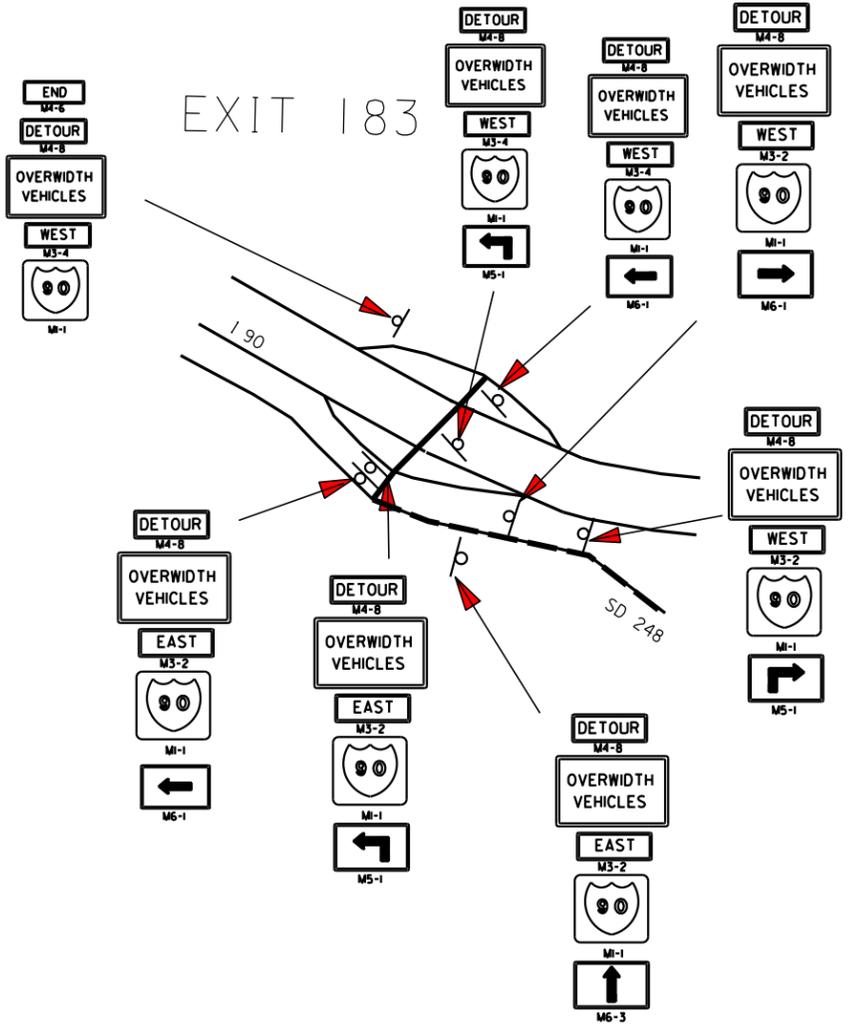
**GUIDES FOR TRAFFIC CONTROL DEVICES
SHOWING WIDTH RESTRICTION DETOUR SIGNS
WESTBOUND EXIT 201 TO EXIT 183 VIA SD HWY 248
EASTBOUND EXIT 183 TO EXIT 212 VIA SD HWY 248**



PLOT SCALE - 1:25616.3

PLOT NAME - 1

FILE - ... \DESIGN FILES\TC4.DGN

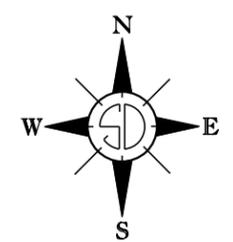


NOTE: SIGN LOCATIONS WILL BE VERIFIED IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION.

PLOTTED FROM - TRW11INT29

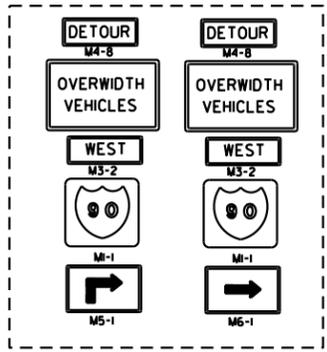
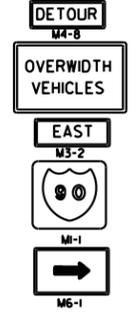
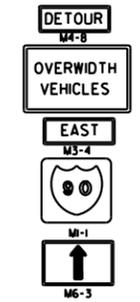
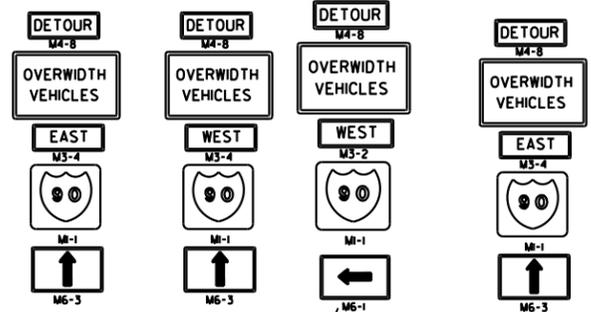
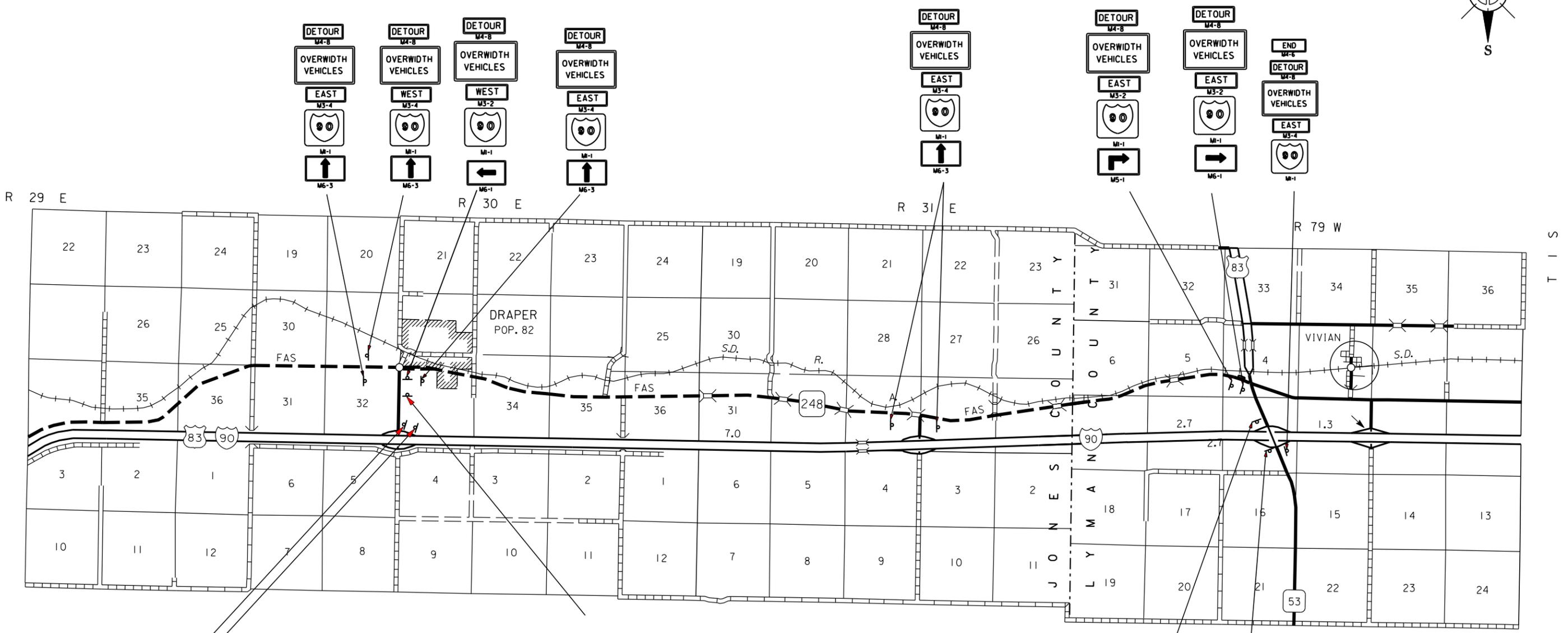
Plotting Date: 07/24/2015

**GUIDES FOR TRAFFIC CONTROL DEVICES
SHOWING WIDTH RESTRICTION DETOUR SIGNS
WESTBOUND EXIT 191 TO EXIT 151 VIA SD HWY 248
EASTBOUND EXIT 163 TO EXIT 191 VIA SD HWY 248**



PLOT SCALE - 1:25616.3

PLOT NAME - 1



TO BE INSTALLED ON WESTBOUND EXIT 201 OFF RAMP

NOTE: SIGN LOCATIONS WILL BE VERIFIED IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION.

PLOTTED FROM - TRW11INT29

FILE - ... \DESIGN FILES\TC5.DGN

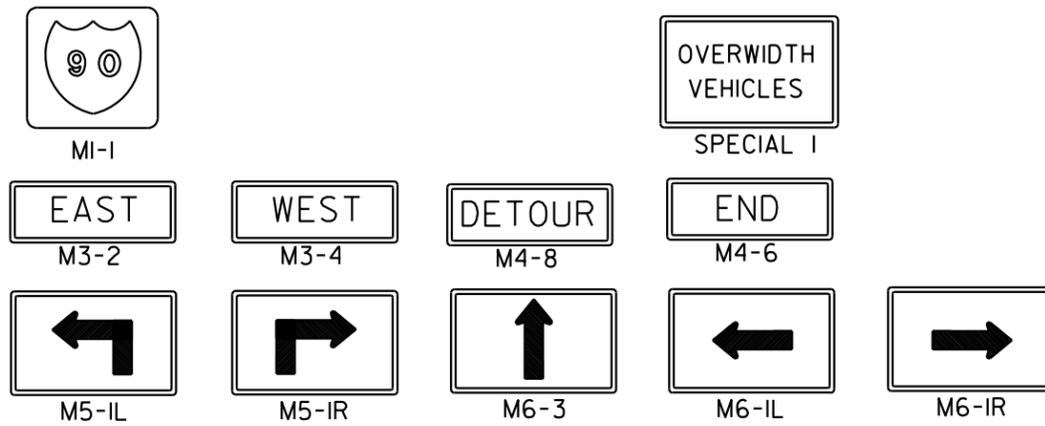
PLOT SCALE - 1:25616.3

PLOTTED FROM - TRW\INT29

STATE OF SOUTH DAKOTA	PROJECT IM 0904(57)189, +...	SHEET C13	TOTAL SHEETS C25
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Plotting Date: 07/24/2015

OVERWIDTH DETOUR AND DETOUR SIGNING ROUTE AND AUXILIARY MARKERS

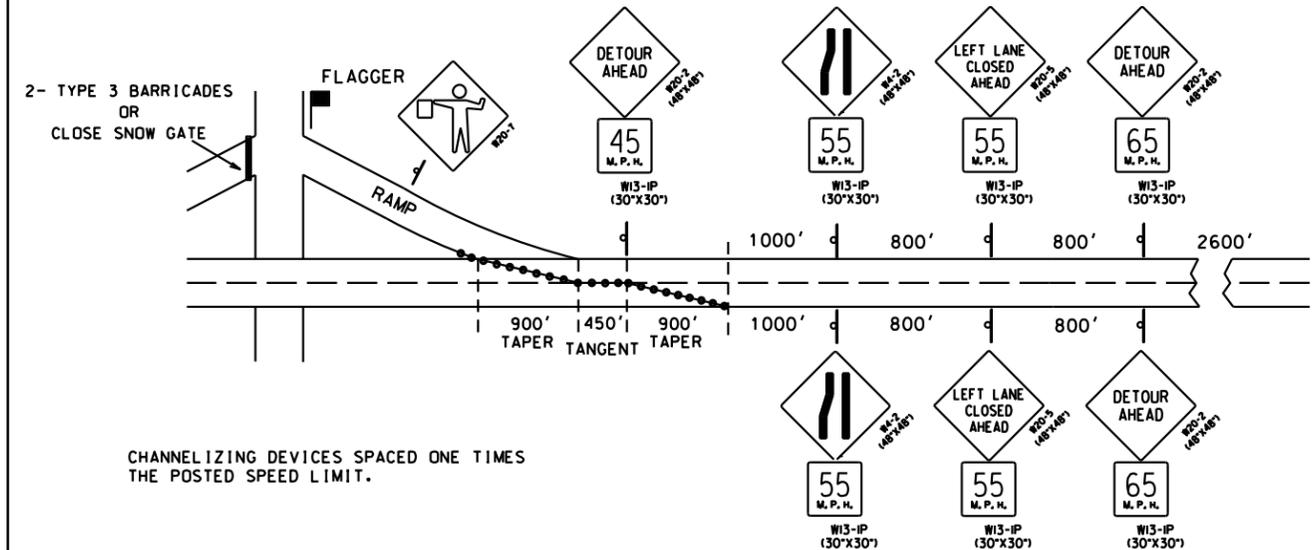


SIGN	SOFT per SIGN	DIMENSIONS (INCHES)					LETTER SIZE	LETTER SPACING	QUANTITY REQUIRED (EACH)	SOFT REQUIRED
		WIDTH A	HEIGHT B	MARGIN	BORDER	CORNER RADIUS				
MI-1	4.0	24	24	-	-	1 1/2	12C	CENTERED	34	136
M3-2	2.0	24	12	3/8	5/8	1 1/2	6C	CENTERED	19	38
M3-4	2.0	24	12	3/8	5/8	1 1/2	6C	CENTERED	15	30
M4-6	2.0	24	12	3/8	5/8	1 1/2	6B	CENTERED	2	4.0
M4-8	2.0	24	12	3/8	5/8	1 1/2	6B	20% REDUCED	34	68
M5-1R	2.2	21	15	3/8	5/8	1 1/2	-	-	4	8.8
M5-1L	2.2	21	15	3/8	5/8	1 1/2	-	-	4	8.8
M6-1R	2.2	21	15	3/8	5/8	1 1/2	-	-	4	8.8
M6-1L	2.2	21	15	3/8	5/8	1 1/2	-	-	4	8.8
M6-3	2.2	21	15	3/8	5/8	1 1/2	-	-	16	35.2
SPECIAL 1	5.0	30	24	3/8	5/8	1 1/2	5B	CENTERED	34	170
TOTAL									170	516.4

NOTE: ABOVE SIGNS FOR THE ROUTE AND AUXILIARY MARKERS SHALL CONFORM WITH THE LATEST EDITIONS OF THE M.U.T.C.D. AND THE STANDARD HIGHWAY SIGNS MANUAL.

THIS SIGNING WILL BE PAID FOR AT THE CONTRACT SOFT PRICE FOR "DETOUR SIGNING"

I-90 EMERGENCY LAYOUT: EXIT 183 EASTBOUND & 201 WESTBOUND



CHANNELIZING DEVICES SPACED ONE TIMES THE POSTED SPEED LIMIT.

FLAGMEN ARE TO INSTRUCT DRIVERS TO FOLLOW THE SIGNED OVERWIDTH DETOUR (SD 248).

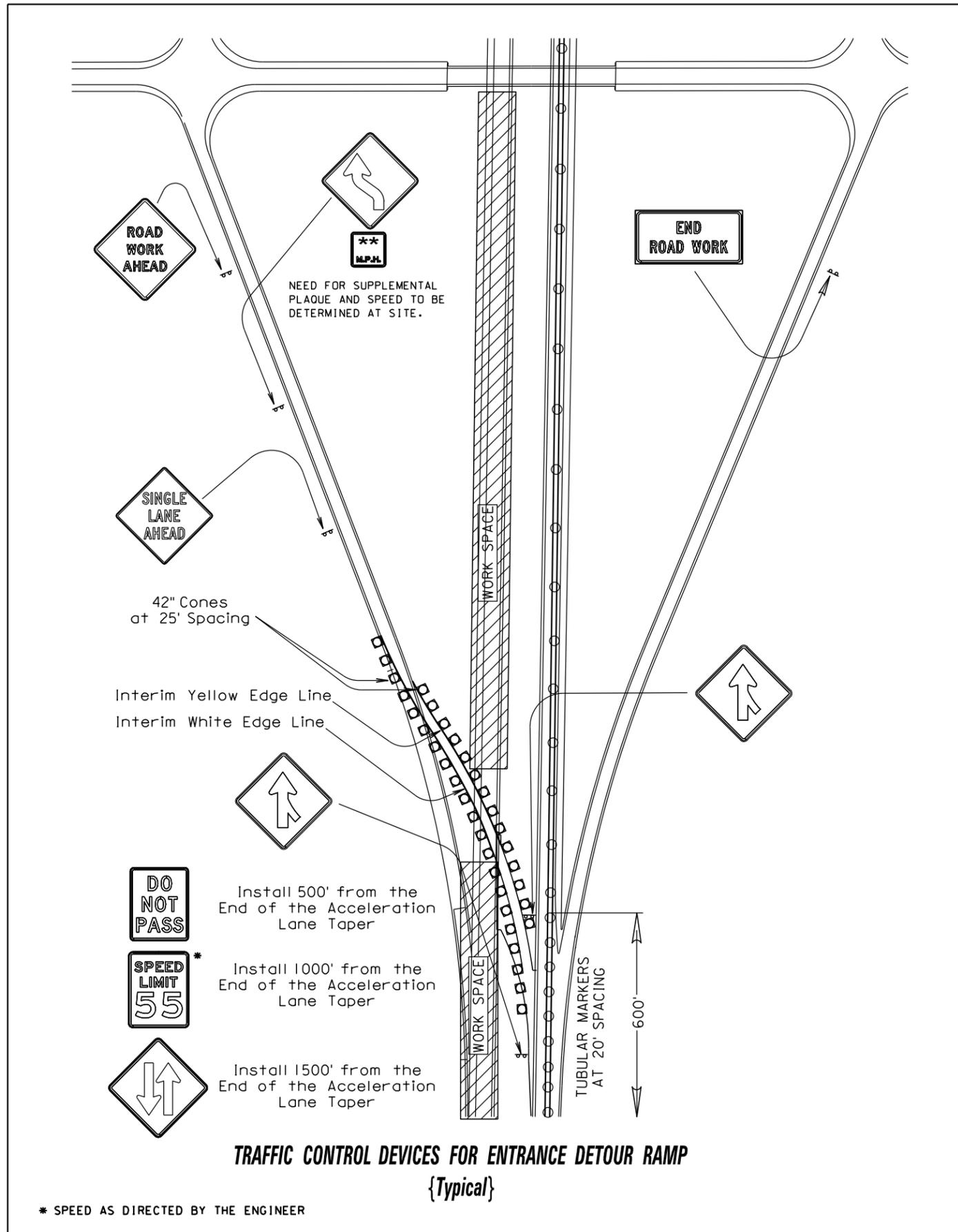
NOTES:

TO EXPEDITE AN EMERGENCY CLOSURE, CHANNELIZING DEVICE LOCATIONS SHALL BE MARKED ON THE PAVEMENT SURFACE IN A MANNER ACCEPTABLE TO THE ENGINEER. THIS SHALL BE COMPLETED PRIOR TO ESTABLISHING LANE CLOSURES ON THE WESTBOUND OR EASTBOUND LANES.

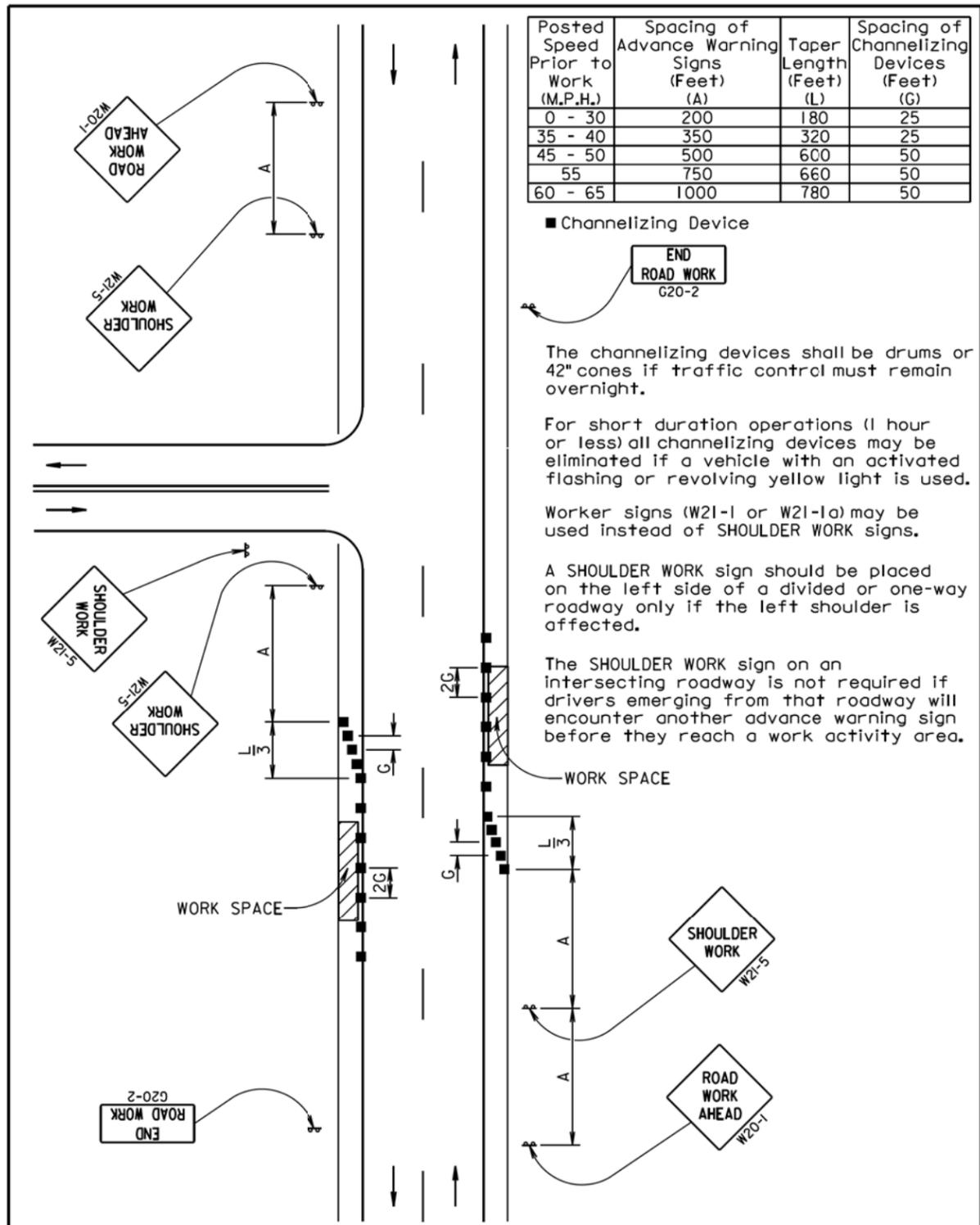
SIGNS SHALL BE MOUNTED ON TEMPORARY BASES AT THE TIME THESE SIGNS ARE DELIVERED TO THEIR RESPECTIVE LOCATIONS.

PLOT NAME - 1

FILE - ... \DESIGN FILES\TC6.DGN



Plot Scale - 1:200



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device

END ROAD WORK G20-2

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

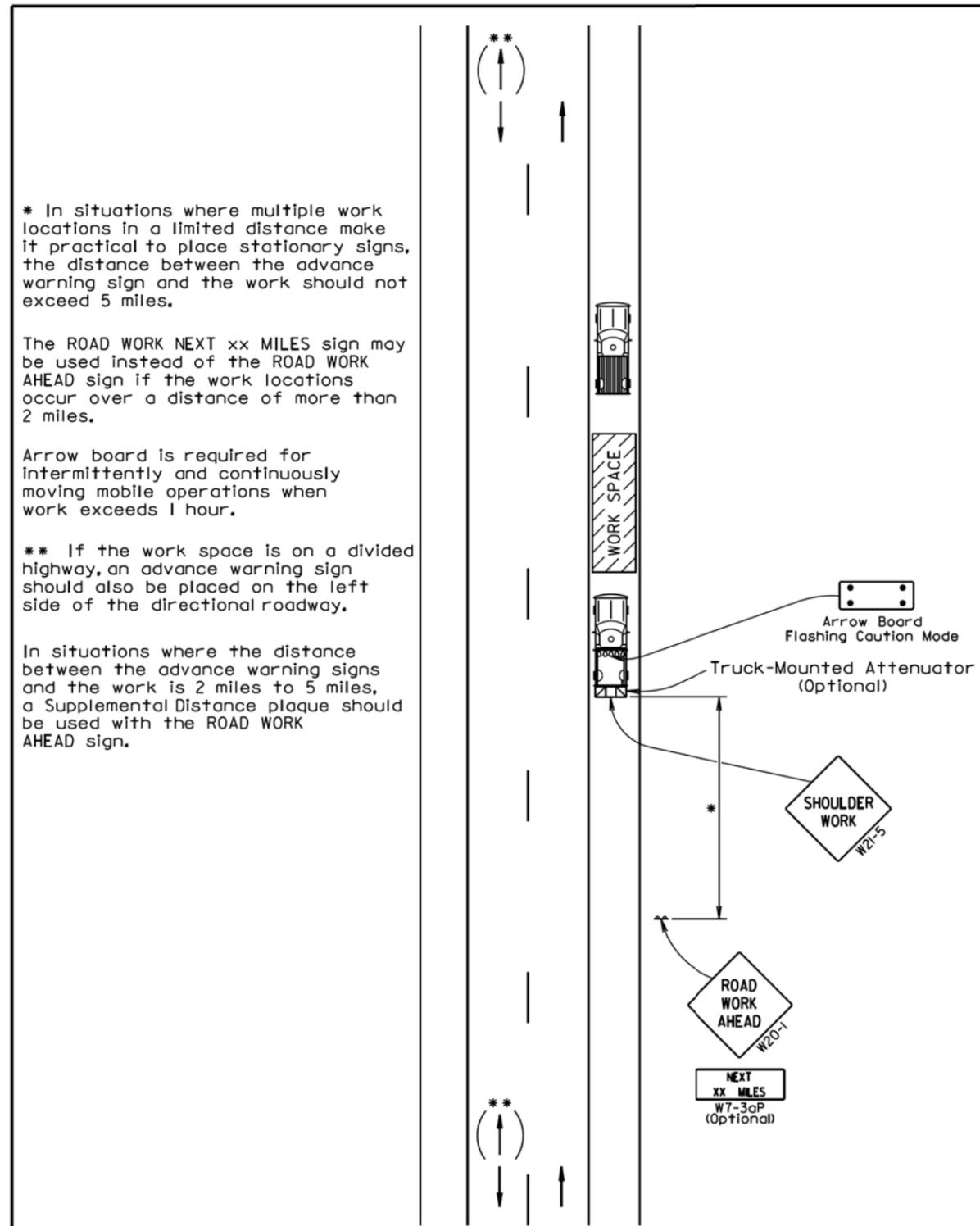
Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS	PLATE NUMBER 634.03
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1



* In situations where multiple work locations in a limited distance make it practical to place stationary signs, the distance between the advance warning sign and the work should not exceed 5 miles.

The ROAD WORK NEXT xx MILES sign may be used instead of the ROAD WORK AHEAD sign if the work locations occur over a distance of more than 2 miles.

Arrow board is required for intermittently and continuously moving mobile operations when work exceeds 1 hour.

** If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

In situations where the distance between the advance warning signs and the work is 2 miles to 5 miles, a Supplemental Distance plaque should be used with the ROAD WORK AHEAD sign.

September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES MOBILE OPERATIONS ON SHOULDER	PLATE NUMBER 634.04
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1

- Plotted From - tw11m29

File - ...ls63403s63404.dgn

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

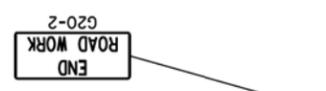
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

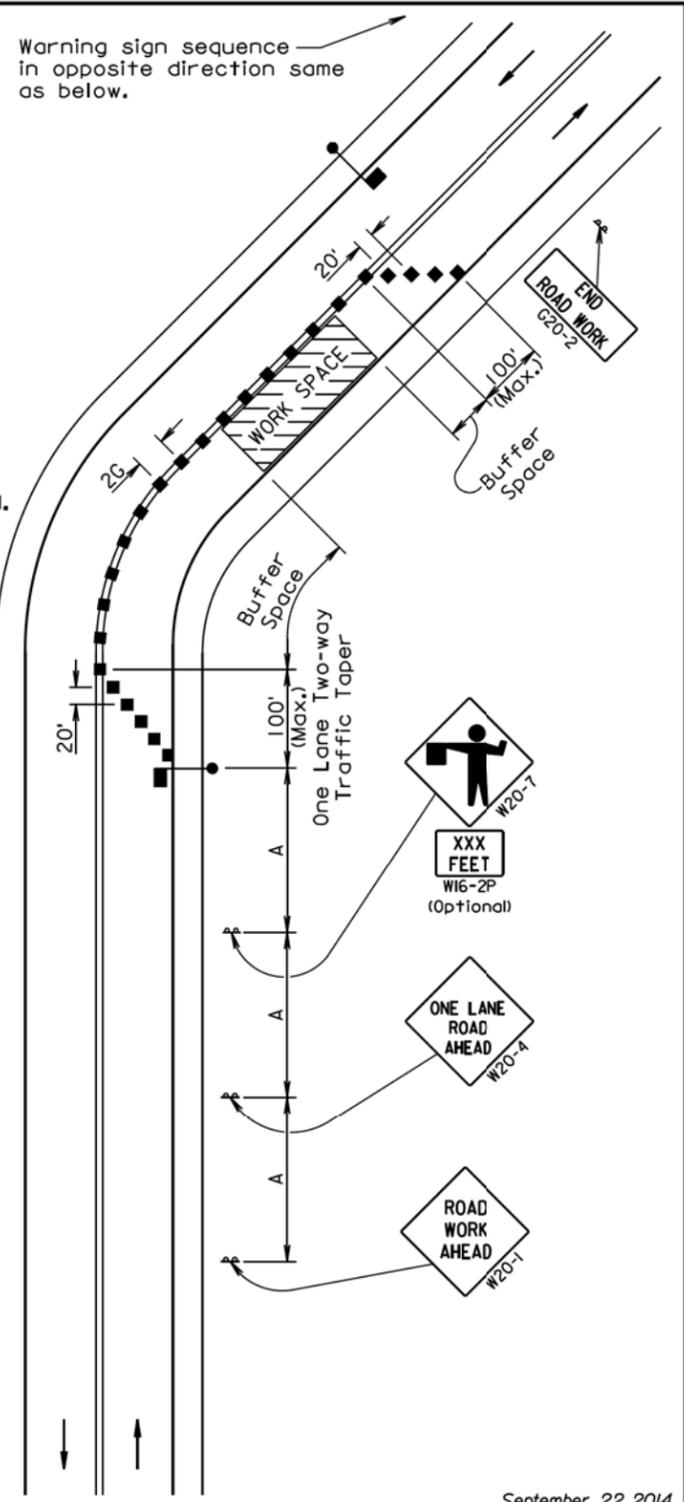
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

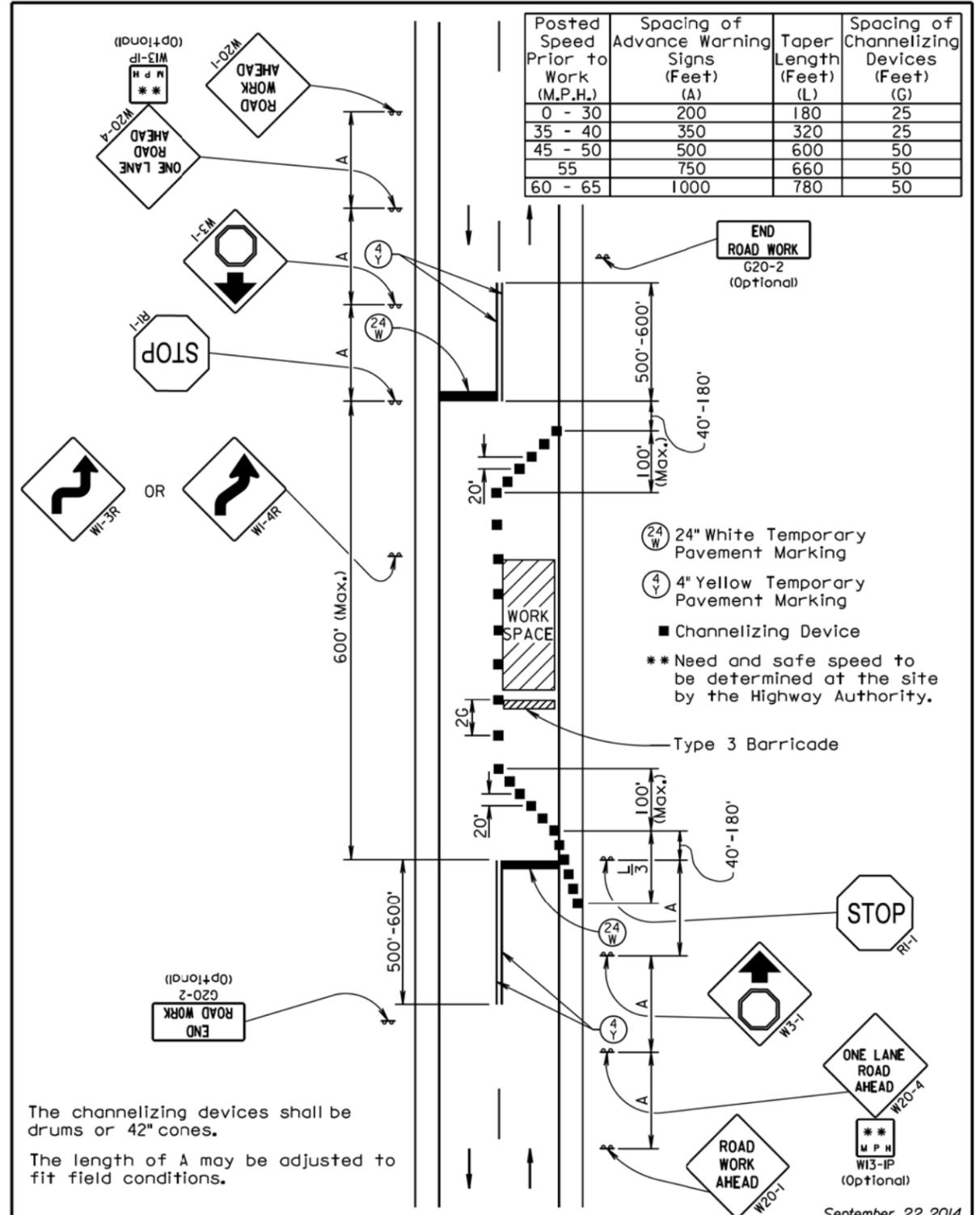
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1



September 22, 2014

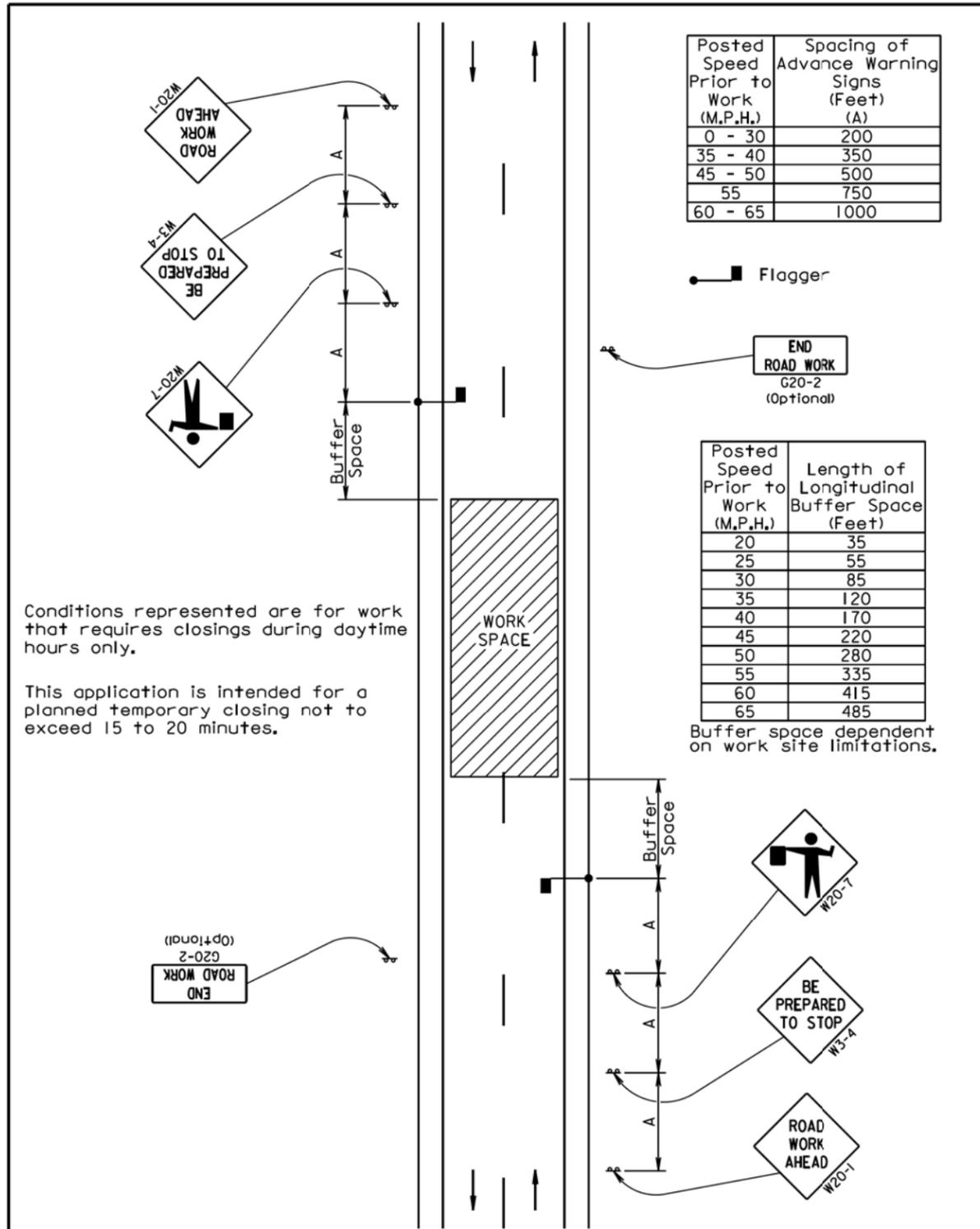
S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE USING STOP SIGNS	PLATE NUMBER 634.25
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1

Plot Scale - 1:200

- Plotted From - tw11m29

File - ...s63423s634325.dgn

Plot Scale - 1:200



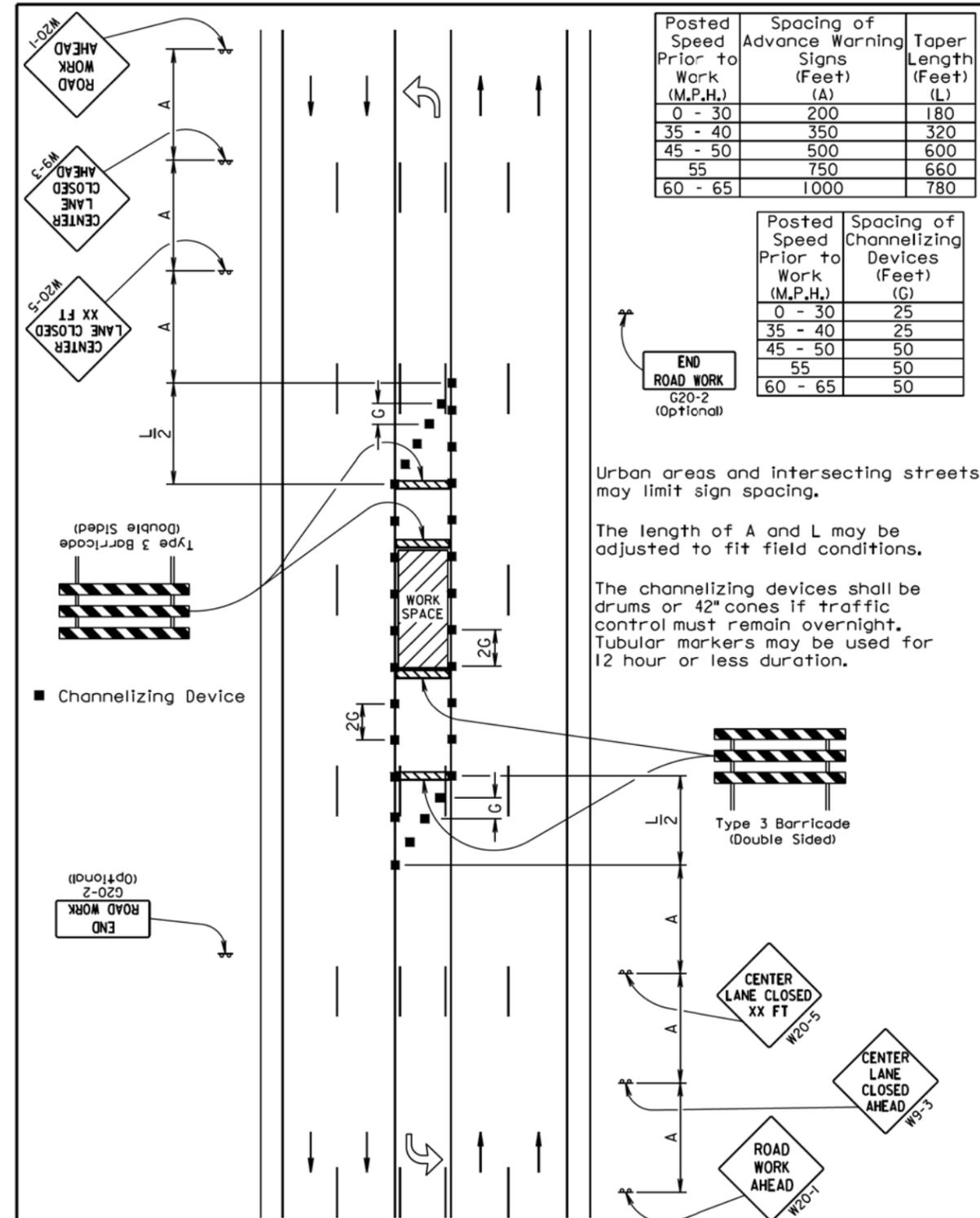
Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15 to 20 minutes.

September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD WORK	PLATE NUMBER 634.30
		Sheet 1 of 1

Published Date: 2nd Qtr. 2015



Urban areas and intersecting streets may limit sign spacing.

The length of A and L may be adjusted to fit field conditions.

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight. Tubular markers may be used for 12 hour or less duration.

September 22, 2014

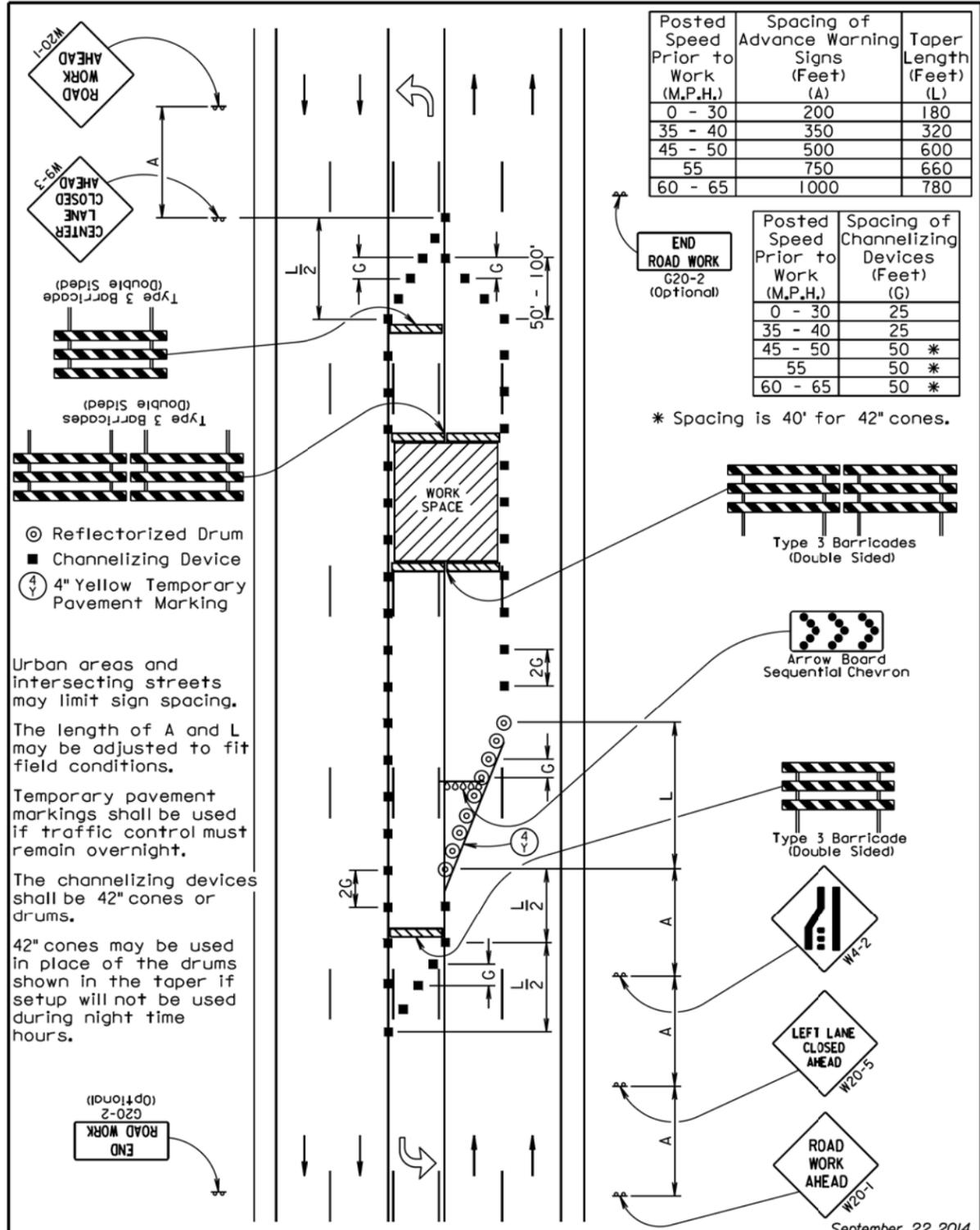
S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, CENTER LANE CLOSED	PLATE NUMBER 634.55
		Sheet 1 of 1

Published Date: 2nd Qtr. 2015

- Plotted From -

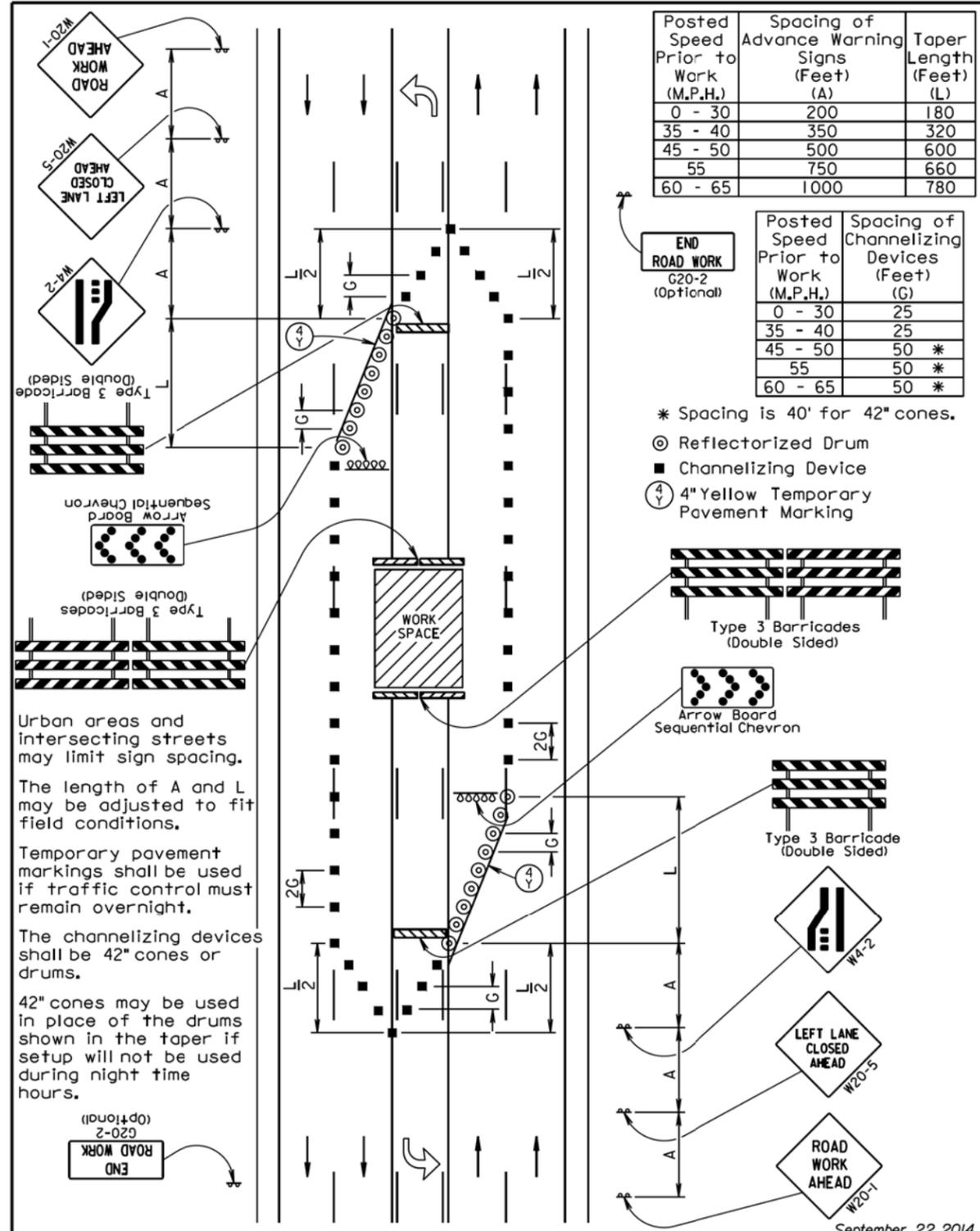
File - ...as63430s63455.dgn

Plot Scale - 1:200



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, INSIDE 2 LANES CLOSED	PLATE NUMBER 634.56
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1



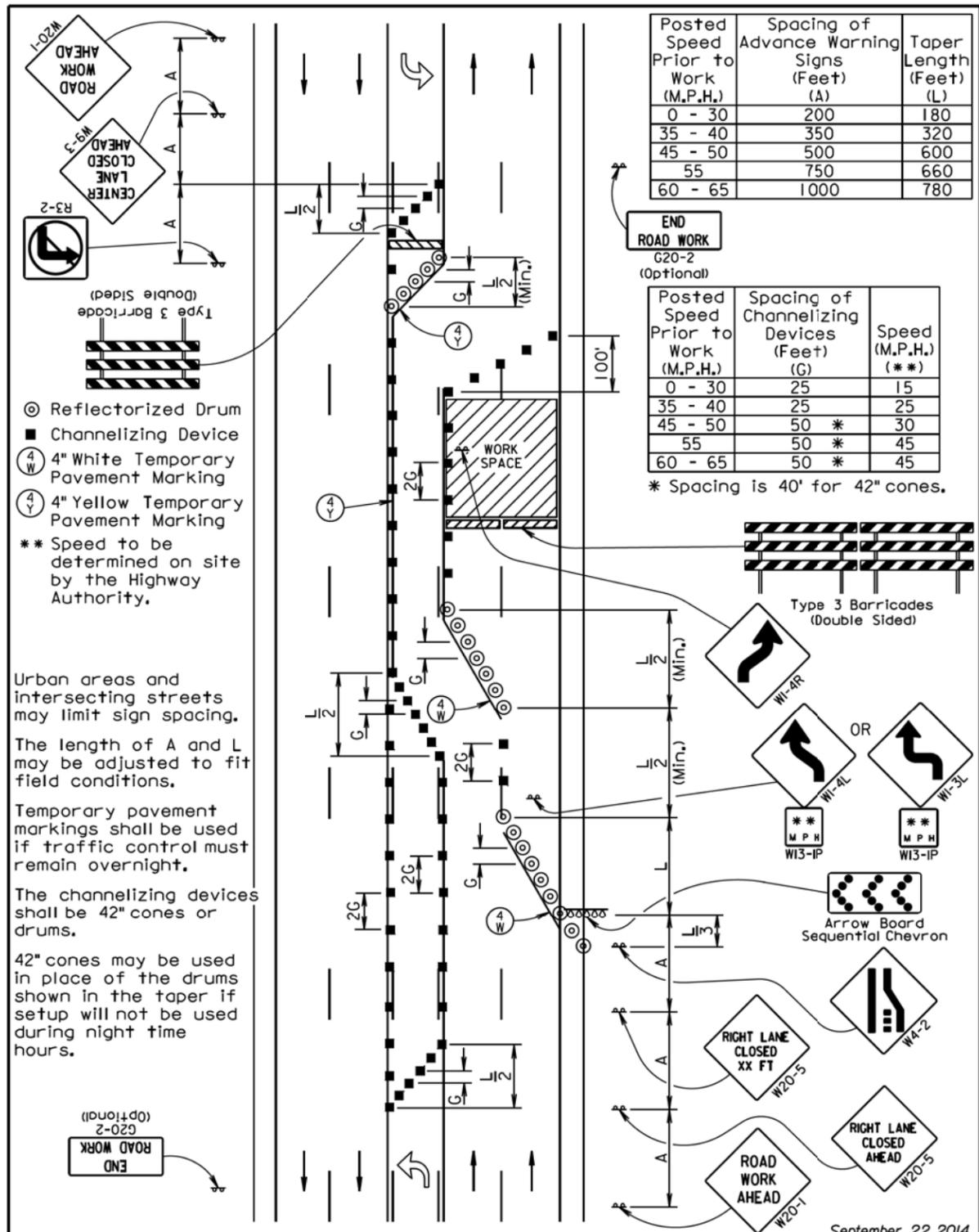
September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, CENTER 3 LANES CLOSED	PLATE NUMBER 634.57
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1

- Plotted From - tw11m29

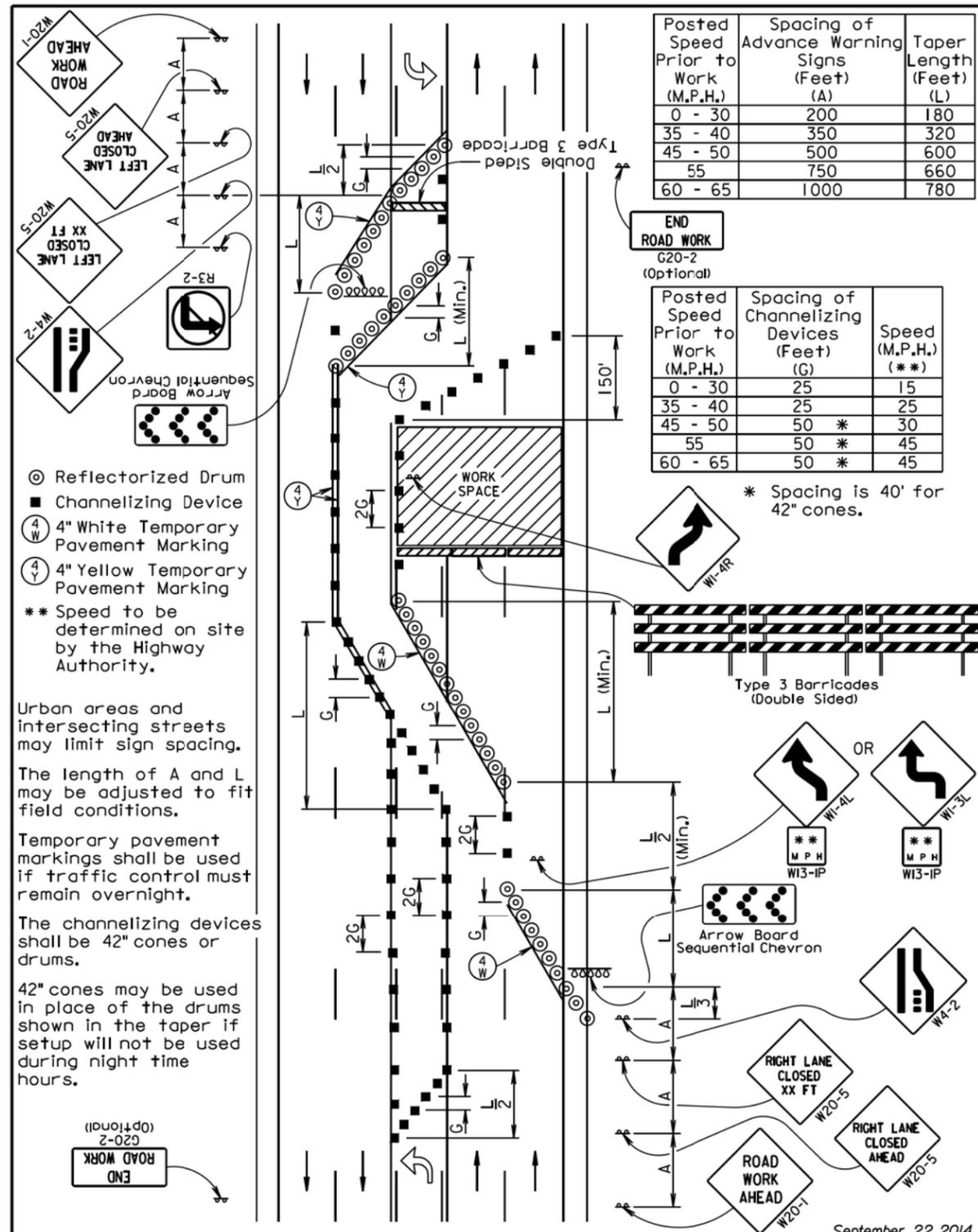
File - ...s6345683457.dgn

Plot Scale - 1:200



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, 2 LANES CLOSED ONE SIDE	PLATE NUMBER 634.58
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1



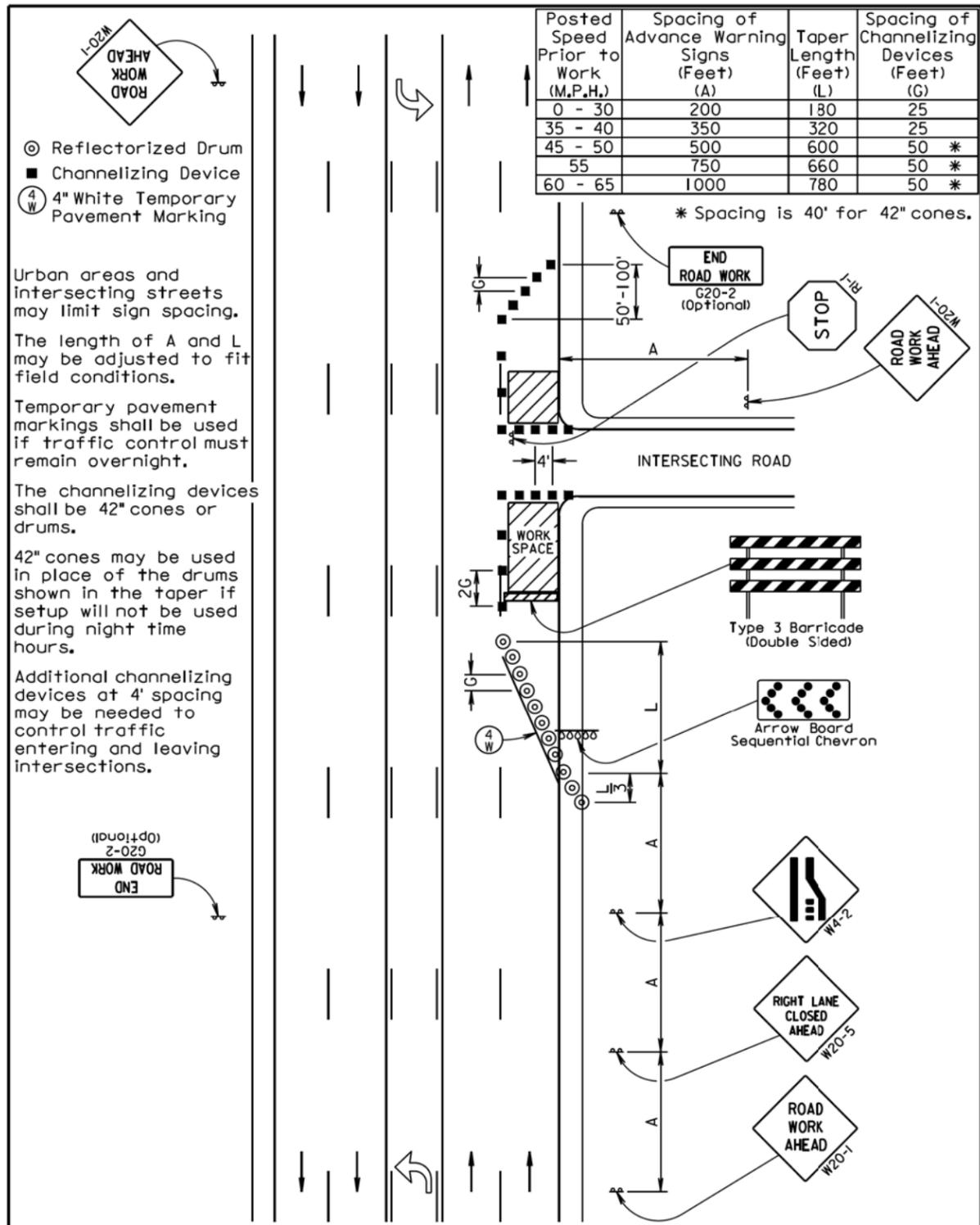
September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, 3 LANES CLOSED ONE SIDE	PLATE NUMBER 634.59
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1

- Plotted From - fwi1m29

File - ...s6345863459.dgn

Plot Scale - 1:200



- ⊙ Reflectorized Drum
- Channelizing Device
- ④ 4" White Temporary Pavement Marking

Urban areas and intersecting streets may limit sign spacing.

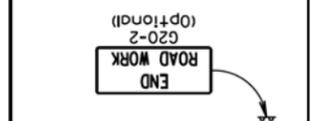
The length of A and L may be adjusted to fit field conditions.

Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be 42" cones or drums.

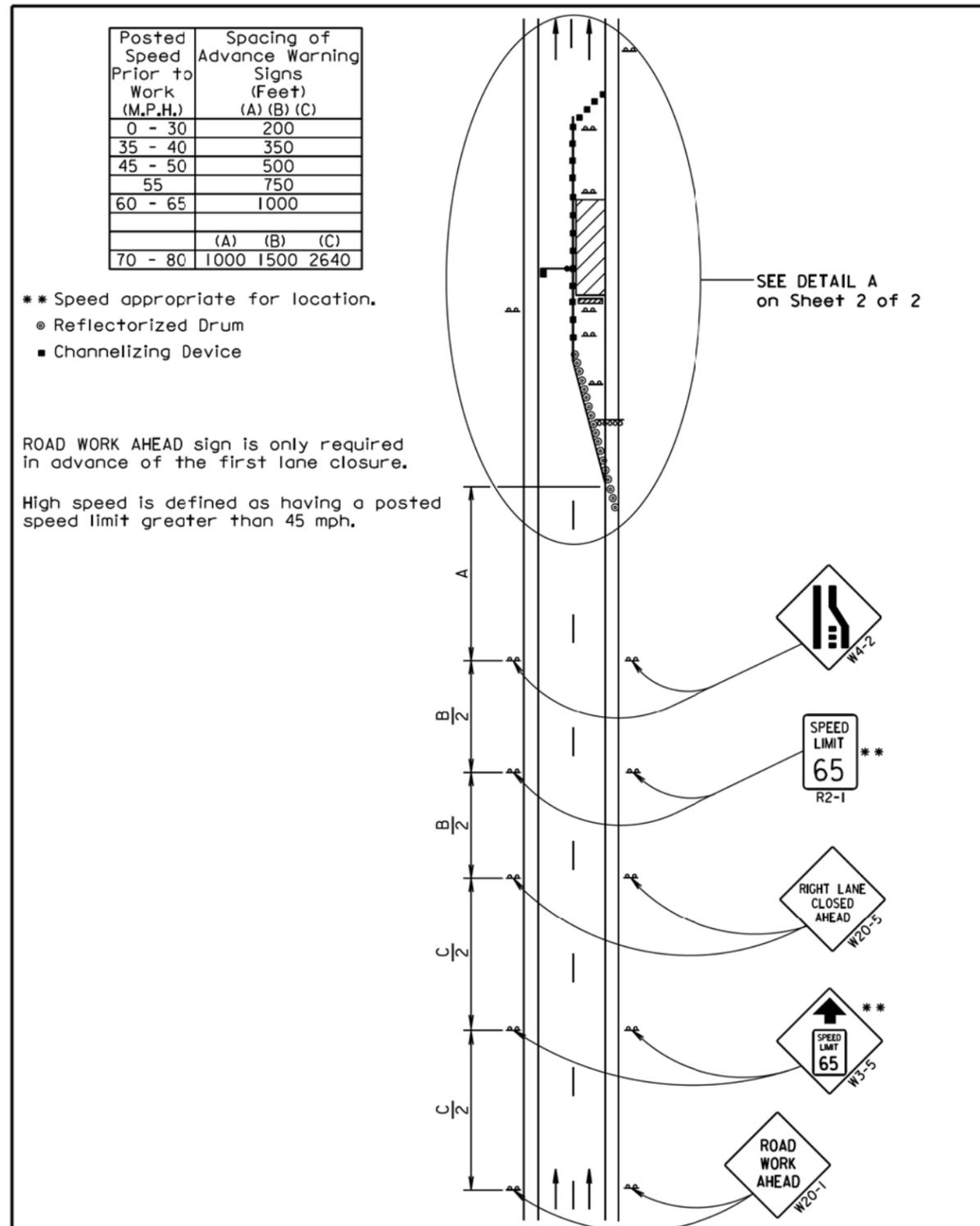
42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Additional channelizing devices at 4' spacing may be needed to control traffic entering and leaving intersections.



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES 5-LANE, OUTSIDE LANE CLOSED	PLATE NUMBER 634.60
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1



- ** Speed appropriate for location.
- ⊙ Reflectorized Drum
- Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.

SEE DETAIL A on Sheet 2 of 2

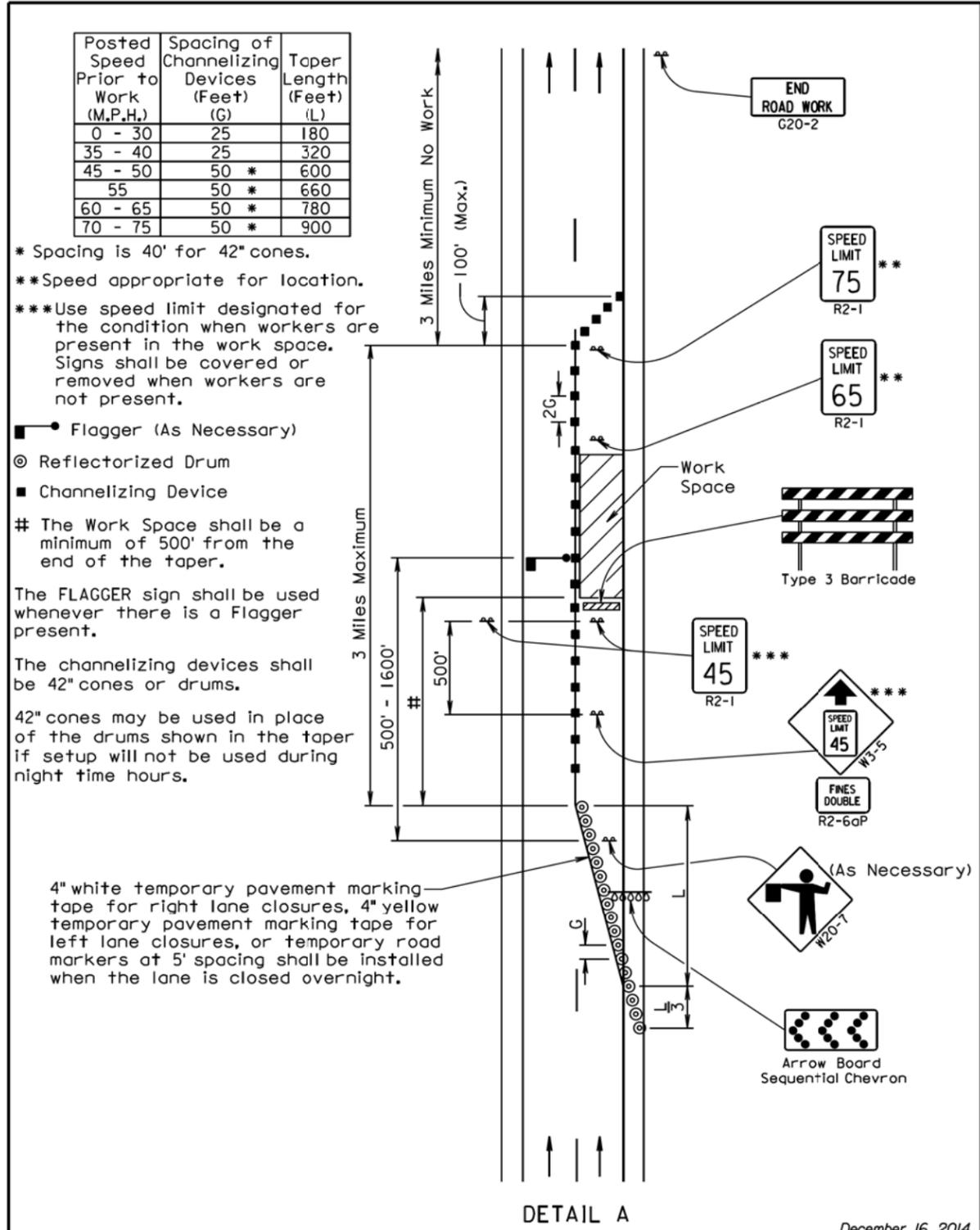
April 15, 2015

S D D O T	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
	Published Date: 2nd Qtr. 2015	Sheet 1 of 2

- Plotted From - tw1m29

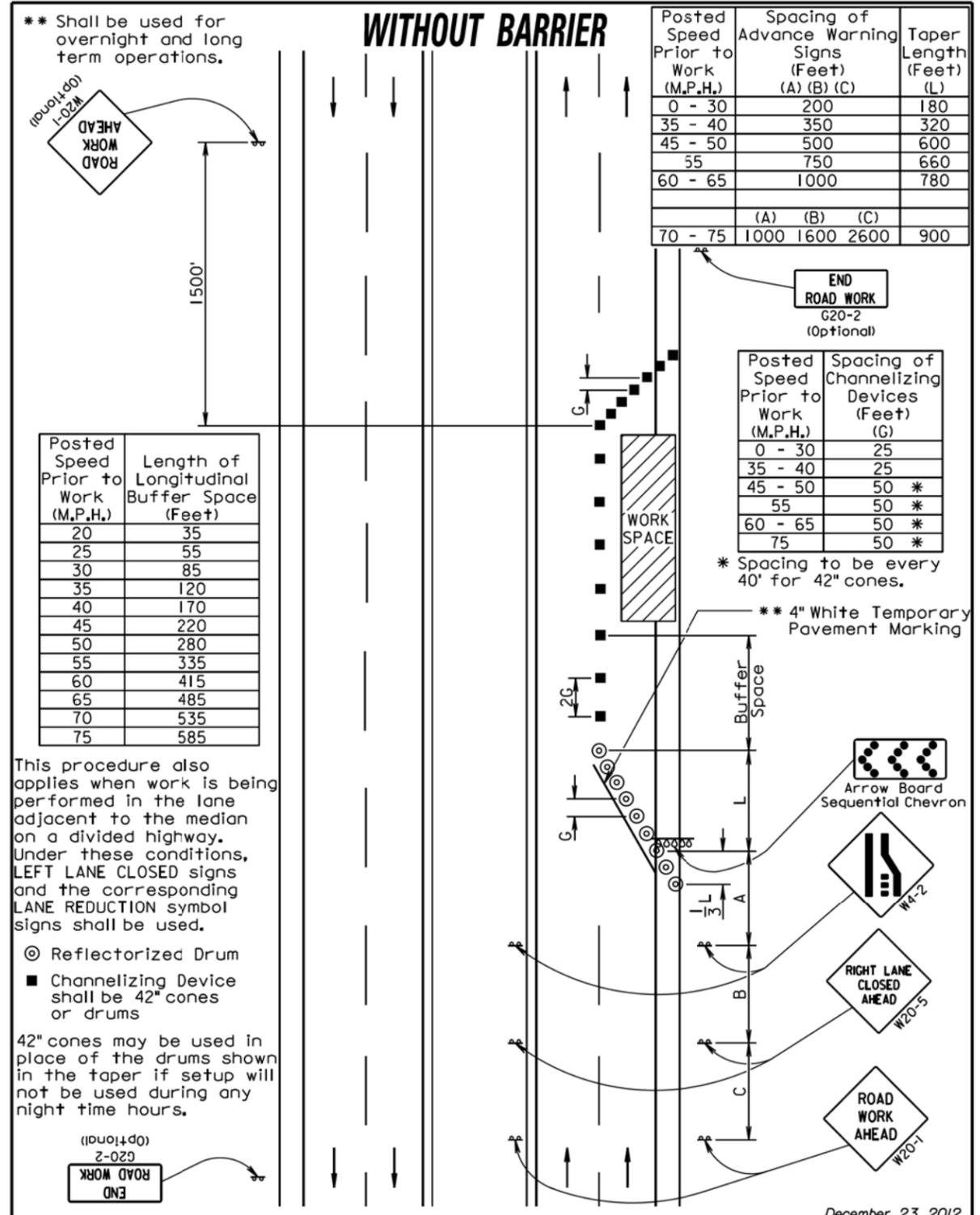
File - ...s63460s63463_1.dgn

Plot Scale - 1:200



December 16, 2014

S D D O T	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63
	Published Date: 2nd Qtr. 2015	Sheet 2 of 2

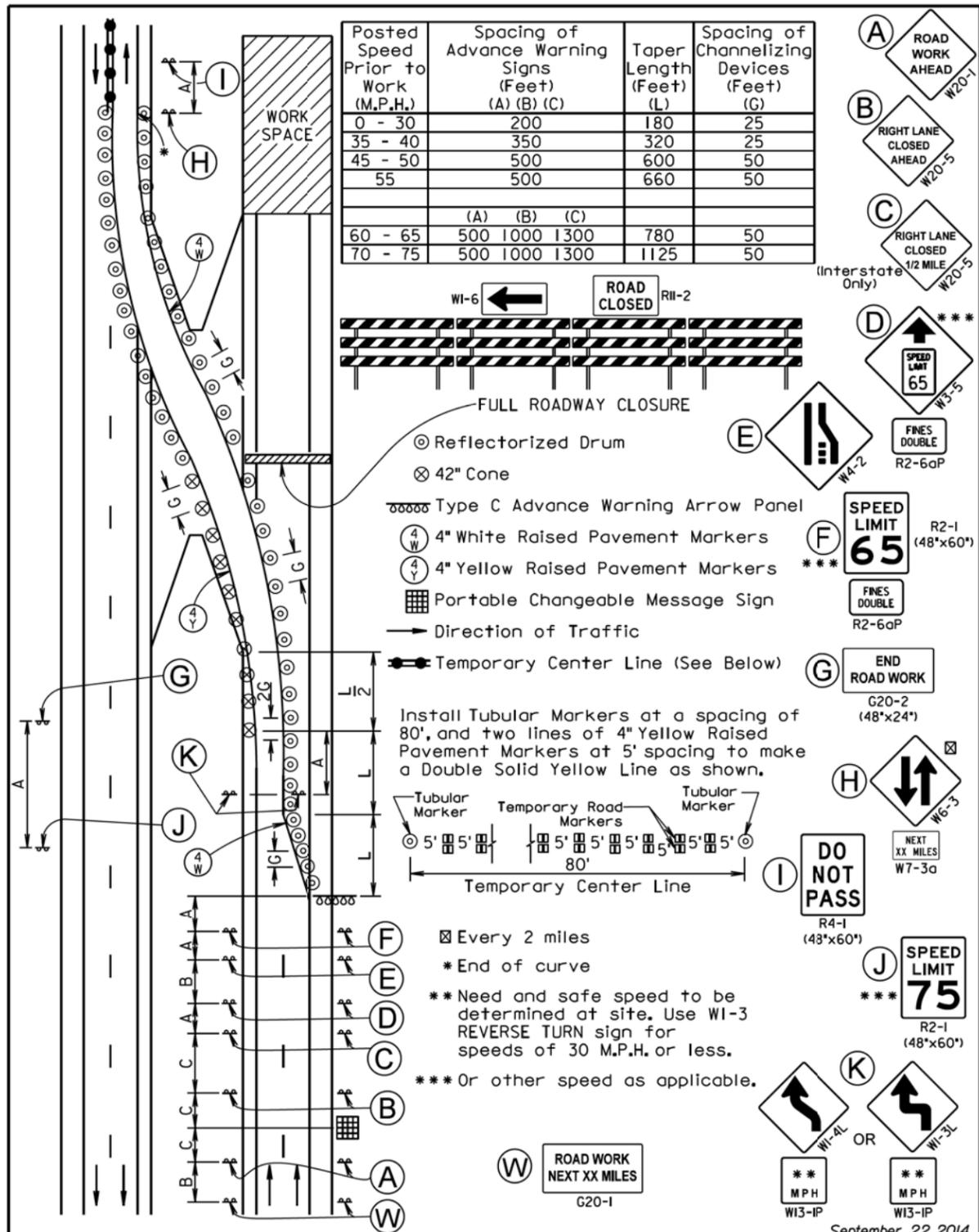


S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITHOUT BARRIER	PLATE NUMBER 634.64
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1

- Plotted From - tw11m29

File - ...ls63463_2s63464.dgn

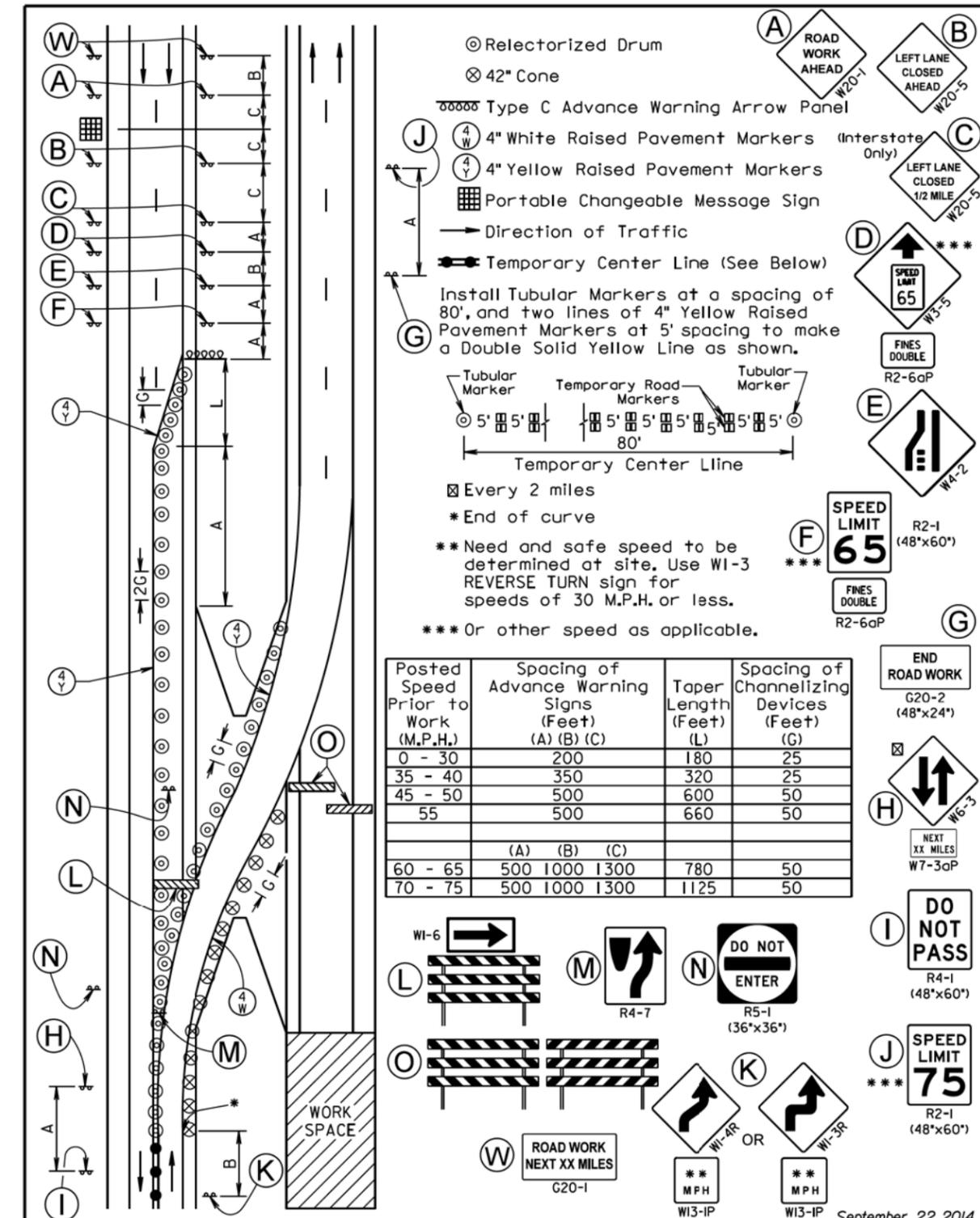
Plot Scale - 1:200



SDDOT
GUIDES FOR TRAFFIC CONTROL DEVICES
MEDIAN CROSSOVER ON DIVIDED HIGHWAY
 Published Date: 2nd Qtr. 2015

PLATE NUMBER
634.66
 Sheet 1 of 2

September 22, 2014



SDDOT
GUIDES FOR TRAFFIC CONTROL DEVICES
MEDIAN CROSSOVER ON DIVIDED HIGHWAY
 Published Date: 2nd Qtr. 2015

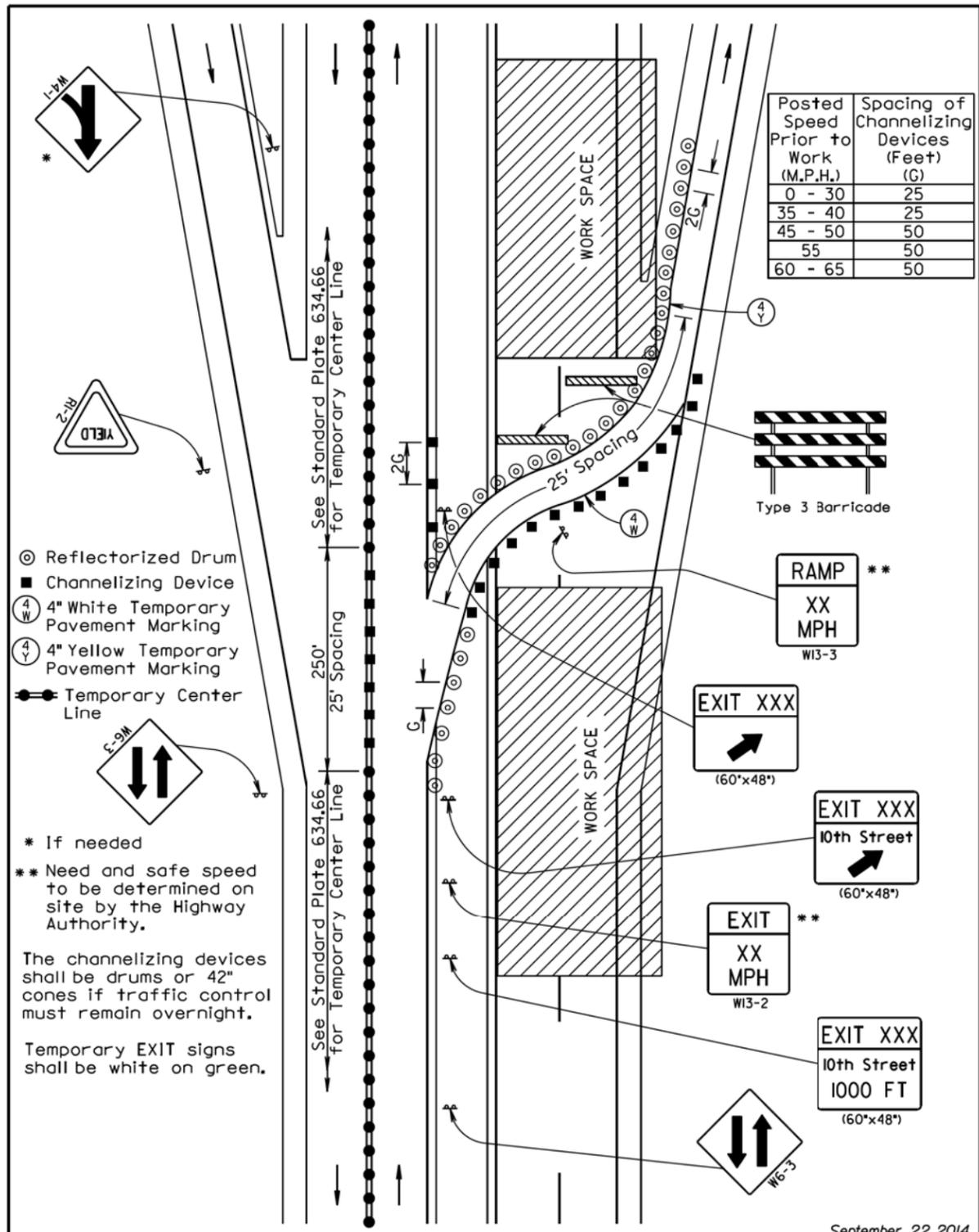
PLATE NUMBER
634.66
 Sheet 2 of 2

September 22, 2014

- Plotted From - tw1m29

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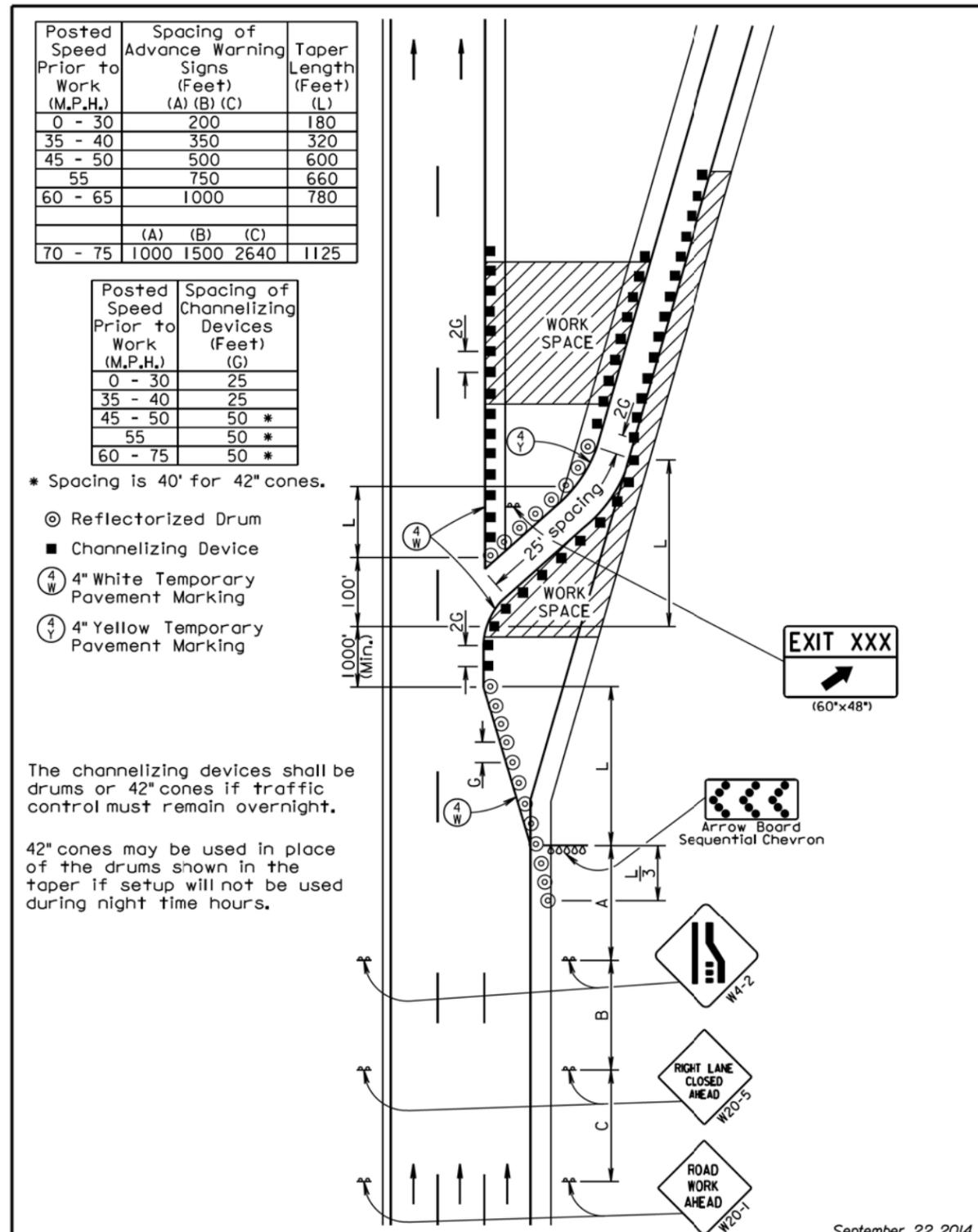
Plot Scale - 1:200



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES MEDIAN CROSSOVER FOR EXIT RAMP	PLATE NUMBER 634.67
		Sheet 1 of 1

Published Date: 2nd Qtr. 2015



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK IN VICINITY OF EXIT RAMP	PLATE NUMBER 634.68
		Sheet 1 of 1

Published Date: 2nd Qtr. 2015

- Plotted From -

File - ...IReview Files\63467\63468.dgn

Plot Scale - 1:200

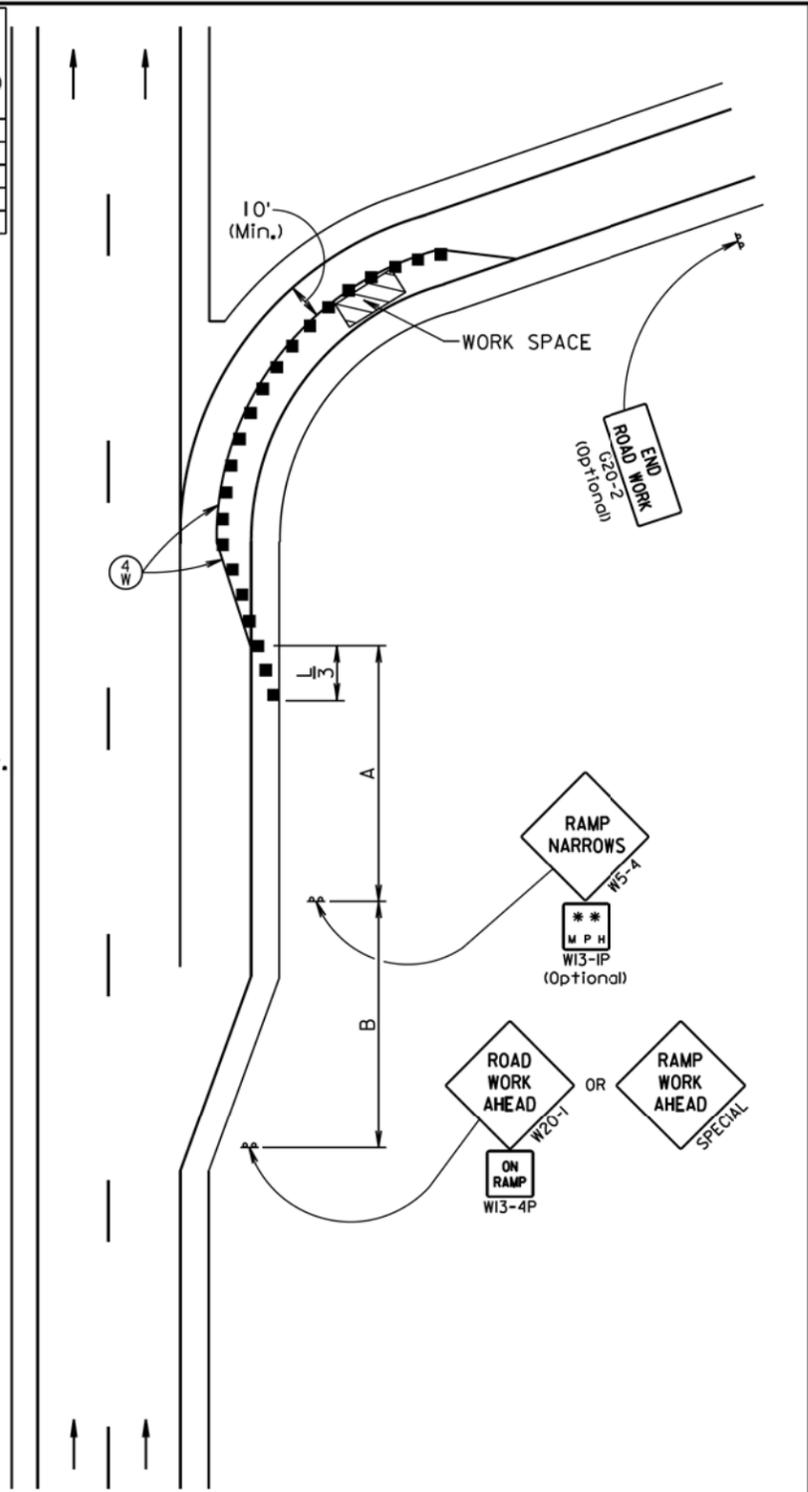
Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet)		L (Feet)
	(A)	(B)	
45 - 50	500		600
55	750		660
60 - 65	1000		780
	(A)	(B)	
70 - 75	1000	1500	1125

- Channelizing Device
- Ⓞ 4" White Temporary Pavement Marking
- ** Need and safe speed to be determined by the Highway Authority.

Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

Truck off-tracking should be considered when determining whether the 10-foot minimum lane width is adequate.



September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES PARTIAL EXIT RAMP CLOSURE	PLATE NUMBER 634.69
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet)			Taper Length (Feet)
	(A)	(B)	(C)	
0 - 30	200			180
35 - 40	350			320
45 - 50	500			600
55	750			660
60 - 65	1000			780
	(A)	(B)	(C)	
70 - 75	1000	1500	2640	1125

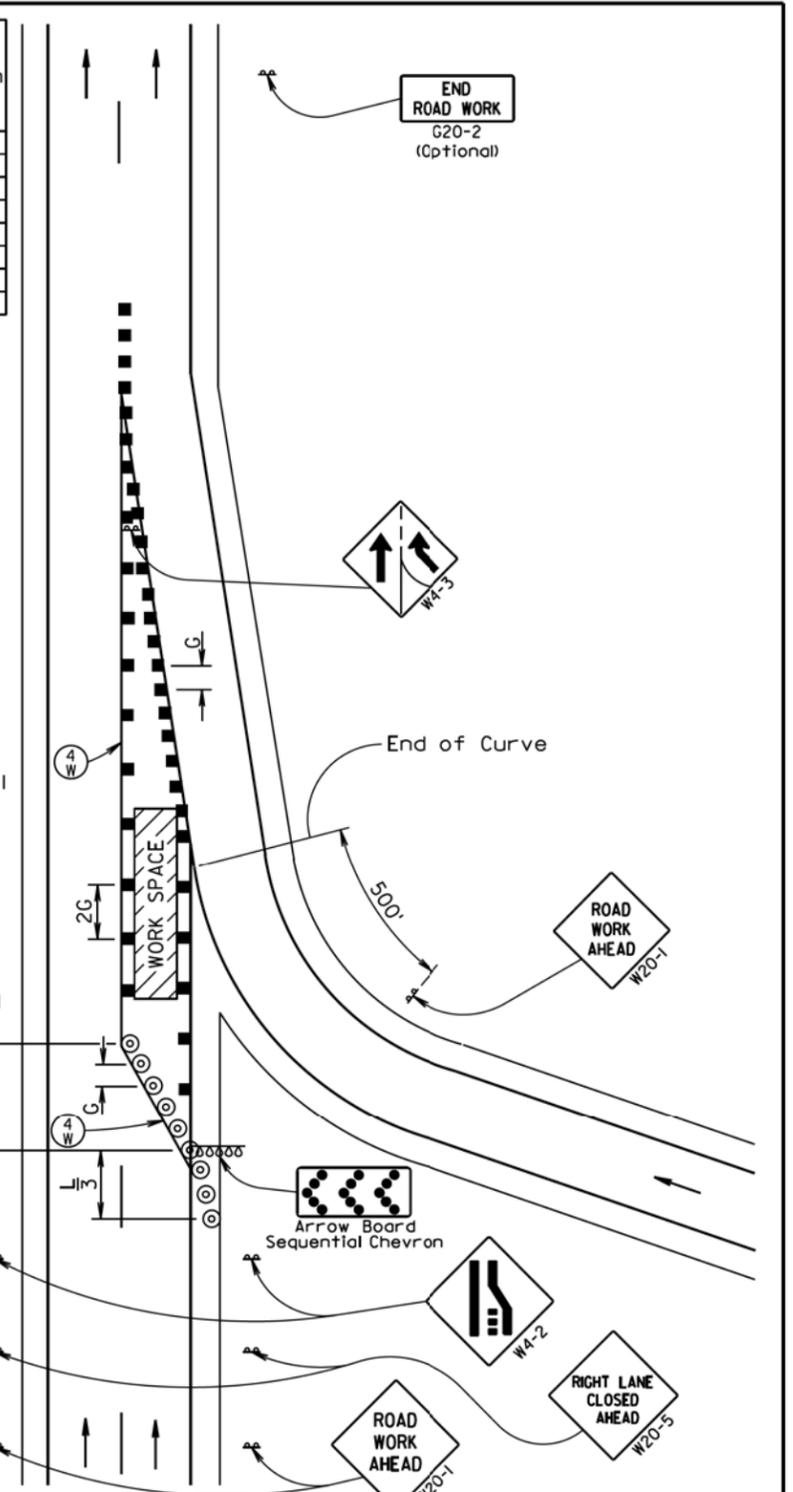
Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet)
0 - 30	25
35 - 40	25
45 - 50	50 *
55	50 *
60 - 65	50 *

- * Spacing is 40' for 42" cones.
- ⊙ Reflectorized Drum
- Channelizing Device
- Ⓞ 4" White Temporary Pavement Marking

Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.



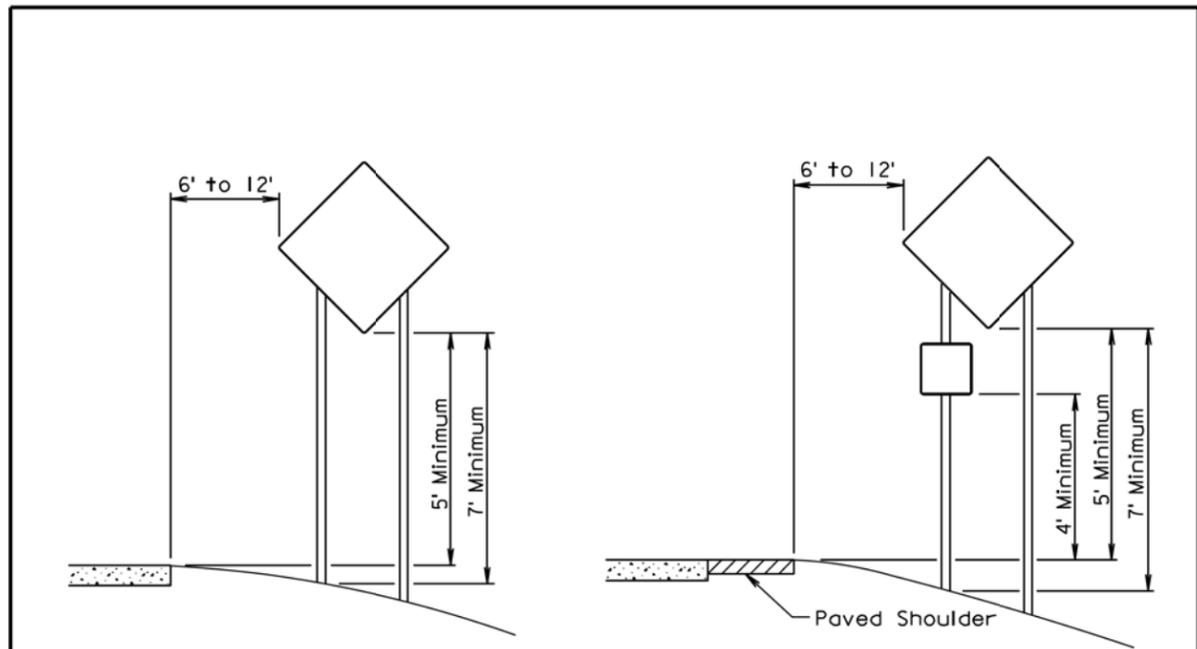
September 22, 2014

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK IN VICINITY OF ENTRANCE RAMP	PLATE NUMBER 634.70
	Published Date: 2nd Qtr. 2015	Sheet 1 of 1

- Plotted From - tw11m29

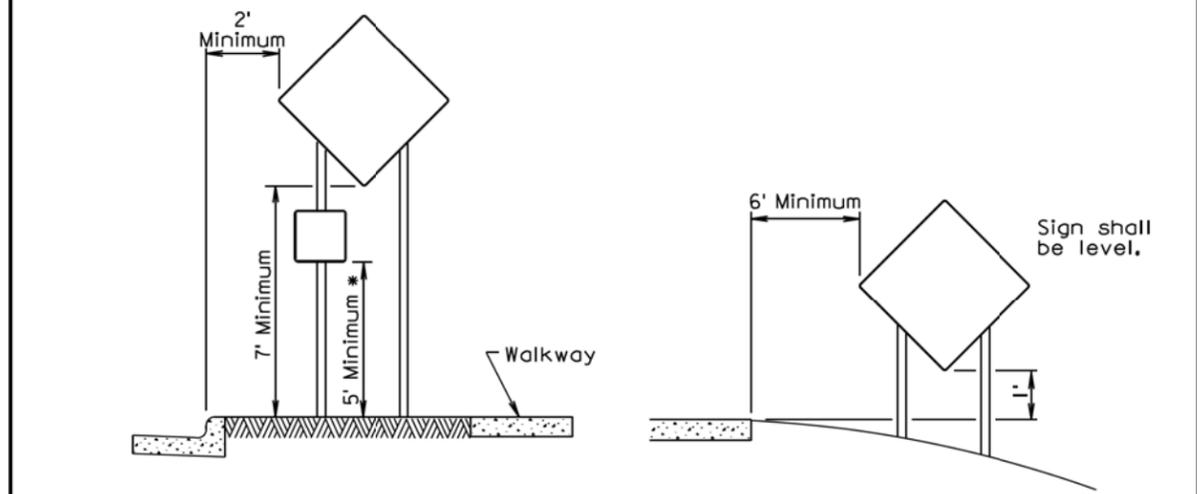
File - ...IReview Files\6346963470.dgn

Plot Scale - 1:200



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM

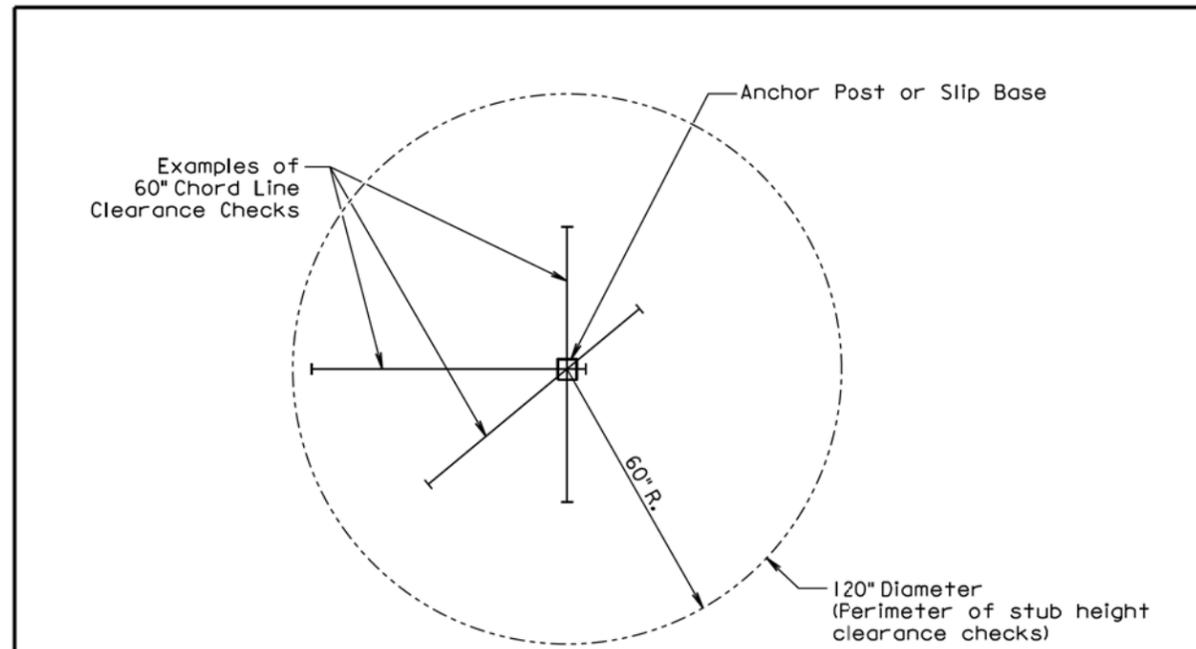
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

(Not applicable to regulatory signs)

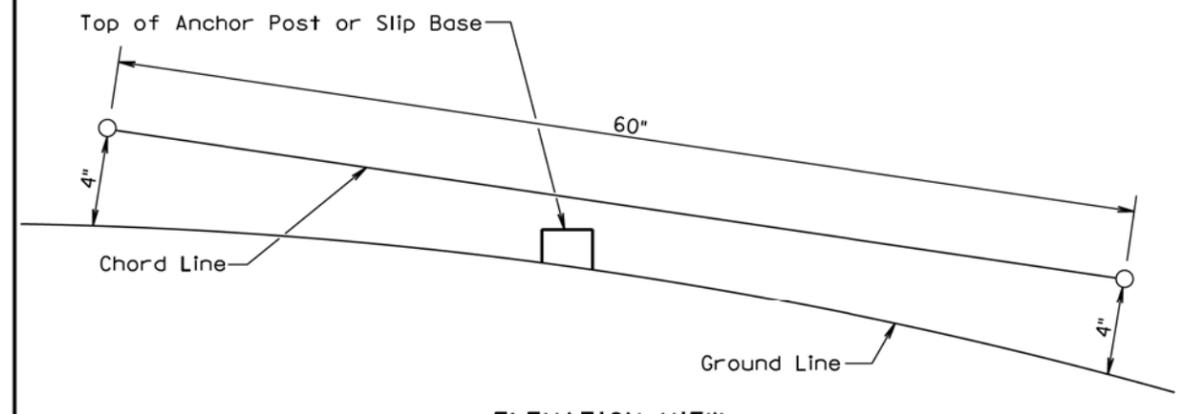
September 22, 2014

S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
		Sheet 1 of 1

Published Date: 2nd Qtr. 2015



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
		Sheet 1 of 1

Published Date: 2nd Qtr. 2015

- Plotted From - tw11m29

File - ...IReview Files\6346563499.dgn