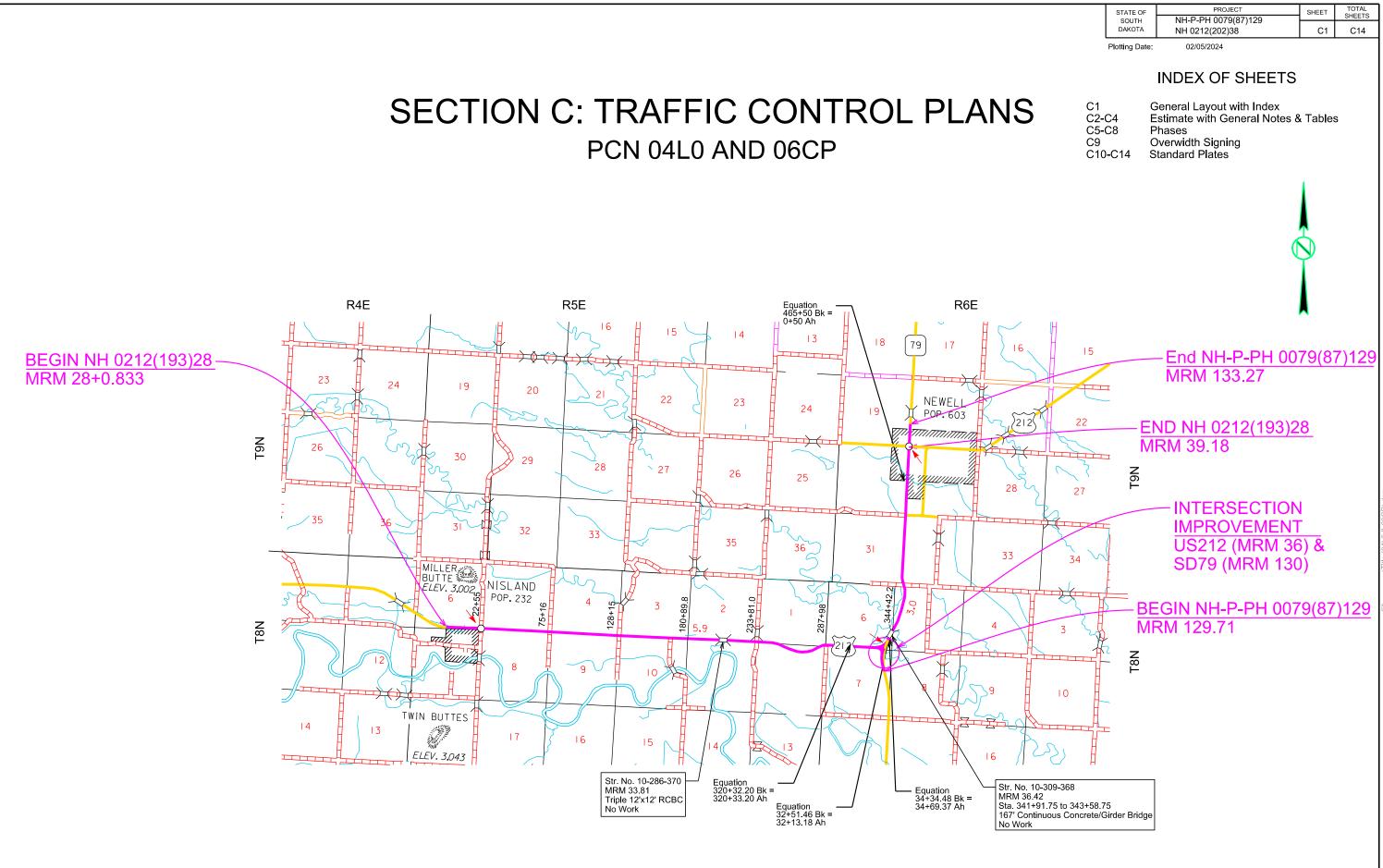
PCN 04L0 AND 06CP



SECTION C ESTIMATE OF QUANTITIES – PCN 06CP US Highway 212

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	3,250.0	Hour
634E0020	Pilot Car	1,500.0	Hour
634E0110	Traffic Control Signs	757.7	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0630	Temporary Pavement Marking	38.2	Mile
634E1002	Detour and Restriction Signing	149.3	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	1	Each

SECTION C ESTIMATE OF QUANTITIES – PCN 04L0 US Highway 212 & SD Highway 79

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	1,000.0	Hour
634E0020	Pilot Car	500.0	Hour
634E0110	Traffic Control Signs	622.8	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	2	Each
634E0630	Temporary Pavement Marking	3.5	Mile
634E1002	Detour and Restriction Signing	165.5	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	1	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.

Work will proceed according to the following sequence:

Set up Traffic Control Complete mainline pipe work Complete grading operations at junction of US 212 and SD 79 Complete clearing operations in Newell Complete pipe work in Newell Complete ADA work in Newell Complete seeding operations Complete fence work Perform Cold Milling Complete digouts where necessary Complete full depth reclamation on shoulders Complete Asphalt Concrete Surfacing Complete installation of rumble stripes and mailboxes Complete flush seal operation Complete Pavement Marking Complete Permanent Signing Reestablish Right-of-Way and Property Corners Remove Traffic Control

PCN 04L0 and 06CP - Junction of US 212 and SD 79

<u>Phase I</u> – Reduce speed limit to 45 mph from station 5+82 to 37+96. Setup an all way stop at the T-intersection of SD 79 / US 212. Complete the grading work on US 212 between station 328+00 and 332+00, LT.

<u>Phase II</u> – Remove the existing pavement markings and rumbles between station 5+82 and 37+96 in the SB lane of SD 79. A milling operation is required for this work. Stripe the SB lane of SD 79 for two-way traffic with no passing. Adjust the all way stop at the T-intersection of SD 79 / US 212 for the two-way traffic configuration. Complete the grading work on US 212 between station 328+00 and 332+00, RT. Complete the grading work on SD 79 between station 5+82 and 37+96, NB lane.

<u>Phase III</u> – Install temporary pavement markings (tabs) for two-way traffic on the newly constructed lanes between station 5+82 and 37+96. Complete the grading work on US 212 between station 324+00 and 332+00, LT. Obliterate the SB lanes of SD 79 between station 5+82 and 37+96. Obliterate the WB and EB ramps.

<u>Phase IV</u> – Complete the grading work on US 212 between station 324+00 and 332+00, RT.

<u>Phase V</u> – Complete the milling and paving operations between stations 1+25 and 332+78, and between stations 5+82 and 38+29.

Two-way traffic will be maintained at all locations when work is not in progress. A 24-foot minimum wide driving surface will be required for two-way traffic. The Contractor will maintain a smooth and passable roadway for traffic as determined by the Engineer.

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 temporary speed limit signs will have a minimum mounting height of 5 feet from bottom of sign to the elevation of the near edge of the pavement, even when mounted on portable supports.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic. Signs mounted on portable supports shall meet the height requirements shown on Standard Plate 634.85 if located in the same location for longer than 3 days.

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.

GENERAL TRAFFIC CONTROL (CONTINUED)

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.

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.

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.

The Contractor will furnish, install, maintain, and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for "Traffic Control Signs".

GROOVED PAVEMENT (W8-15) signs with MOTORCYCLE (W8-15P) plaques are required in advance of areas that have been cold milled and are not resurfaced the same day. The GROOVED PAVEMENT sign assemblies will be installed a minimum of 1000 feet in advance of cold milled sections and remain in place until the sections have been resurfaced.

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

A mobile work operation will be allowed provided the rumble strip or rumble stripe grooving, flush sealing, and pavement marking can be completed satisfactorily by a continuously moving work operation. A mobile work operation will require approval by the Engineer.

If inappropriate or conflicting pavement markings exist, the markings will be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict will be placed at one-half of the normal channelizing device spacing. Pavement marking removals will be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or equivalent". Temporary pavement marking will be paid for at the contract unit price per mile/foot for "Temporary Pavement Marking". The additional channelizing devices will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

STATE OF		SHEET	TOTAL SHEETS
SOUTH DAKOTA	NH-P-PH 0079(87)129 NH 0212(202)38	C2	C14

TABLE OF FIXED TRAFFIC CONTROL SIGNS – PCN 06CP US HIGHWAY 212

	MRM		
	or	Side	
Location	Location	of Road	Description
US 212	27	R	Road Work Ahead (1)
US 212	27	L	End Road Work (1)
Maple St	Nisland	R	Road Work Ahead (1)
Wood St	Nisland	R	Road Work Ahead (1)
Vine St	Nisland	R	Road Work Ahead (1)
Birch St	Nisland	R	Road Work Ahead (1)
Whitewood Valley Rd	Nisland	R	Road Work Ahead (1)
Riley Rd	Nisland	L	Road Work Ahead (1)
Rathburn Rd	31.36	L & R	Road Work Ahead (2)
Stone Lake Rd	32.39	L & R	Road Work Ahead (2)
Vale Cut-Off Rd	33.16	R	Road Work Ahead (1)
Dillinger Rd	34.39	L & R	Road Work Ahead (2)
Milberg Rd	34.82	R	Road Work Ahead (1)
US 212	40.5	R	End Road Work (1)
US 212	40.5	L	Road Work Ahead (1)
			Road Work Ahead = 16
			End Road Work = 2

TABLE OF FIXED TRAFFIC CONTROL SIGNS - PCN 04L0 US HIGHWAY 212 & SD HIGHWAY 79

	MRM		
	or	Side	
Location	Location	of Road	Description
SD 79	128.5	R	Road Work Ahead (1)
SD 79	128.5	L	End Road Work (1)
Palo Rd	37.17	R	Road Work Ahead (1)
Hope Rd	38.17	L & R	Road Work Ahead (2)
SD 79	134.5	L	Road Work Ahead (1)
SD 79	134.5	R	End Road Work (1)
			Road Work Ahead = 5
			End Road Work = 2

Payment for fixed traffic control signs will be based on the contract unit price per square foot for "Traffic Control Signs".

BUMP MARKERS

Orange bump markers (back-to-back) will be placed adjacent to the bump location. The bump marker details are shown in the following drawing. The steel delineator post will be a 1.12 lb/ft flanged channel steel post for ground mounted installation. If the duration is less than 3 days, the Type 1 Object Marker can be installed on temporary supports.

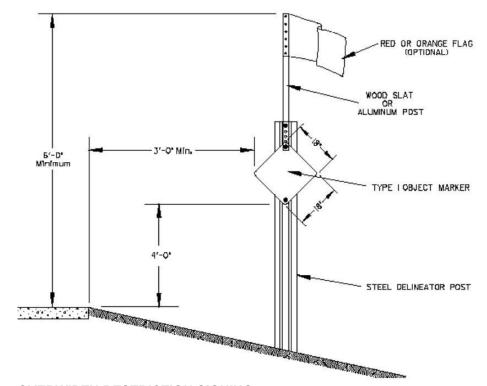
US HIGHWAY 212

FLAGGING

			CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT	
	NO VEHICLES OVER 10 FT WIDE WIDTH RESTRICTION 10 FT WIDE XX MILES AHEAD	1 2	30" x 78" 114" x 84"	16.3 66.5	16.3 133.0	
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 149.			149.3	

BUMP (W8-1) signs with appropriate ADVISORY SPEED (W13-1P) plagues will be placed 500 feet in advance of the bump or as approved by the Engineer for adequate sight distance.

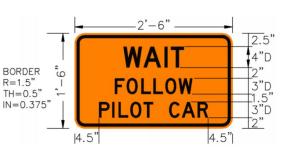
All costs for bump markers, bump signs, and advisory speed plagues will be incidental to the contract unit price per square foot for "Traffic Control Signs".



OVERWIDTH RESTRICTION SIGNING

The Contractor will furnish and install the overwidth restriction 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 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 signs.

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



It is required that the flaggers and pilot car operators 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".

STATE OF	PROJECT NH-P-PH 0079(87)129	SHEET	TOTAL SHEETS
SOUTH DAKOTA	NH 0212(202)38	C3	C14

TABLE OF FIXED TRAFFIC CONTROL SIGNS - PCN 06CP

TABLE OF FIXED TRAFFIC CONTROL SIGNS - PCN 04L0 **US HIGHWAY 212 & SD HIGHWAY 79**

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
	NO VEHICLES OVER 10 FT WIDE WIDTH RESTRICTION 10 FT WIDE XX MILES AHEAD	2 2	30" x 78" 114" x 84"	16.3 66.5	32.6 133.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 165.6			165.6

Operations will be conducted so that the total delay of traveling public will not be longer than 15 minutes.

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. Also included in the Estimate of Quantities are WAIT FOLLOW PILOT CAR signs for use on low volume intersecting roads as determined by the Engineer. WAIT FOLLOW PILOT CAR signs will not block the view of the stop sign.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS – PCN 06CP US HIGHWAY 212

			CONVENTIONAL ROAD		
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-3P	ALL WAY (plaque)	1	18" x 6"	0.8	0.8
R2-1	SPEED LIMIT 45	1	24" x 30"	5.0	5.0
R2-1	SPEED LIMIT 25	1	24" x 30"	5.0	5.0
R4-1	DO NOT PASS	2	24" x 30"	5.0	10.0
W3-1	STOP AHEAD (symbol)	1	48" x 48"	16.0	16.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	1	48" x 48"	16.0	16.0
W6-3	TWO WAY TRAFFIC (symbol)	1	48" x 48"	16.0	16.0
W8-1	BUMP	2	48" x 48"	16.0	32.0
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	2	48" x 48"	16.0	32.0
W8-11	UNEVEN LANES	1	48" x 48"	16.0	16.0
W8-15	GROOVED PAVEMENT	2	48" x 48"	16.0	32.0
W8-15P	MOTORCYCLE (plaque)	2	24" x 18"	3.0	6.0
W8-17	SHOULDER DROP-OFF (symbol)	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	9	30" x 30"	6.3	56.7
W20-1	ROAD WORK AHEAD	16	48" x 48"	16.0	256.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-2	FRESH OIL	1	48" x 48"	16.0	16.0
W21-5	SHOULDER WORK	1	48" x 48"	16.0	16.0
SPECIAL	WAIT FOLLOW PILOT CAR	12	30" x 18"	3.8	45.6
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
-	TYPE 1 ORANGE OBJECT MARKER	12	18" x 18"	2.3	27.6
	CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT 757.7				

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS – PCN 04L0 US HIGHWAY 212 & SD HIGHWAY 79

			CONVENTIO	NAL ROAD	
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	2	30"	5.2	10.4
R1-3P	ALL WAY (plaque)	2	18" x 6"	0.8	1.6
R2-1	SPEED LIMIT 45	2	24" x 30"	5.0	10.0
R2-1	SPEED LIMIT 25	2	24" x 30"	5.0	10.0
R4-1	DO NOT PASS	2	24" x 30"	5.0	10.0
W3-1	STOP AHEAD (symbol)	2	48" x 48"	16.0	32.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	2	48" x 48"	16.0	32.0
W6-3	TWO WAY TRAFFIC (symbol)	2	48" x 48"	16.0	32.0
W8-1	BUMP	4	48" x 48"	16.0	64.0
W8-7	LOOSE GRAVEL	3	48" x 48"	16.0	48.0
W8-11	UNEVEN LANES	2	48" x 48"	16.0	32.0
W8-15	GROOVED PAVEMENT	2	48" x 48"	16.0	32.0
W8-15P	MOTORCYCLE (plaque)	2	24" x 18"	3.0	6.
W8-17	SHOULDER DROP-OFF (symbol)	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.0
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
W21-5	SHOULDER WORK	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
-	TYPE 1 ORANGE OBJECT MARKER	4	18" x 18"	2.3	9.
	•	CON	CONVENTIONAL ROAD 62		

TRAFFIC CONTROL SIGNS SQFT 622.8

TEMPORARY PAVEMENT MARKING

The total length of no passing zone on this project is estimated to be 3.5 miles.

It is estimated that 12 DO NOT PASS (R4-1) and 12 PASS WITH CARE (R4-2) signs will be required to mark the no passing zones, should the Contractor elect to use these signs.

Temporary flexible vertical markers (tabs) will be required on the top lift of asphalt concrete surfacing.

Temporary pavement marking paint will not be allowed on the final lift of asphalt surfacing. Temporary pavement marking paint will not be allowed on the chip seal, fog seal, or flush seal. Temporary flexible vertical markers (tabs) must be used on the final lift of asphalt surfacing. The Contractor may use tabs with covers, uncovering them for the chip seal, fog seal, or flush seal. As an alternative, the Contractor may install new tabs for the fog seal or flush seal.

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.

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.

Quantities of Temporary Pavement Markings consist of:

One pass on top of the milled surface One pass on the first list of asphalt concrete One pass on top of the final lift of asphalt concrete One pass prior to the flush seal, length as determined by the Engineer One pass after the centerline rumble stripes are installed One pass after the flush seal

TEMPORARY PAVEMENT MARKING (CONTINUED)

If the Engineer determines that an additional pass prior to the flush seal is not required, this application of the temporary pavement marking will be eliminated. If the flush seal is eliminated for the project, the application of the temporary payement marking on top of the flush seal as well as the additional pass prior to the flush seal will be eliminated

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

In the absence of a signed lane closure or pilot car operation, FLAGGER (W20-7) symbol signs and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights will be positioned on the shoulder in advance of workers for both directions of traffic during the installation and removal of the temporary flexible vertical markers (tabs). The traffic control device used will be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a WORKER (W21-1) symbol sign or a BE PREPARED TO STOP (W3-4) sign will be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work must be approved by the Engineer.

Prior to nightfall, tabs will be required to mark centerline on segments of roadway where existing centerline markings have been removed and new markings have not been installed.

TRAFFIC CONTROL FOR ASPHALT CONCRETE RESURFACING

The Contractor will need to install LOOSE GRAVEL (W8-7) signs with advisory speed plaques (W13-1P) in areas where loose sand is present during the flush seal operation. LOOSE GRAVEL signs have been included in these plans for this.

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 program the portable changeable message signs with the following message:

ROAD WORK NEWELL STARTS (Date)

MILLED SURFACE NEWELL EXTREME CAUTION

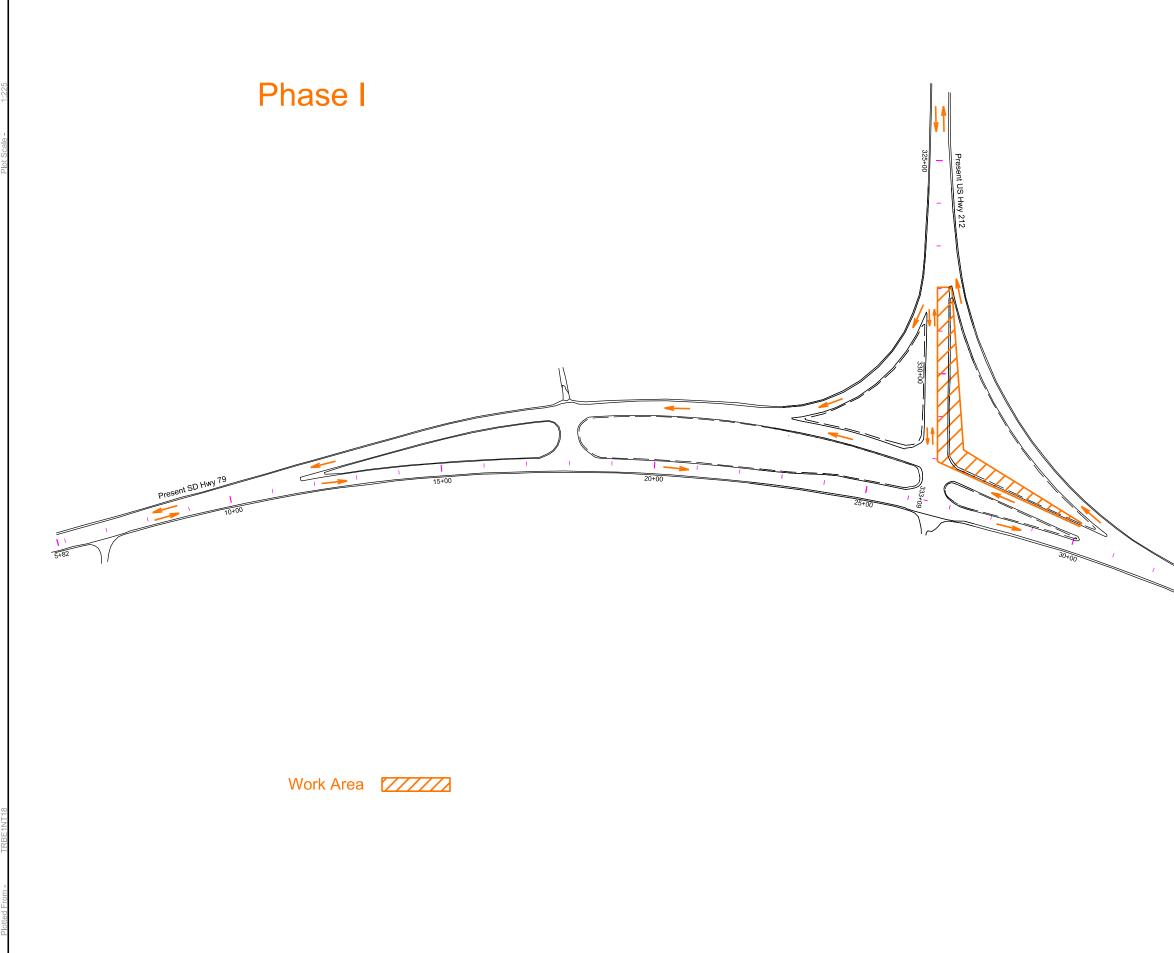
GRAVEL SURFACE NEWELL EXTREME CAUTION

When work begins that will affect traffic patterns, the Contractor will re-program the PCMS with the messages as detailed in the plans. The portable changeable message signs will be located at Belle Fourche and Sturgis.

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.

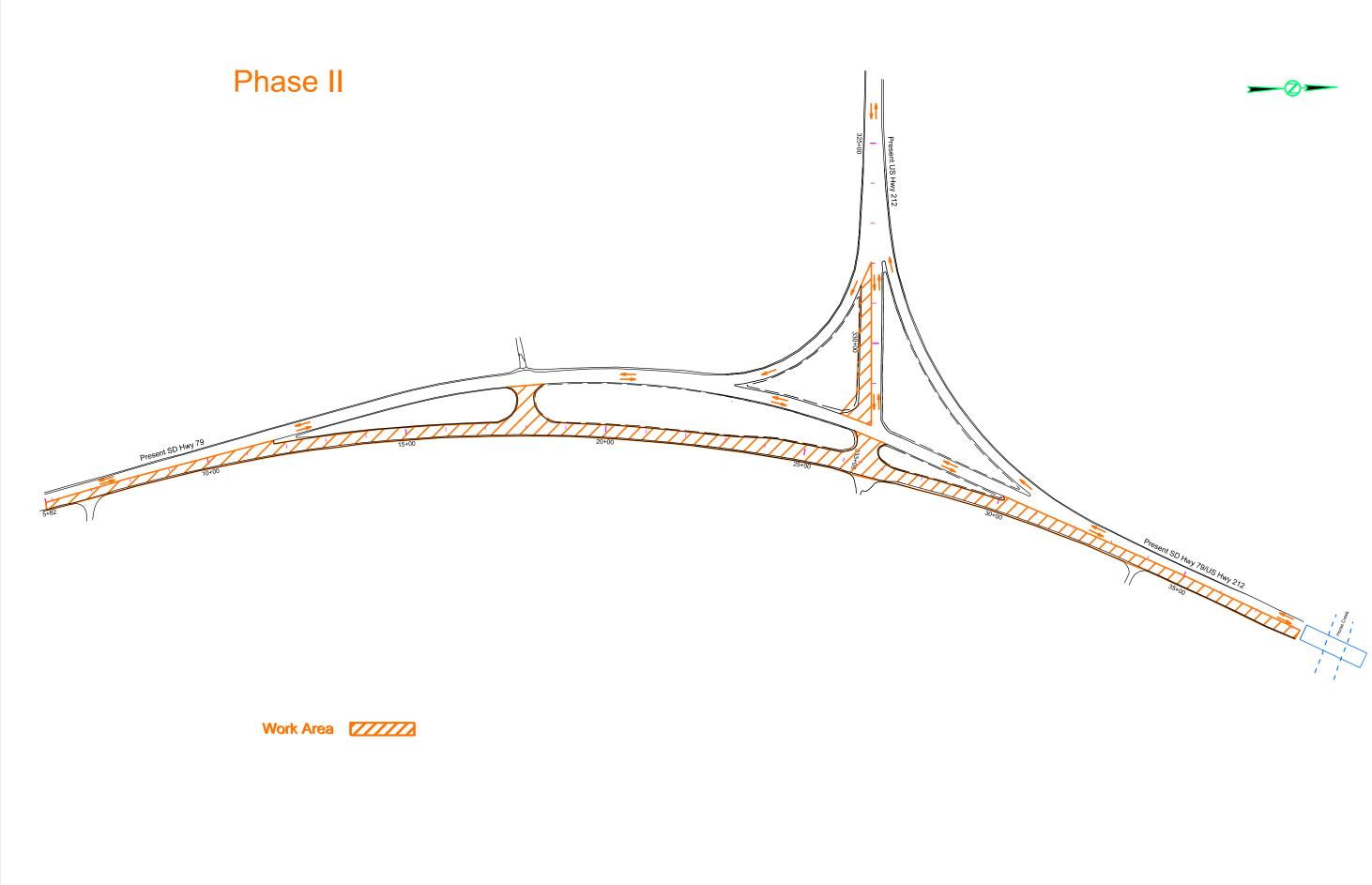
STATE OF	PROJECT NH-P-PH 0079(87)129	SHEET	TOTAL SHEETS
DAKOTA	NH 0212(202)38	C4	C14

PRESS RELEASE ANNOUNCEMENTS

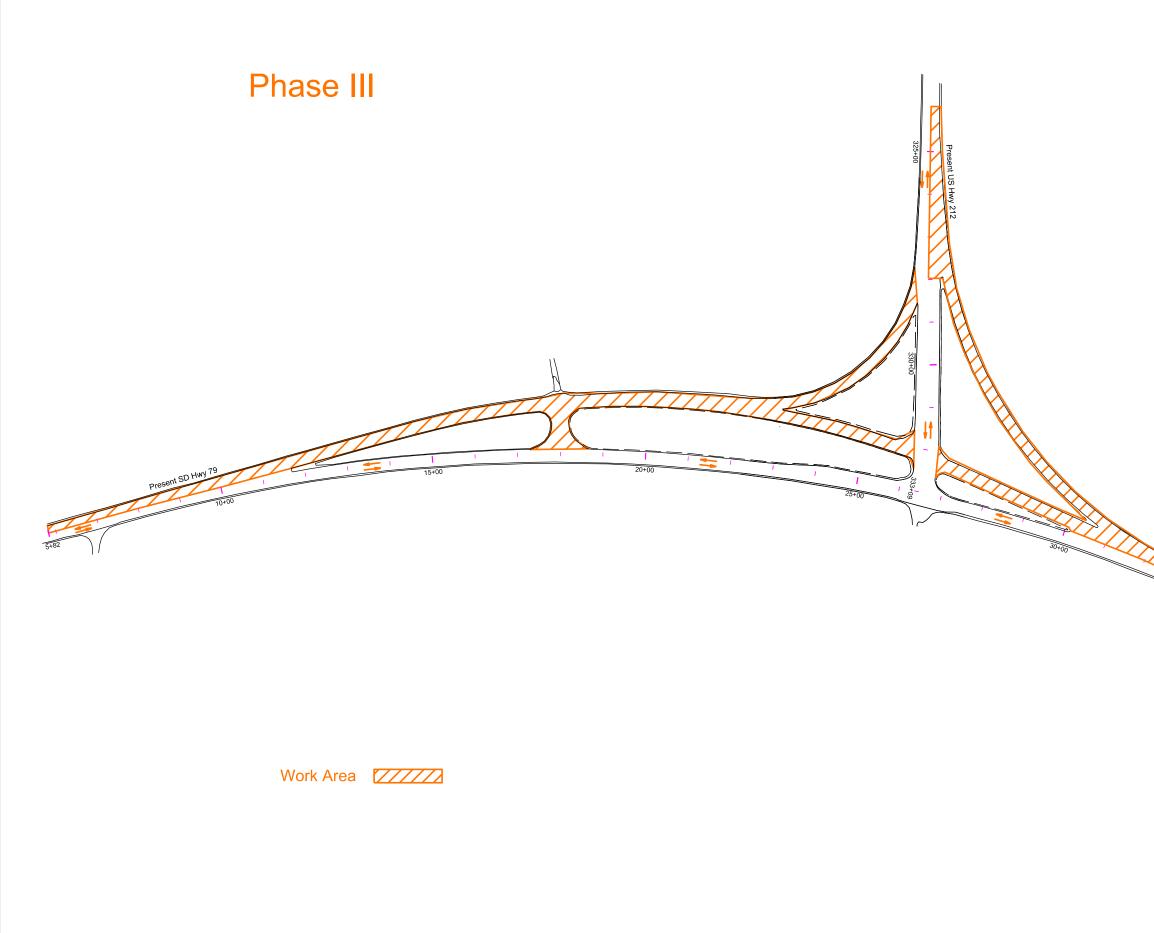


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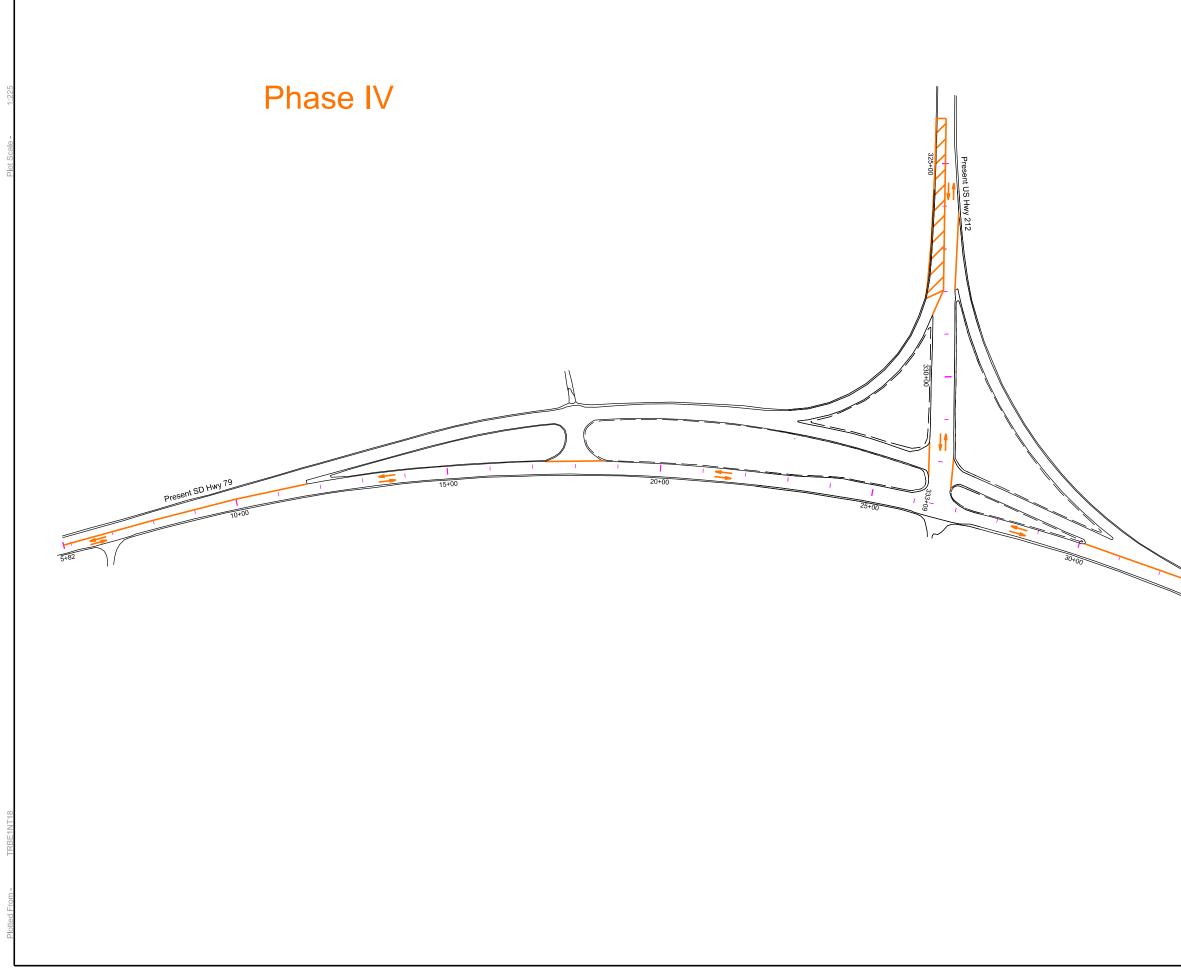
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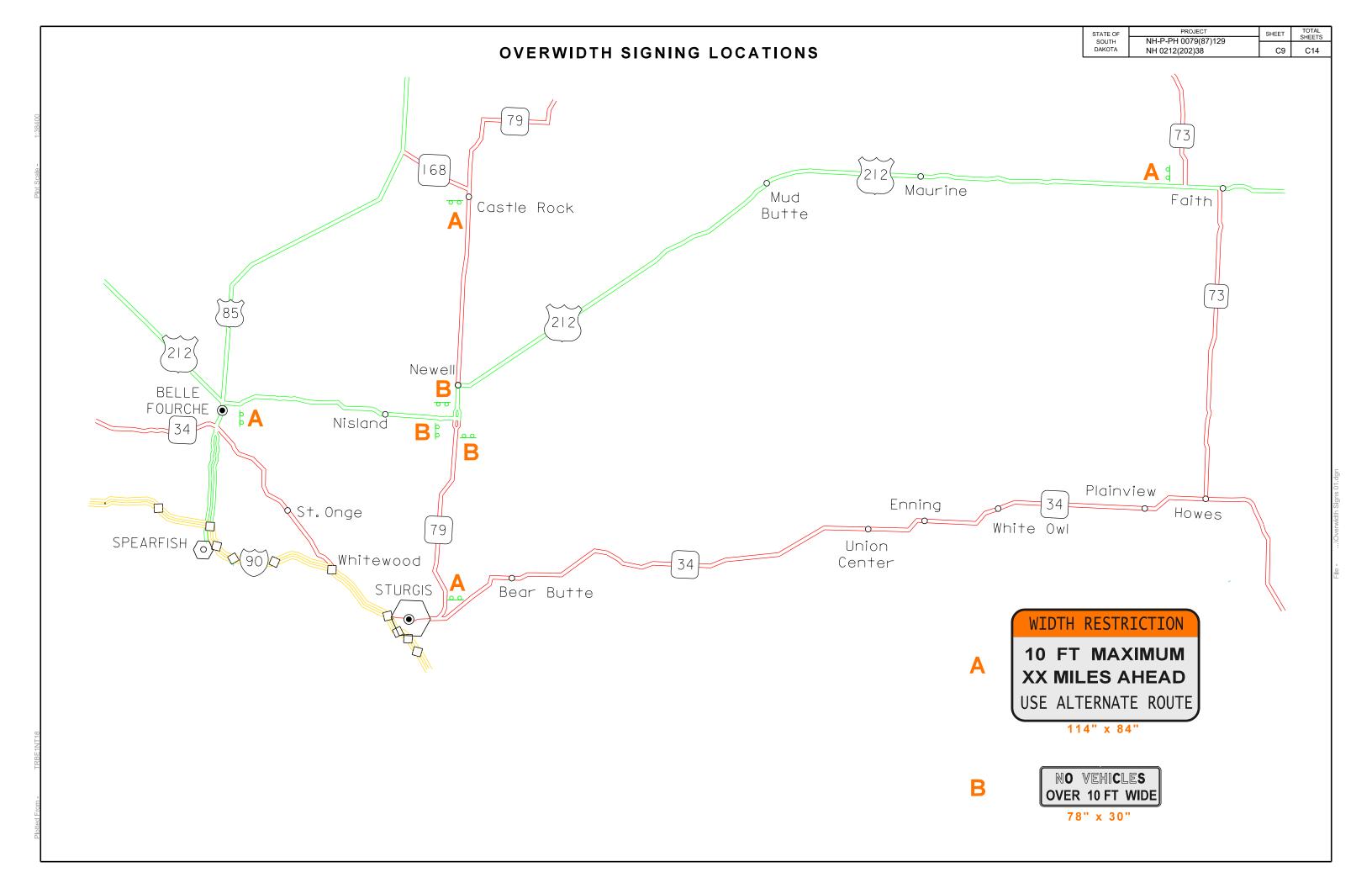


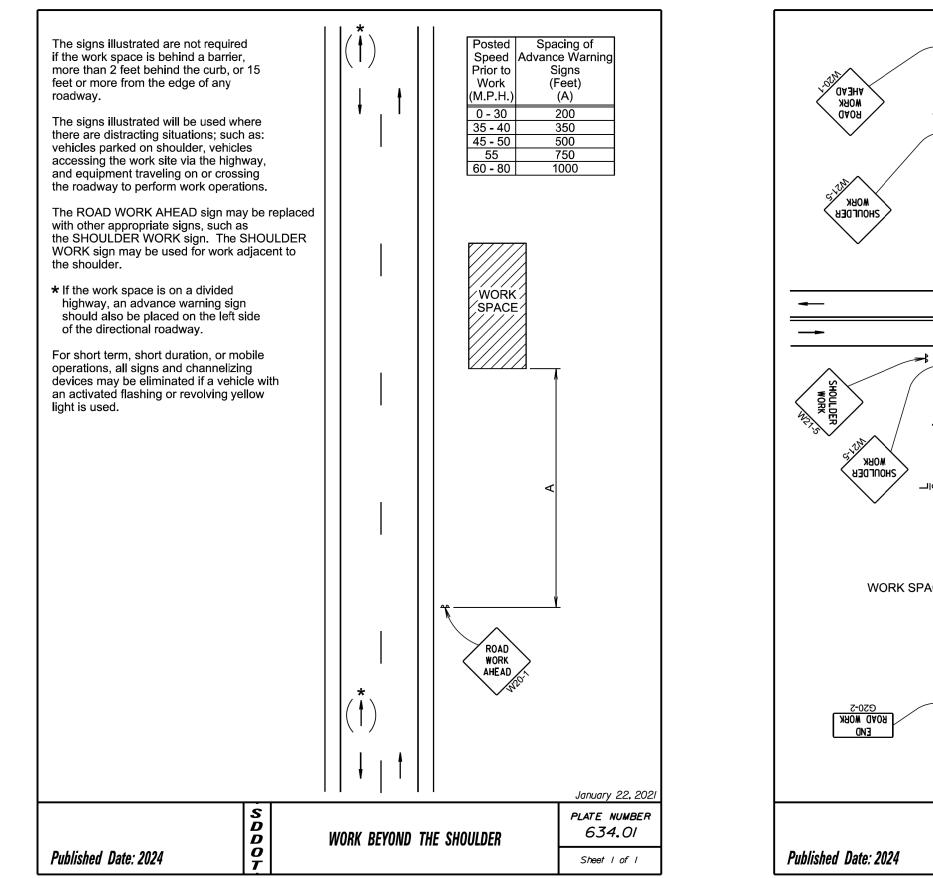
	STATE OF SOUTH	PROJECT NH-P-PH 0079(87)129	SHEET	TOTAL SHEETS
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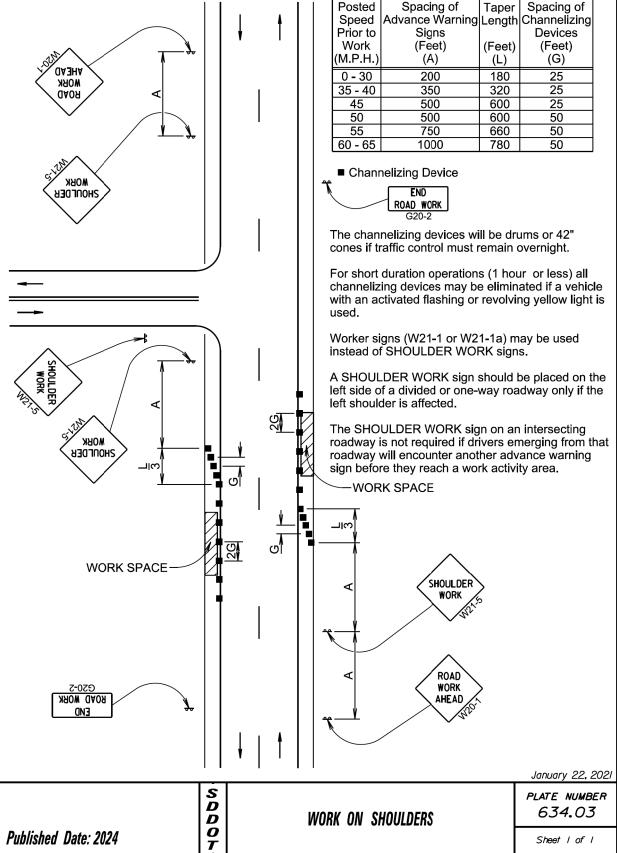


	STATE OF		SHEET	TOTAL SHEETS
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	DAKOTA	NH 0212(202)38	60	C14
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	STATE OF	PROJECT NH-P-PH 0079(87)129	SHEET	TOTAL SHEETS
SOUTH DAKOTA		NH 0212(202)38	C10	C14

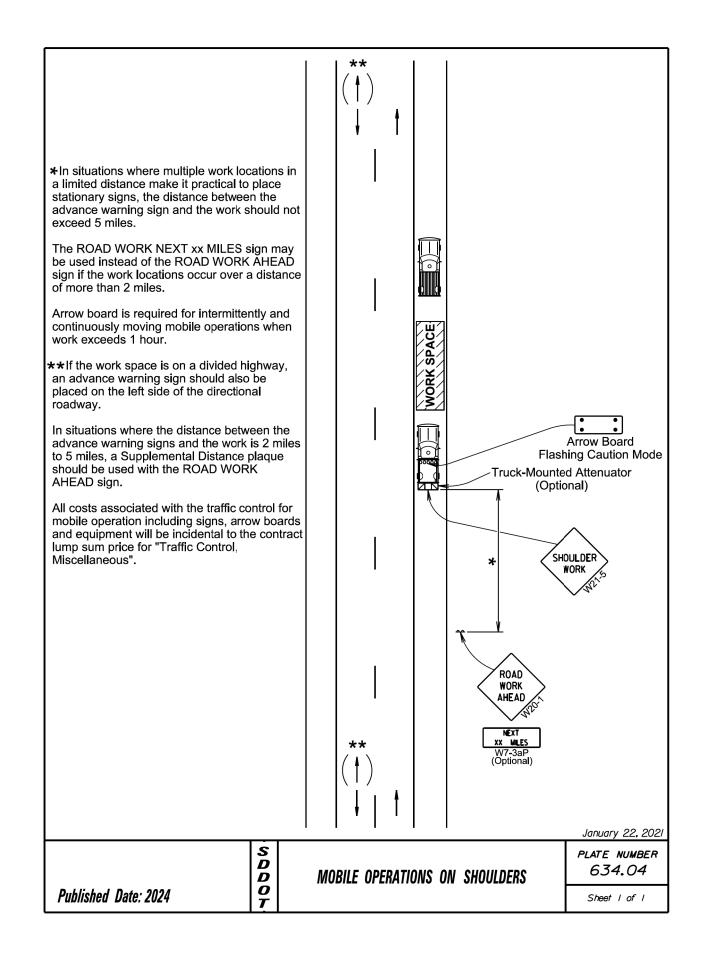
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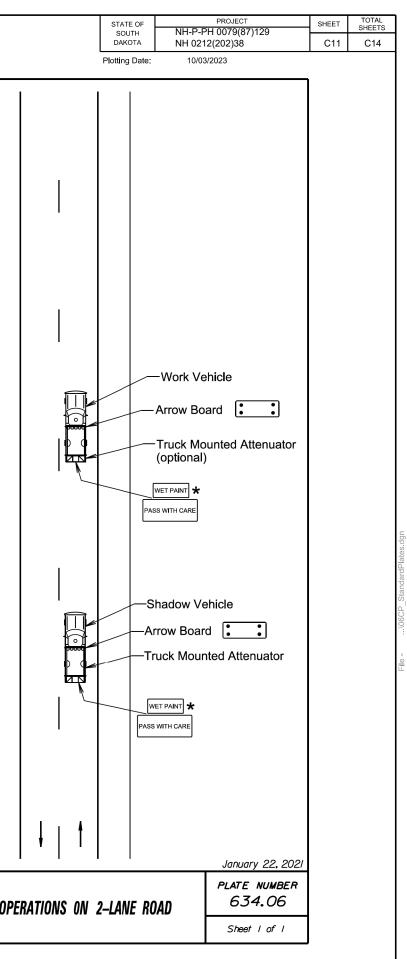
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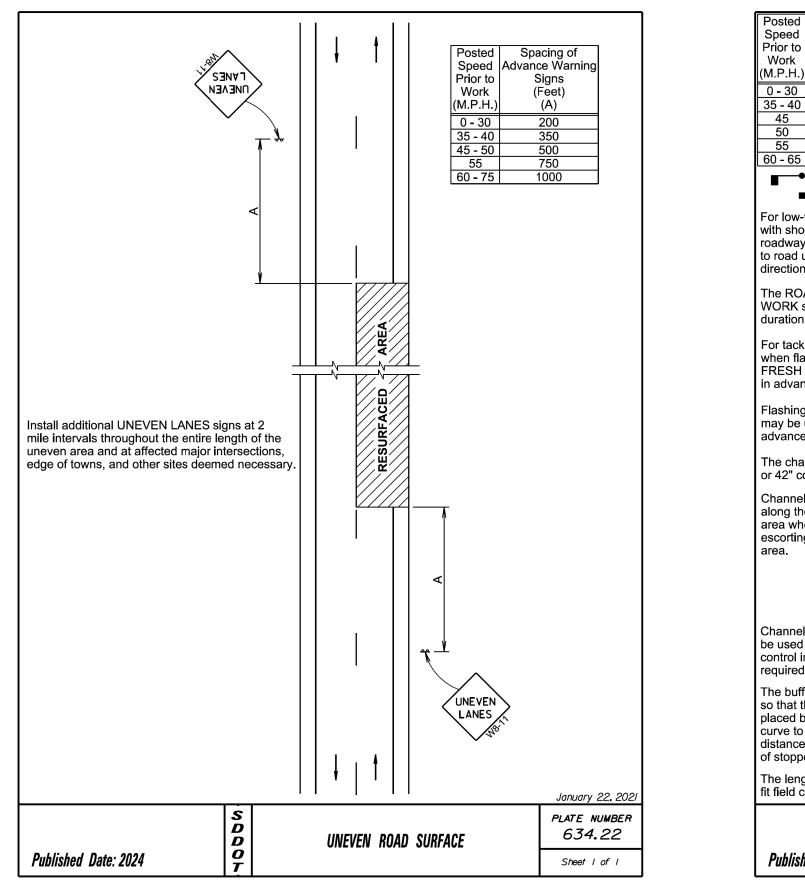
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Posted	Spacing of	Taper	Spacing of
Speed	Advance Warning	Length	Channelizing
Prior to	Signs	Ũ	Devices
Work	(Feet)	(Feet)	(Feet)
(M.P.H.)	`(A) ´	`(L) ´	`(G) ́
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50
55	750	660	50
60 - 65	1000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











Signs Devices (Feet) (Feet) as below. ໌(G) ໌ (A) 200 25 35 - 40 350 25 500 25 500 50 750 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 201 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) will be displayed 50' 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 will 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 G20-2 ROAD WORK ONE Channelizing devices and flaggers will 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. S D D O Published Date: 2024 T

Spacing of

Advance Warning Channelizing

Spacing of

