DEPARTMENT OF TRANSPORTATION

Planning & Engineering
Office of Project Development
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November 4, 2024

ADDENDUM NO. 2

RE: Item #7, November 6, 2024 Letting - PT 0908(105)349, PCN 07W6, Hanson, McCook County - Spot Grading, PCC Surfacing, Crossover, Structures (8x8 CIP or Precast RCBC, 2-9x4 Precast RCBC, 11x5 Precast RCBC)

TO WHOM IT MAY CONCERN:

The following addenda to the plans shall be inserted and made a part of your proposal for the referenced project.

SPECIAL PROVISIONS: NO CHANGE

SDEBS BID PROPOSAL: *The electronic bid proposal for this contract has been revised to include the changes associated with this addendum. Bidders must log in to the SDEBS to retrieve and incorporate these changes into their bid.*

Bid Items were added:
Bid Item 634E0340 "Temporary Raised Pavement Markers"

Quantities for Bid Items were changed:
Bid Item 634E0110 "Traffic Control Signs" changed from 1,657.7 to 1,814.7 SqFt
Bid Item 634E0275 "Type 3 Barricade" changed from 25 to 28 Each
Bid Item 634E1002 "Detour and Restriction Signing" changed from 1,325.4 to 1,577.4 SqFt

PLANS: Please destroy sheets A1, C2, C3, C4, C5, C6, C11, C12, and C17 and replace with the enclosed sheets, dated 10/31/24, 11/1/24 and 11/4/24.

Sheets A1 & C2: **Bid Items were added:**
Bid Item 634E0340 "Temporary Raised Pavement Markers"

Quantities for Bid Items were changed:
Bid Item 634E0110 "Traffic Control Signs" changed from 1,657.7 to 1,814.7 SqFt
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Sheet C2: SEQUENCE OF OPERATIONS Site 2 note was revised.

Sheet C3: TEMPORARY RAISED PAVEMENT MARKERS note was added and TUBULAR MARKERS note was moved to Sheet C4.

Sheet C4: ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS and DETOUR AND RESTRICTION SIGNS tables were revised. TUBULAR MARKERS note was moved from Sheet C3 to Sheet C4.

Sheets C5 & C6: I90 OVERWIDTH DETOUR Traffic Control signs were added.

Sheets C11 & C12: SPECIAL SIGN DETAILS, Special Exit Traffic Control signs were removed, and Traffic Control signs were added.

Sheet C17: Standard Plate 634.67 was removed.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj

CC: Travis Dressen, Mitchell Region Engineer
Jay Peppel, Mitchell Area Engineer

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PT 0908(105)349	A1	A5

Plotting Date: 11/01/2024 11-01-2024-RWB

Section B - Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3220	Reestablish Right-of-Way and Property Corner	92	Each
009E3230	Grade Staking	4.958	Mile
009E3245	Final Cross Section Survey	2.663	Mile
009E3250	Miscellaneous Staking	2.663	Mile
009E3280	Slope Staking	2.266	Mile
009E3290	Structure Staking	3	Each
009E3301	Engineer Directed Surveying/Staking	10.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	11,606	Ft
110E0707	Remove High Tension 4 Cable Guardrail	840	Ft
110E0730	Remove Beam Guardrail	466.0	Ft
110E1010	Remove Asphalt Concrete Pavement	16,261.8	SqYd
110E1100	Remove Concrete Pavement	32,690.3	SqYd
110E6016	Remove High Tension 4 Cable Guardrail Anchor Assembly for Reset	4	Each
110E6250	Remove Beam Guardrail Trailing End Terminal for Reset	2	Each
120E0010	Unclassified Excavation	86,136	CuYd
120E0600	Contractor Furnished Borrow	72,011	CuYd
120E1000	Muck Excavation	12,074	CuYd
120E2000	Undercutting	36,927	CuYd
120E6100	Water for Embankment	1,375.3	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
421E0100	Pipe Culvert Undercut	85	CuYd
450E0122	18" RCP Class 2, Furnish	520	Ft
450E0130	18" RCP, Install	520	Ft
450E0142	24" RCP Class 2, Furnish	298	Ft
450E0150	24" RCP, Install	298	Ft
450E0182	36" RCP Class 2, Furnish	184	Ft
450E0190	36" RCP, Install	184	Ft
450E0192	42" RCP Class 2, Furnish	76	Ft
450E0200	42" RCP, Install	76	Ft
450E0416	24" RCP Bend, Furnish	4	Each
450E0417	24" RCP Bend, Install	4	Each
450E2028	36" RCP Flared End, Furnish	2	Each
450E2029	36" RCP Flared End, Install	2	Each
450E2032	42" RCP Flared End, Furnish	2	Each
450E2033	42" RCP Flared End, Install	2	Each
450E2200	24" RCP Sloped End, Furnish	4	Each
450E2201	24" RCP Sloped End, Install	4	Each
450E2304	18" RCP Safety End, Furnish	5	Each
450E2307	18" RCP Safety End, Install	5	Each

Section B – Grading (Continued)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E5243	66" CMP Flared End, Furnish	2	Each
450E5244	66" CMP Flared End, Install	2	Each
450E5314	30" CMP Sloped End, Furnish	2	Each
450E5315	30" CMP Sloped End, Install	2	Each
450E7630	30" Steel Pipe, Furnish	72	Ft
450E7666	66" Steel Pipe, Furnish	134	Ft
451E5130	Bore and Jack 30" Pipe	72	Ft
451E5166	Bore and Jack 66" Pipe	134	Ft
462E0100	Class M6 Concrete	9.4	CuYd
480E0100	Reinforcing Steel	888	Lb
600E0200	Type II Field Laboratory	1	Each
620E0020	Type 2 Right-of-Way Fence	11,606	Ft
620E0510	Type 1 Temporary Fence	10,904	Ft
620E0515	Type 1A Temporary Fence	702	Ft
620E1020	2 Post Panel	12	Each
620E1030	3 Post Panel	28	Each
629E0110	High Tension 4 Cable Guardrail	840	Ft
629E0290	High Tension Cable Guardrail Anchor Assembly	4	Each
629E0295	Reset High Tension Cable Guardrail Anchor Assembly	4	Each
630E0110	Straight Double Class A Thrie Beam Guardrail with Wood Posts	175.0	Ft
630E0500	Type 1 MGS	150.0	Ft
630E1500	Type 1 Guardrail Transition	2	Each
630E2001	Asymmetrical W Beam to Thrie Beam Guardrail Transition	4	Each
630E2017	MGS MASH Flared End Terminal	2	Each
630E2018	MGS MASH Tangent End Terminal	4	Each
630E2055	Thrie Beam Guardrail Trailing End Terminal	2	Each
630E5210	Reset Beam Guardrail Trailing End Terminal	2	Each
670E4205	Type M Frame and Grate Assembly	5	Each
720E1010	PVC Coated Bank and Channel Protection Gabion	23.0	CuYd
831E0110	Type B Drainage Fabric	66	SqYd

Section C - Traffic Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	60.0	Hour
634E0110	Traffic Control Signs	1,814.7	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	28	Each
634E0340	Temporary Raised Pavement Markers	11.7	Mile
634E0380	Tubular Marker	200	Each
634E0390	Replace Tubular Marker	20	Each
634E0420	Type C Advance Warning Arrow Board	4	Each
634E0630	Temporary Pavement Marking	14.5	Mile
634E1002	Detour and Restriction Signing	1,577.4	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	4	Each
634E1260	Truck/Trailer Mounted Attenuator	2	Each

INDEX OF SHEETS

Section D - Erosion and Sediment Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	7.6	CuYd
110E1695	Remove Sediment Filter Bag	160	Ft
110E1700	Remove Silt Fence	1,659	Ft
230E0010	Placing Topsoil	13,239	CuYd
730E0100	Cover Crop Seeding	20.0	Bu
730E0208	Type E Permanent Seed Mixture	120	Lb
730E0212	Type G Permanent Seed Mixture	488	Lb
731E0200	Fertilizing	12.41	Ton
732E0100	Mulching	49.5	Ton
734E0132	Type 2 Turf Reinforcement Mat	356.0	SqYd
734E0154	12" Diameter Erosion Control Wattle	2,750	Ft
734E0165	Remove and Reset Erosion Control Wattle	698	Ft
734E0180	Sediment Filter Bag	160	Ft
734E0325	Surface Roughening	7.6	Acre
734E0602	Low Flow Silt Fence	5,705	Ft
734E0604	High Flow Silt Fence	886	Ft
734E0610	Mucking Silt Fence	460	CuYd
734E0620	Repair Silt Fence	1,659	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	5	Each
900E1320	Construction Entrance	2	Each

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ESTIMATE OF QUANTITIES

PT 0908(105)349

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	60.0	Hour
634E0110	Traffic Control Signs	1,814.7	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	28	Each
634E0340	Temporary Raised Pavement Markers	11.7	Mile
634E0380	Tubular Marker	200	Each
634E0390	Replace Tubular Marker	20	Each
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634E1002	Detour and Restriction Signing	1,577.4	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	4	Each
634E1260	Truck/Trailer Mounted Attenuator	2	Each

SEQUENCE OF OPERATIONS

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

The Contractor will be allowed to work on any or all of the sites at one time. If working on multiple sites requires an increase in quantities of any traffic control items and truck mounted attenuators, those increases will be at the Contractor's expense.

Site 1 – Drainage Modifications Sta 36+12 to 58+00 (I90 Exit 350)

1. Install traffic control for lane closures with truck mounted attenuators on both I90 eastbound and westbound mainline driving lanes at 56+50.
2. Remove mainline guardrail to bore and jack pipe under mainline.
3. Install new pipe along mainline at 56+50.
4. Install guardrail after pipe installation is complete.
5. Remove traffic control on mainline.
6. Install traffic control for ditch work on ramps.
7. Bore and jack pipe under ramp and SD Hwy 25.
8. Remove traffic control for shoulder work on ramps.

Site 2 – Grading 479+55 to 507+30, 548+45 to 570+00 (I90 Exit 357)

1. Install width restriction signing as detailed in these plans.
2. Install traffic control for both the I90 westbound and eastbound lane closures with truck mounted attenuators on at the installation of the median crossover at 434+55.
3. Construct Crossover at 434+55
4. Install traffic control for lane closures with truck mounted attenuators on both I90 eastbound and westbound mainline driving lanes at 633+60.
5. Install temporary guardrail at 633+60 and 674+50 on I90 mainline.
6. Install traffic control for two-lane two-way in the eastbound lanes from the crossover near 434+55 to the crossover near I90 MRM 362.070.
7. Move all I-90 traffic to eastbound lanes. Close westbound on and off ramps at Exit 357.
8. Perform all pipe, grading, and surfacing work in the WB lanes of I90 and Ramp A of Exit 357

SEQUENCE OF OPERATIONS (CONTINUED)

10. Install traffic control for two-lane two-way in the WB lanes from the crossover near 434+55 to the crossover near I90 MRM 362.0
11. Move all I-90 traffic to WB lanes. Close eastbound on and off ramps at Exit 357.
12. Perform all pipe, grading, and surfacing work in the EB lanes of I90 and Ramp B of Exit 357.
13. Install permanent signing and pavement marking in eastbound lanes.
14. Move all traffic to appropriate lanes.
15. Install permanent signing and pavement marking in the westbound lanes.
16. Remove temporary traffic control devices.

Site 3 – 257th St.

1. Install traffic control on 257th St. & 435th Ave. and 257th St. and 436th Ave. for off-site detour per Standard Plate 634.29.
2. Remove existing culvert and install new culvert on 257th St.
3. Remove traffic control on 257th St. & 435th Ave. and 257th St. and 436th Ave.

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All construction operations will be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans. Additional Type 3 Barricades will be installed facing traffic within the closed lane at a spacing of ¼ mile.

At no time will a vertical drop-off of greater than 3 inches be left overnight adjacent to the traveled way. The Contractor will utilize embankment material to ensure a 3-inch vertical drop-off is not exceeded. The slope of the embankment material will not be steeper than a 4:1 within 30 feet of the traveled way.

GENERAL TRAFFIC CONTROL (CONTINUED)

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment will be repaired at no expense to the Department.

Lane closures will be limited to 5 miles in length. The distance between the closest points of any two-lane closures will be at least 3 miles, excluding tapers.

On Interstate projects with more than one construction site, slow moving equipment that operates at a speed less than 40 MPH may mobilize between sites if the equipment travels on the shoulder. The slow-moving equipment will also display a flashing amber light and a slow-moving sign.

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer. At no time will construction vehicles utilize the maintenance crossovers or the Interstate median to exit or enter Interstate traffic.

On Interstate projects with more than one construction site, slow moving equipment that operates at a speed less than 40 MPH may mobilize between sites if the equipment travels on the shoulder. The slow-moving equipment will also display a flashing amber light and a slow-moving sign.

LANE CLOSURES

Interstate lane closures shorter than 5 miles will be used if 5 miles is greater than the length of work that can be accomplished in one day's production. More than one lane closure may be permitted; however, there will be a minimum of a three-mile section between lane closures, excluding the tapers.

Interstate lane closures will be removed when work will not be occurring for a period of 3 or more calendar days. Activities that do not involve workers being present, such as curing time for concrete, constitute work. Lane closures will not be set up on a Friday if no work will be occurring on Saturday or Sunday. In these cases, the lane closure will be installed on Monday.

OVERWIDTH RESTRICTION AND DETOUR SIGNING

The Contractor will furnish and install the overwidth restriction and detour signs as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Overwidth restriction and detour signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the overwidth restriction and detour signs.

All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the overwidth restriction and detour signs will be incidental to the contract unit price per square foot for "Detour and Restriction Signing".

FLAGGERS

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

Additional flagger warning signs and flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours.

It is required that the flaggers be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for "Flagging".

WORK ZONE SPEED REDUCTION

The Department is required to obtain a speed reduction resolution prior to the installation of any SPEED LIMIT (R2-1) signs shown on standard plate 634.63. To provide adequate time for the resolution to be enacted, the Contractor will inform the Engineer a minimum of 3 weeks prior to the scheduled installation of any work zone speed reduction signs on the project. The information provided by the Contractor will include the anticipated date of sign installation, the newly reduced speed limit, the location of the work zone, and the anticipated completion date of work requiring the speed reduction.

CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

One week prior to starting work affecting the traveling public, portable changeable message signs (PCMS) will be installed at locations detailed in the plans to notify drivers of the upcoming construction. The Contractor will install one message sign at each end of the two-way taper and have two extra signs to place at the Engineers request. The Contractor will program the portable changeable message signs with the following message:

REDUCE SPEED
TWO WAY TRAFFIC AHEAD

REDUCE SPEED
LANE CLOSURE AHEAD

REDUCE SPEED
CURVE AHEAD

When work begins that will affect traffic patterns, the Contractor will re-program the PCMS with the messages as detailed in the plans.

TEMPORARY PAVEMENT MARKING

On I90 lanes, temporary pavement marking (paint) will be used to mark applicable lane lines. The Contractor will paint white 4” edge line over the existing yellow 4” edge line prior to installation of two-way traffic control.

Temporary Pavement Marking Paint will be used on milled and leveling surfaces for centerlines, lane lines, skips, and as directed by the Engineer. The Temporary Pavement Marking Paint will be placed at the location of the existing pavement markings except that centerline will be double yellow the entire project length and will be offset 6-inches from centerline of the roadway. It will be the Contractor’s responsibility to determine which direction to offset so that the markings do not get covered up when the first half of the roadway is paved. Any markings that get covered by the paving operation will be reestablished as directed by the Engineer at the Contractor’s expense. The Contractor will be responsible for marking out those exact locations.

Temporary Flexible Vertical Markers (Tabs) will be used on the top lift of PCC concrete surfacing for the Interstate on exit ramps, and as directed by the Engineer. Tabs will be offset 6-inches from the location shown for permanent pavement markings. Centerline will be double yellow lines with tabs spaced at 5’ the entire project length.

Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.

TEMPORARY PAVEMENT MARKING (CONTINUED)

Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.

No adjustment in the contract unit price for “Temporary Pavement Marking” will be made because of a variation in quantities.

	Temporary Pavement Marking	Length	
Route No.	Location	Feet	Miles
I90 WB	Two-Way Traffic - Tangent Section Edgeline	30,841	5.841
I90 WB	Exit 357 Ramp A (Off Ramp) - Radius [Tabs]	850	0.161
I90 WB	Exit 357 Ramp A (Off Ramp) - Taper	300	0.057
I90 WB	Exit 357 Ramp D (On Ramp) - Radius [Tabs]	850	0.161
I90 WB	Exit Ramp D (On Ramp) - Taper	300	0.057
I90 WB	Exit Ramp D (On Ramp) - Parallel [Tabs]	300	0.057
I90 EB	Two-Way Traffic - Tangent Section Edgeline	30,841	5.841
I90 EB	Exit 357 Ramp B (On Ramp) - Radius [Tabs]	850	0.161
I90 EB	Exit 357 Ramp B (On Ramp) - Taper	300	0.057
I90 EB	Exit 357 Ramp B (On Ramp) - Parallel [Tabs]	300	0.057
I90 EB	Exit 357 Ramp C (Off Ramp) - Radius [Tabs]	850	0.161
I90 EB	Exit 357 Ramp C (Off Ramp) - Taper	300	0.057
I90 WB	Crossover - WB On (MRM 357.217)	1,000	0.190
I90 WB	Crossover - EB On (MRM 363.057)	1,000	0.190
I90 WB	Crossover - WB Entering Taper	1,125	0.214
I90 EB	Crossover - EB Entering Taper	1,125	0.214
I90 EB	Lane Closure - Taper (2 Sets)	1,920	0.364
I90 WB	Lane Closure - Driving Lane (2 Sets)	1,920	0.364
SD38/SD25/US 81	Standard Plate 634.25	1,296	0.246
	Total	76268	14.5

TEMPORARY RAISED PAVEMENT MARKERS

Temporary raised pavement markers will be used for marking edge lines, lane lines, and centerlines. Temporary raised pavement markers will be used on all new permanent surfacing sections of roadway and on existing surfacing where temporary marking locations are different than existing marking locations, unless noted or as directed by the Engineer.

Temporary raised pavement markers will be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface or with an adhesive approved by the Engineer.

All costs to furnish, install, replace if necessary, and remove the markers will be incidental to the contract unit price per mile for “Temporary Raised Pavement Markers”.

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 a crash, hazardous materials spill, or other event.

The Contractor will set up a meeting prior to start of work to plan and coordinate responses to an incident. The Contractor will invite the Department of Transportation, the South Dakota Highway Patrol, the Hanson & McCook County Sheriffs and local emergency response entities to the meeting.

The Contractor will assist to maintain traffic as required by these plan notes and as agreed to at that meeting.

Emergency vehicle access through the project will be considered and discussed at the meeting.

The Contractor may be required to moify messages on portable changeable message signs or relocate portable changeable message signs, and to provide flaggers to direct or detour traffic. The Contractor should be prepared to relocate advance warning signs if determined to be necessary for a major traffic incident lasting more than two hours. Fixed location ground mounted signs may be covered and additional portable signs provided.

No additional payment will be made for the modification of portable changeable message sign messages or the relocation of portable changeable message signs. Cost for the relocation of an advance warning sign due to an incident will be 50% of the designated sign rate. Flaggers will be paid for at the contract unit price per hour for “Flagging”.

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

TRUCK/TRAILER MOUNTED ATTENUATOR

The Contractor will furnish truck or trailer mounted attenuator(s) to be used for the duration of the project. Truck or trailer mounted attenuators (TMAs) will meet the crashworthy requirements of NCHRP 350 or MASH Test Level 3. TMAs will be used and maintained in accordance with the manufacturers’ recommendations.

The TMAs should be utilized on the project where workers and/or equipment are working next to the centerline of the roadway with live traffic in the adjacent lane, or as directed by the Engineer. The TMAs will be removed from the roadway at the end of each working day. The TMAs will remain the property of the Contractor at the end of the project.

The TMAs will be paid for at the contract unit price per each for Truck/Trailer Mounted Attenuator. Payment will be full compensation for furnishing, maintaining, relocating and removing as many times as required by the Engineer and the Contractor’s operations.

In the event a TMA is hit while in service, the manufacturer will assess the TMA and make a recommendation as to whether it can be repaired or needs to be replaced. The Department will reimburse the Contractor for repairs as documented by invoices or pay for another TMA to be deployed to the project as needed.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PT 0908(105)349	C4	C17

REV. 11-4-24, JMP

TUBULAR MARKERS

The color of the tubular markers on centerline will be predominately orange. The color of the tubular markers installed on the shoulders will be predominately white. The white tubular markers will be installed 2.0 feet from the existing edge line at intervals of approximately 480 feet.

All tubular markers will be a minimum of 28 inches in height. The base of the tubular marker should be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface after use. The pin used to connect the marker to the base will be of a type that will not puncture a vehicle tire if it should become dislodged from the base.

All costs for furnishing, installing, maintaining, and removing the tubular markers will be incidental to the contract unit price per each for “Tubular Marker”.

TRAFFIC CONTROL SIGNS

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

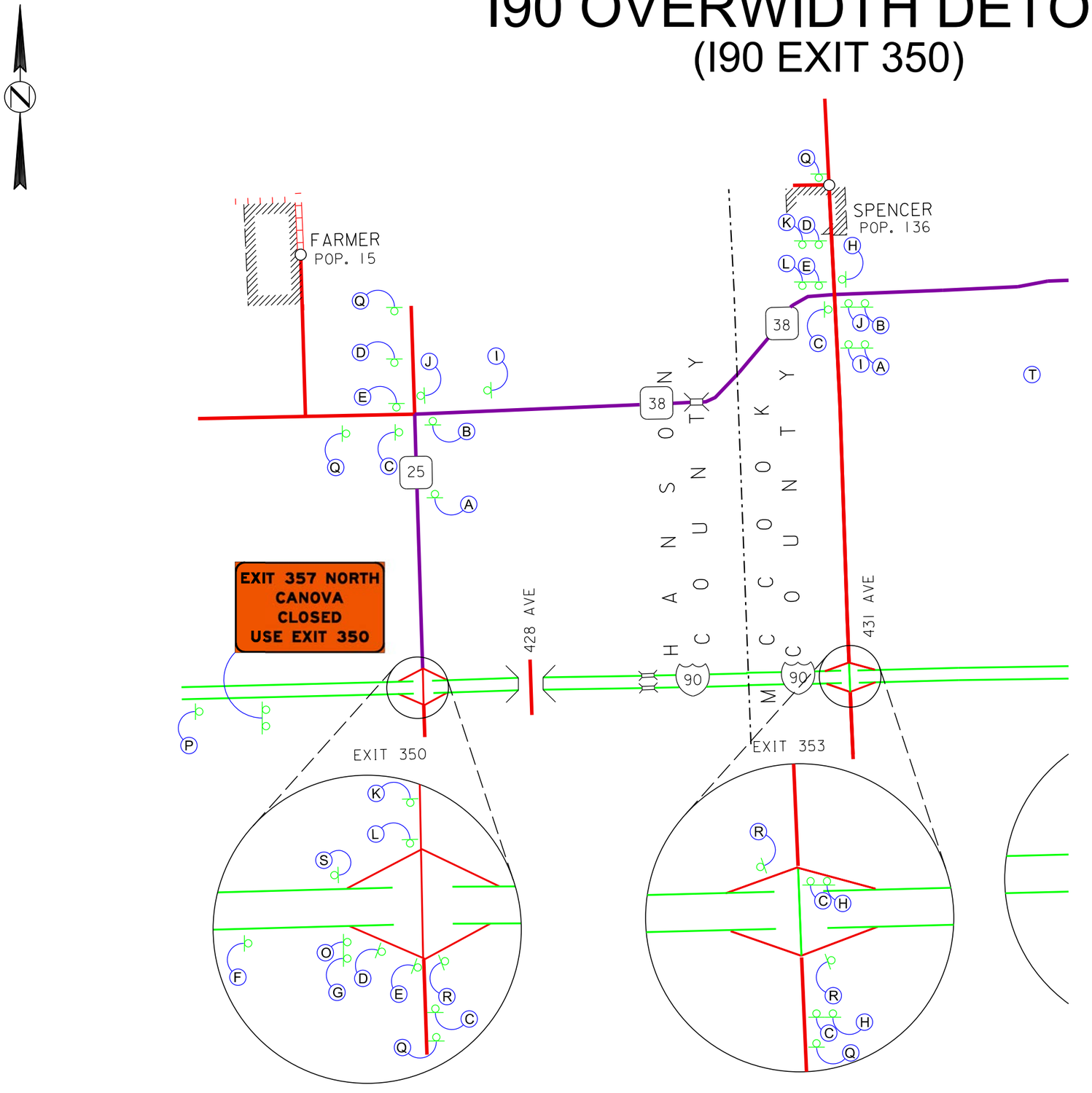
		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	2	36"	7.5	15.0
R1-2	YIELD	2	36"	3.9	7.8
R2-1	SPEED LIMIT 45	4	36" x 48"	12.0	48.0
R2-1	SPEED LIMIT 65	12	36" x 48"	12.0	144.0
R2-1	SPEED LIMIT 80	4	36" x 48"	12.0	48.0
R2-6aP	FINES DOUBLE (plaque)	10	36" x 24"	6.0	60.0
R4-1	DO NOT PASS	2	36" x 48"	12.0	24.0
R4-7	KEEP RIGHT (symbol)	1	36" x 48"	12.0	12.0
R5-1	DO NOT ENTER	2	36" x 36"	9.0	18.0
R11-2	ROAD CLOSED	3	48" x 30"	10.0	30.0
W1-4	REVERSE CURVE (L or R)	5	48" x 48"	16.0	80.0
W1-6	LARGE ARROW (one direction)	2	60" x 30"	12.5	25.0
W3-1	STOP AHEAD (symbol)	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)	8	48" x 48"	16.0	128.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	8	48" x 48"	16.0	128.0
W6-3	TWO WAY TRAFFIC (symbol)	4	48" x 48"	16.0	64.0
W13-1P	ADVISORY SPEED "45 MPH" (plaque)	3	30" x 30"	6.3	18.9
W20-1	ROAD WORK AHEAD	10	48" x 48"	16.0	160.0
W20-4	ONE LANE ROAD AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	8	48" x 48"	16.0	128.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W13-2	EXIT 45 MPH	2	36" x 48"	12.0	24.0
W13-3	RAMP 45 MPH	2	36" x 48"	12.0	24.0
W20-5	LEFT OR RIGHT LANE CLOSED 1/2 MILE	8	48" x 48"	16.0	128.0
G20-1	ROAD WORK NEXT 10 MILES	4	48" x 24"	8.0	32.0
G20-2	END ROAD WORK	3	48" x 24"	8.0	24.0
SPECIAL	EXIT 357 NORTH CANOVA CLOSED USE EXIT 350	1	108" x 84"	63.0	63.0
SPECIAL	EXIT 357 SOUTH BRIDGEWATER CLOSED EXIT 364	1	108" x 84"	63.0	63.0
SPECIAL	NO ACCESS I90 SOUTH USE ALT ROUTE	1	108" x 84"	63.0	63.0
SPECIAL	NO ACCESS I90 NORTH USE ALT ROUTE	1	108" x 84"	63.0	63.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			1814.7

DETOUR AND RESTRICTION SIGNS

ITEMIZED LIST FOR DETOUR AND RESTRICTION SIGNING

		CONVENTIONAL ROAD				EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
SPECIAL	NO VEHICLES OVER 12 FT WIDE		" x "			8	72" x 24"	12.0	96.0
SPECIAL	VEHICLES OVER 12 FT WIDE EXIT HERE		" x "			2	120" x 48"	40.0	80.0
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0		48" x 30"	10.0	
R11-3a	ROAD CLOSED 1/4 MILE AHEAD LOCAL TRAFFIC ONLY	1	60" x 30"	12.5	12.5				
R11-3a	ROAD CLOSED 3/4 MILE AHEAD LOCAL TRAFFIC ONLY	1	60" x 30"	12.5	12.5				
W20-2	DETOUR AHEAD	2	48" x 48"	16.0	32.0		48" x 48"	16.0	
W20-3	ROAD CLOSED 500 FT	2	48" x 48"	16.0	32.0		48" x 48"	16.0	
W20-3	ROAD CLOSED 1000 FT	1	48" x 48"	16.0	16.0		48" x 48"	16.0	
M1-1	INTERSTATE ROUTE MARKER (2 digits, 90)	47	24" x 24"	4.0	188.0	8	36" x 36"	9.0	72.0
M3-2	DIRECTION MARKER - EAST	27	24" x 12"	2.0	54.0	4	36" x 18"	4.5	18.0
M3-4	DIRECTION MARKER - WEST	26	24" x 12"	2.0	52.0	4	36" x 18"	4.5	18.0
M4-8	DETOUR	69	24" x 12"	2.0	138.0	8	30" x 15"	3.1	24.8
M4-8a	END DETOUR		24" x 18"	3.0		2	36" x 24"	6.0	12.0
M4-10	DETOUR ARROW (L or R)	2	48" x 18"	6.0	12.0		48" x 18"	6.0	
M5-1	ADVANCE TURN ARROW 90° (L or R)	24	21" x 15"	2.2	52.8	2	30" x 21"	4.4	8.8
M5-2	ADVANCE TURN ARROW 45° (L or R)		21" x 15"	2.2		2	30" x 21"	4.4	8.8
M6-1	DIRECTION ARROW - Horizontal Single Head (L or R)	26	21" x 15"	2.2	57.2		30" x 21"	4.4	
M6-3	DIRECTION ARROW - Vertical Single Head	9	21" x 15"	2.2	19.8	8	30" x 21"	4.4	35.2
SPECIAL	OVERWIDTH VEHICLES	47	24" x 18"	3.0	141.0	8	24" x 18"	3.0	24.0
M1-6	MCCOOK 14A COUNTY	22	24" x 24"	4.0	88.0		" x "		
SPECIAL	EXIT 357 NORTH CANOVA CLOSED USE EXIT 350		" x "			1	108" x 84"	63.0	63.0
SPECIAL	EXIT 357 SOUTH BRIDGEWATER CLOSED EXIT 364		" x "			1	108" x 84"	63.0	63.0
SPECIAL	NO ACCESS I90 SOUTH USE ALT ROUTE		" x "			1	108" x 84"	63.0	63.0
SPECIAL	NO ACCESS I90 NORTH USE ALT ROUTE		" x "			1	108" x 84"	63.0	63.0
		CONVENTIONAL ROAD DETOUR AND RESTRICTION SIGNING SQFT			927.8	EXPRESSWAY / INTERSTATE DETOUR AND RESTRICTION SIGNING SQFT			649.6

I90 OVERWIDTH DETOUR
(I90 EXIT 350)



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50*
55	500	660	50*
	(A) (B) (C)		
60 - 65	500 1000 1300	780	50*
70 - 80	500 1000 1300	1125	50*

* Spacing to be every 40' for 42" cones.

Notes:

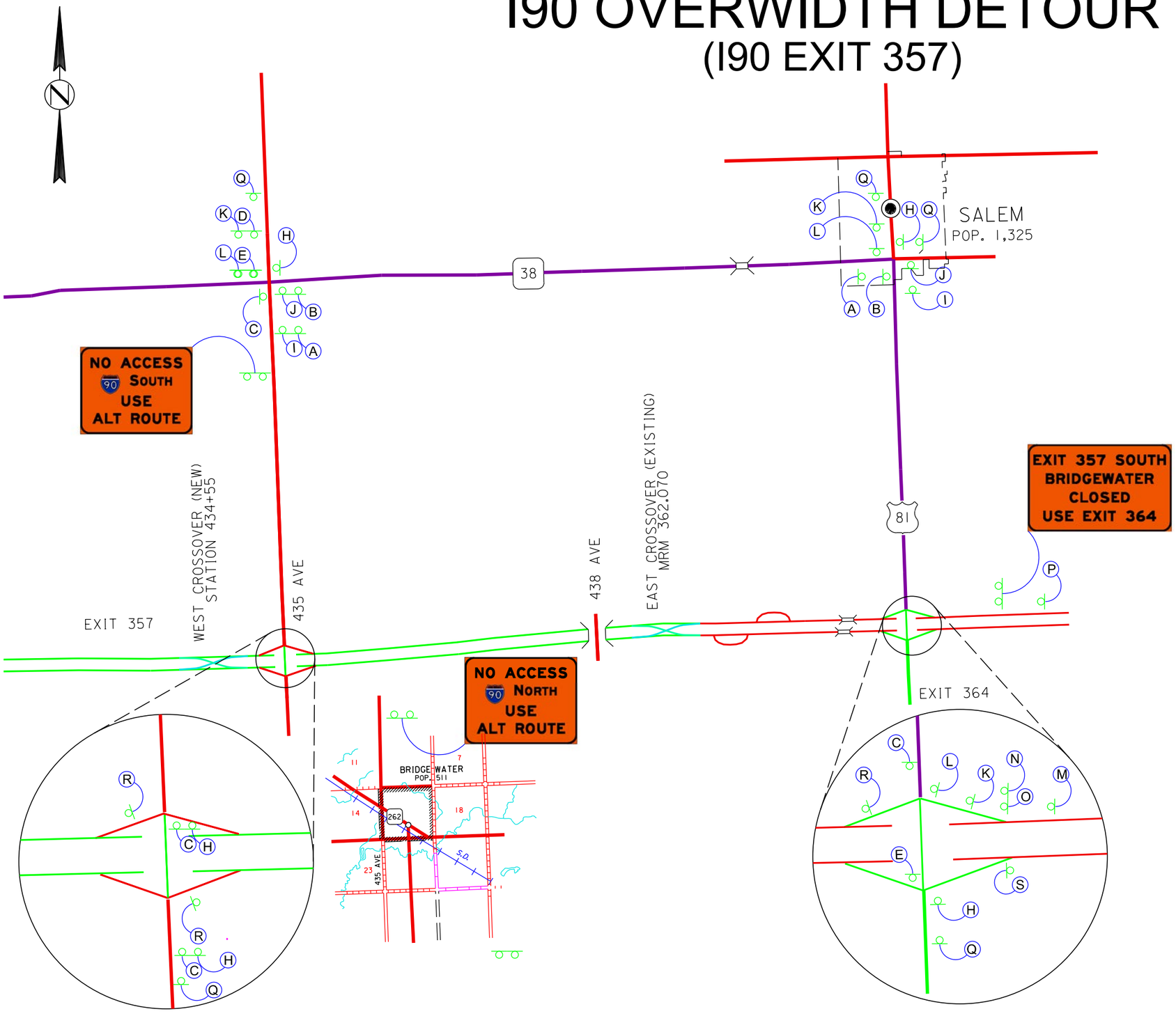
1. Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

2. Signs will be placed 100'-200' from intersection. Exact location to be approved by the engineer.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PT 0908(105)349	C6	C17

Plotting Date: 10/31/2024 REV. 10-31-24, JMP

I90 OVERWIDTH DETOUR
(I90 EXIT 357)



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50*
55	500	660	50*
	(A) (B) (C)		
60 - 65	500 1000 1300	780	50*
70 - 80	500 1000 1300	1125	50*

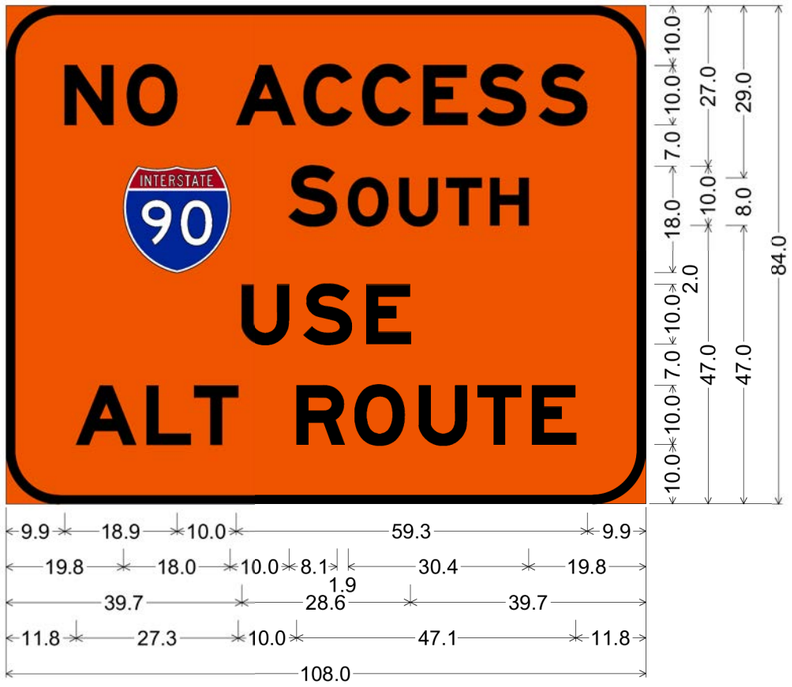
* Spacing to be every 40' for 42" cones.

Notes:

1. Construction signs will not obscure existing signs and must be installed a minimum of 200' from an existing sign.

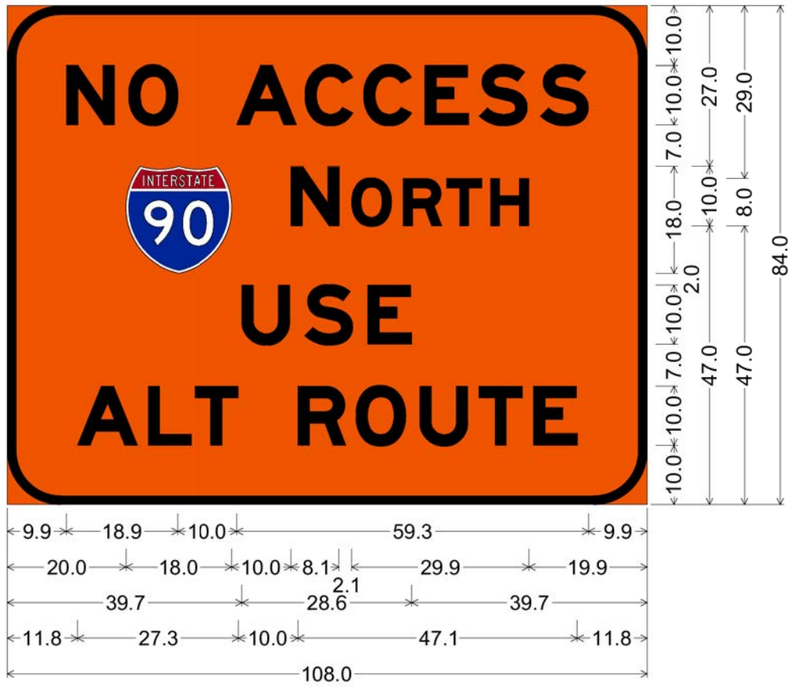
2. Signs will be placed 100'-200' from intersection. Exact location to be approved by the engineer.

SPECIAL SIGN DETAILS



9.0" Radius, 1.5" Border, Black on Orange;
"NO ACCESS", E Mod 2K; "SOUTH", E Mod 2K;
"USE", E Mod 2K; "ALT ROUTE", E Mod 2K;
Table of letter and object lefts

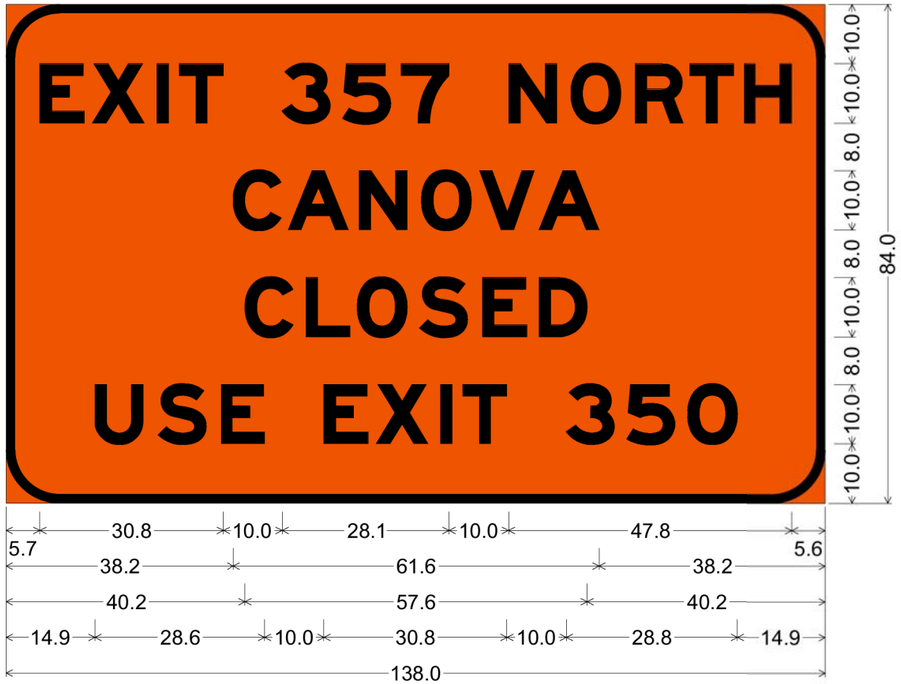
N 9.9	**O** 20.4	**A** 38.8	**C** 50.3	**C** 60.2	**E** 70.5	**S** 79.7	**S** 90.0
19.8	**S** 47.8	**O** 57.8	**U** 66.4	**T** 74.4	**H** 81.7		
U 39.7	**S** 50.3	**E** 60.9					
A 11.8	**L** 23.7	**T** 31.7	**R** 49.1	**O** 58.9	**U** 69.7	**T** 79.6	**E** 88.8



9.0" Radius, 1.5" Border, Black on Orange;
"NO ACCESS", E Mod 2K; "NORTH", E Mod 2K;
"USE", E Mod 2K; "ALT ROUTE", E Mod 2K;
Table of letter and object lefts

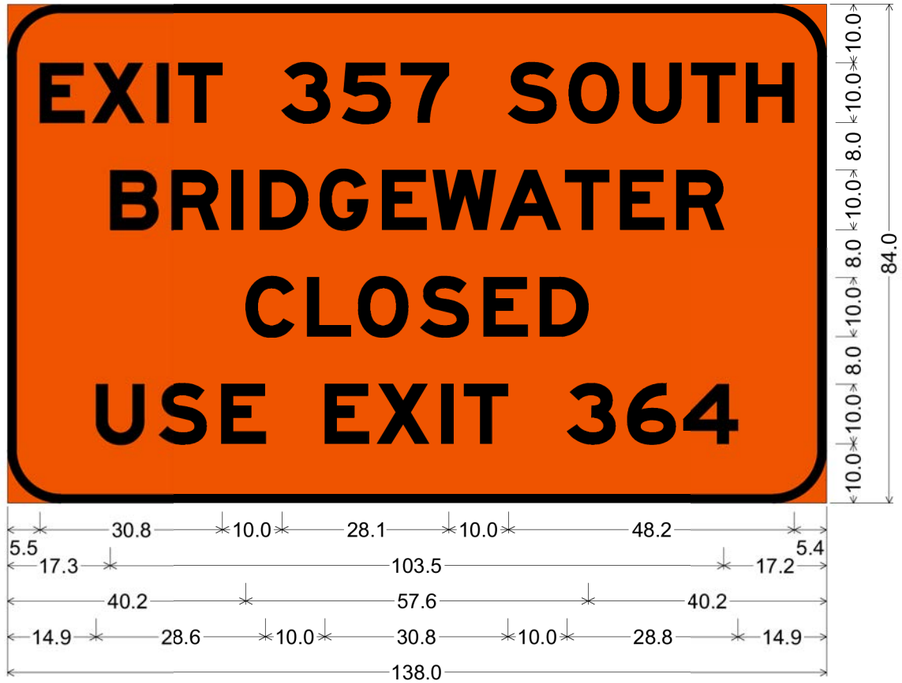
N 9.9	**O** 20.4	**A** 38.8	**C** 50.3	**C** 60.2	**E** 70.5	**S** 79.7	**S** 90.0
20.0	**N** 48.0	**O** 58.2	**R** 66.9	**T** 74.2	**H** 81.6		
U 39.7	**S** 50.3	**E** 60.9					
A 11.8	**L** 23.7	**T** 31.7	**R** 49.1	**O** 58.9	**U** 69.7	**T** 79.6	**E** 88.8

SPECIAL SIGN DETAILS



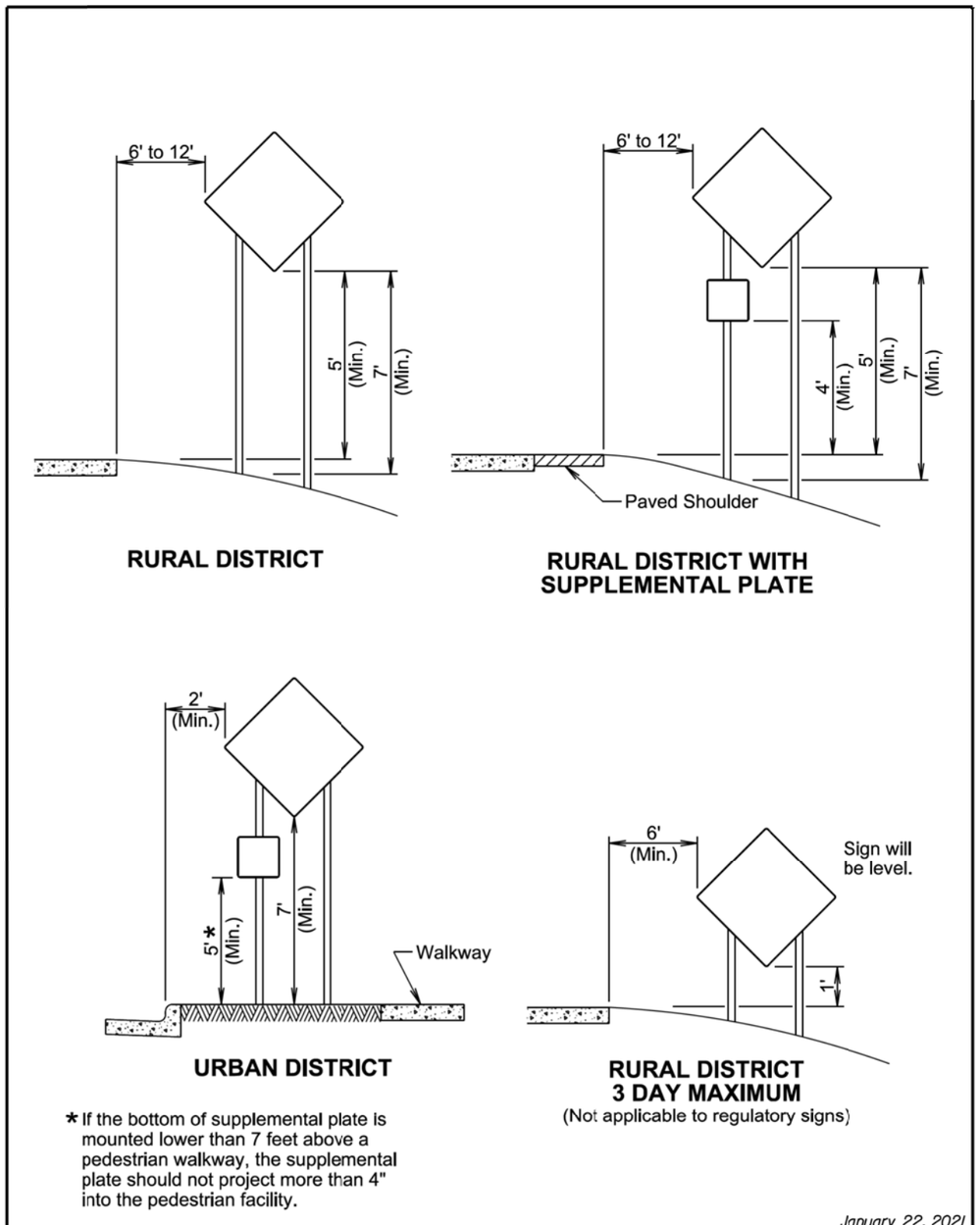
9.0" Radius, 1.5" Border, Black on Orange;
"EXIT 357 NORTH", E Mod 2K; "CANOVA", E Mod 2K; "CLOSED", E Mod 2K;
"USE EXIT 350", E Mod 2K;
Table of letter and object lefts

E 5.7	**X** 14.5	**I** 25.3	**T** 29.1	**3** 46.5	**5** 56.7	**7** 66.5	**N** 84.6	**O** 95.1	**R** 105.9	**T** 115.1	**H** 124.3	
C 38.2	**A** 47.5	**N** 59.4	**O** 69.9	**V** 79.7	**A** 89.7							
C 40.2	**L** 50.5	**O** 59.1	**S** 69.6	**E** 80.2	**D** 89.7							
U 14.9	**S** 25.5	**E** 36.1	**E** 53.5	**X** 62.3	**I** 73.1	**T** 76.9	**3** 94.3	**5** 104.5	**O** 114.7			



9.0" Radius, 1.5" Border, Black on Orange;
"EXIT 357 SOUTH", E Mod 2K; "BRIDGEWATER", E Mod 2K;
"CLOSED", E Mod 2K; "USE EXIT 364", E Mod 2K;
Table of letter and object lefts

E 5.5	**X** 14.3	**I** 25.1	**T** 28.9	**3** 46.3	**5** 56.5	**7** 66.3	**S** 84.4	**O** 94.6	**U** 105.4	**T** 115.3	**H** 124.5	
B 17.3	**R** 27.6	**I** 37.8	**D** 42.6	**G** 52.7	**E** 63.2	**W** 71.7	**A** 83.1	**T** 94.0	**E** 103.2	**R** 112.7		
C 40.2	**L** 50.5	**O** 59.1	**S** 69.6	**E** 80.2	**D** 89.7							
U 14.9	**S** 25.5	**E** 36.1	**E** 53.5	**X** 62.3	**I** 73.1	**T** 76.9	**3** 94.3	**6** 104.4	**4** 113.8			



* 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.

January 22, 2021

Published Date: 2025	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1