SD DOT	PROJECT	SECTION	SHEET
	PH 0040(358)	Non	1/13

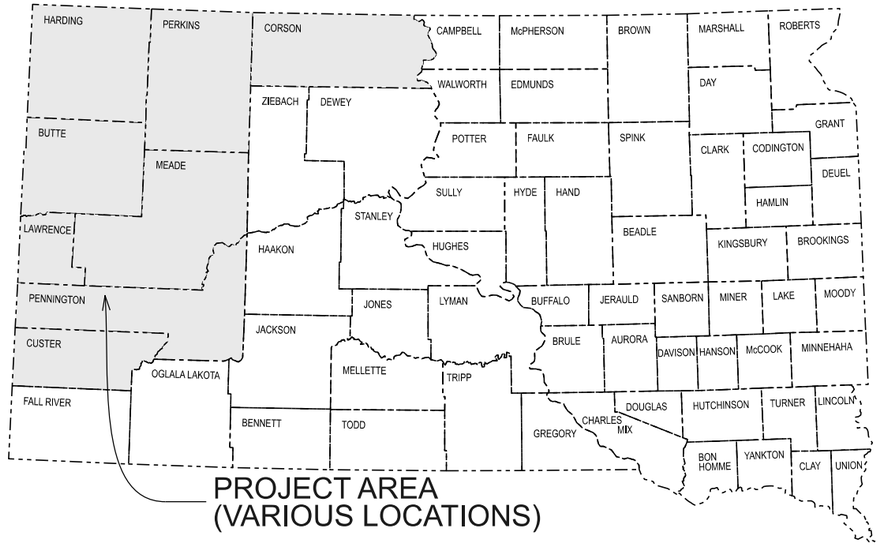
Plotting Date: 12/4/2025

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT PH 0040(358)
US HWYS 12, 16, 16A, 85, 212 and 385
SD HWYS 34, 44, 73
BUTTE, CORSON, CUSTER, HARDING LAWRENCE, MEADE, PENNINGTON & PERKINS COUNTIES

SINUSOIDAL CENTERLINE RUMBLE STRIPES
PCN 09UV



INDEX OF SHEETS

DESIGN DESIGNATION
(US12, MRM 80.5+0.0 TO MRM 86+0.967)

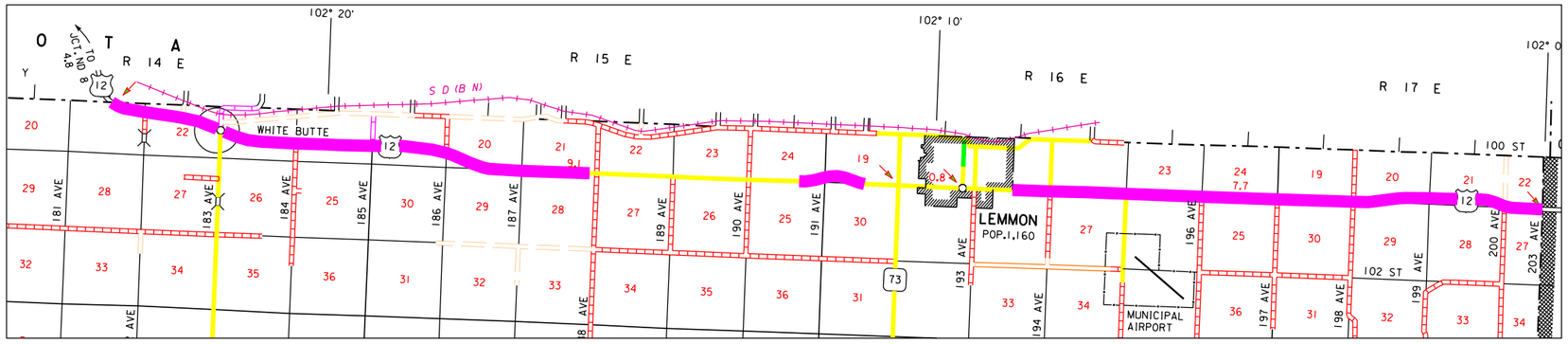
ADT (2024)	856
ADT (2044)	1279
DHV	204
D	50%
T DHV	13.5%
T ADT	29.7%
V	65 MPH
LENGTH	6.486 MILES

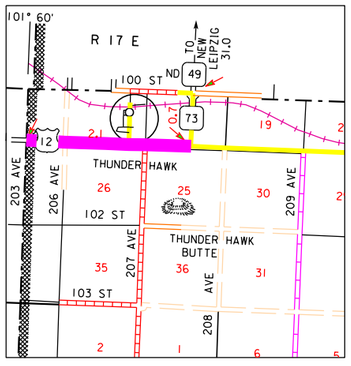
DESIGN DESIGNATION
(US12, MRM 89+0.849 TO MRM 90+0.72)

ADT (2024)	876
ADT (2044)	1309
DHV	209
D	50%
T DHV	13.9%
T ADT	30.5%
V	65 MPH
LENGTH	0.871 MILES

DESIGN DESIGNATION
(US12, MRM 92.33+0.0 TO MRM 101.68+0.0)

ADT (2024)	780
ADT (2044)	1166
DHV	186
D	50%
T DHV	19.9%
T ADT	9.1%
V	65 MPH
LENGTH	9.35 MILES





DESIGN DESIGNATION
(SD34, MRM 77+0.246 TO MRM 80+0.689)

ADT (2024)	930
ADT (2044)	1482
DHV	166
D	50%
T DHV	20.8%
T ADT	9.5%
V	65 MPH
LENGTH	3.443 MILES

DESIGN DESIGNATION
(SD34, MRM 81.1+0.101 TO MRM 86+0.187)

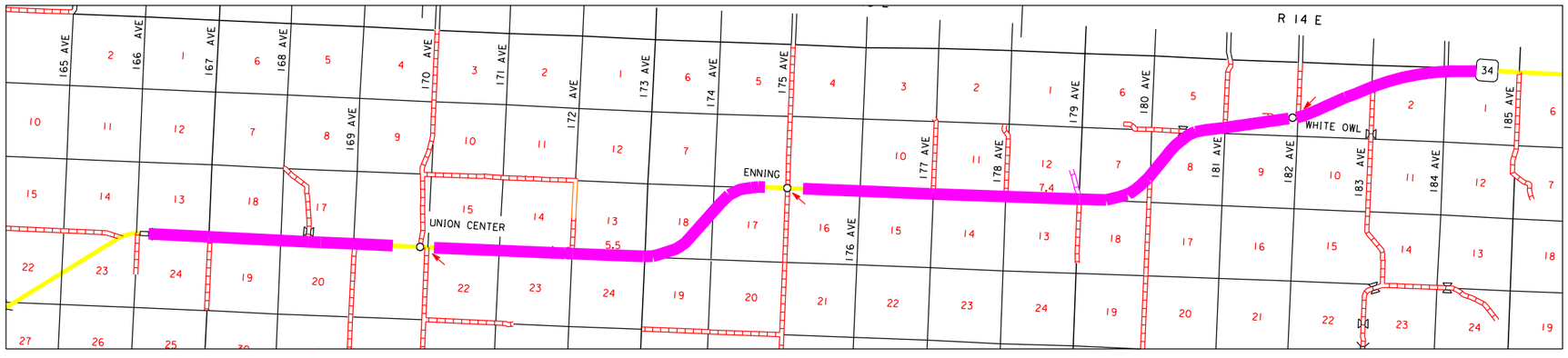
ADT (2024)	930
ADT (2044)	1482
DHV	166
D	50%
T DHV	20.8%
T ADT	9.5%
V	65 MPH
LENGTH	4.986 MILES

DESIGN DESIGNATION
(SD34, MRM 86.51+0.282 TO MRM 96+0.546)

ADT (2024)	875
ADT (2044)	1395
DHV	157
D	50%
T DHV	9.6%
T ADT	21.1%
V	65 MPH
LENGTH	9.754 MILES

STORM WATER PERMIT

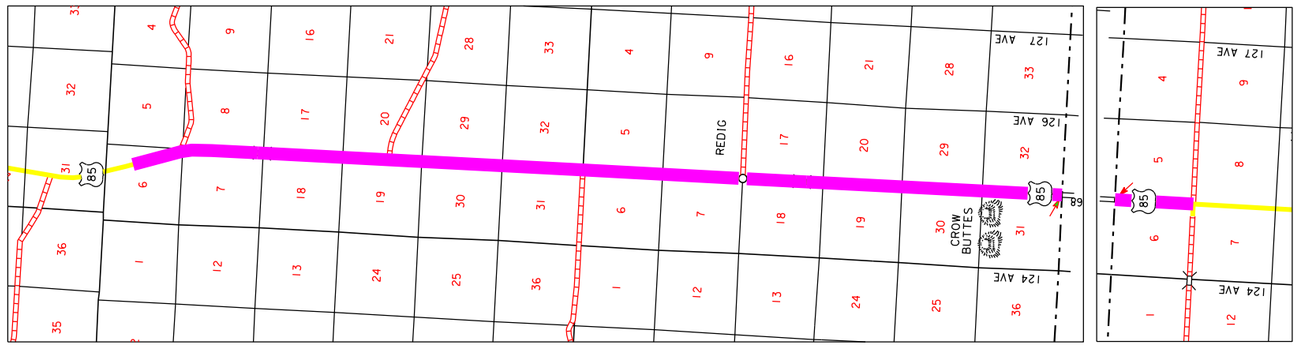
No Permit Required



February 4, 2026

SD DOT	PROJECT	SECTION	SHEET
	PH 0040(358)	Non	2/13

Plotting Date: 12/4/2025



DESIGN DESIGNATION
(US85, MRM 99+0.666 TO MRM 112+0.321)

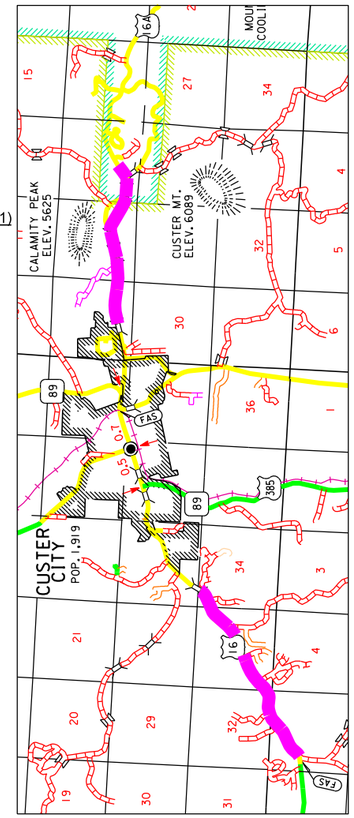
ADT (2024)	1190
ADT (2044)	1708
DHV	225
D	50%
T DHV	14.1%
T ADT	31.0%
V	65 MPH
LENGTH	12.655 MILES

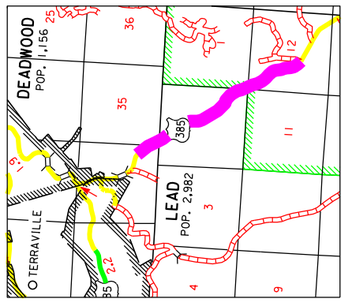
DESIGN DESIGNATION
(US16, MRM 22+0.314 TO MRM 25+0.0)

ADT (2024)	3426
ADT (2044)	5588
DHV	1068
D	50%
T DHV	2.5%
T ADT	5.6%
V	55 MPH
LENGTH	2.686 MILES

DESIGN DESIGNATION
(US16A, MRM 24.05+0.095 TO MRM 26+0.141)

ADT (2024)	1978
ADT (2044)	3226
DHV	528
D	50%
T DHV	1.3%
T ADT	2.9%
V	55 MPH
LENGTH	1.996 MILES



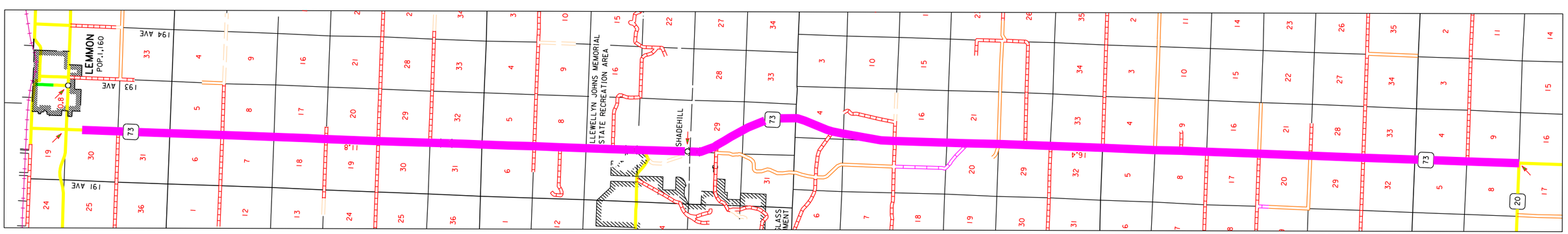


DESIGN DESIGNATION
(US385, MRM 118+0.657 TO MRM 121+0.08)

ADT (2024)	2338
ADT (2044)	3388
DHV	555
D	50%
T DHV	1.8%
T ADT	4.0%
V	55 MPH
LENGTH	2.423 MILES

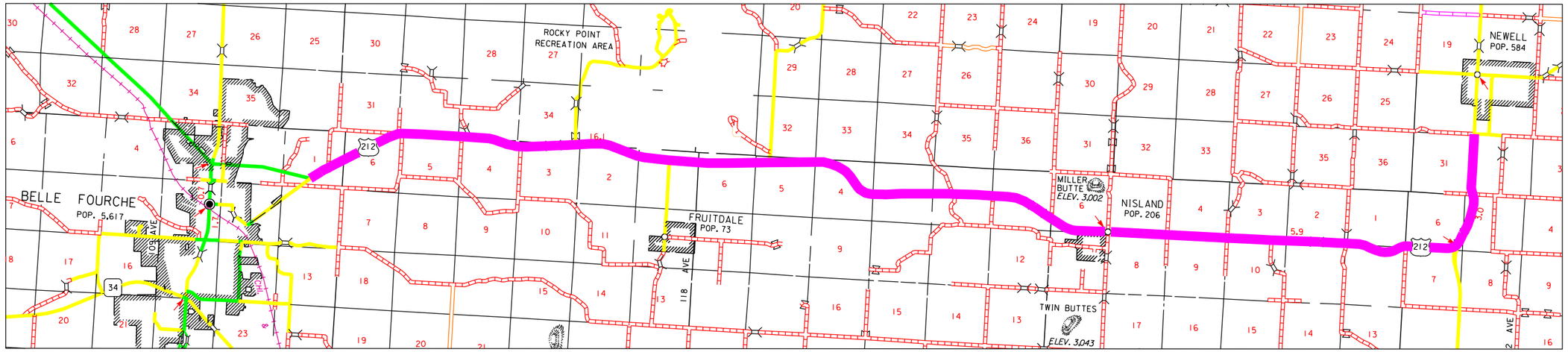
DESIGN DESIGNATION
(SD73, MRM 213.45+0.0 TO MRM 241+0.21)

ADT (2024)	575
ADT (2044)	859
DHV	137
D	50%
T DHV	12.4%
T ADT	27.2%
V	65 MPH
LENGTH	27.76 MILES



SD DOT	PROJECT	SECTION	SHEET
	PH 0040(358)	Non	3/13

Plotting Date: 12/4/2025

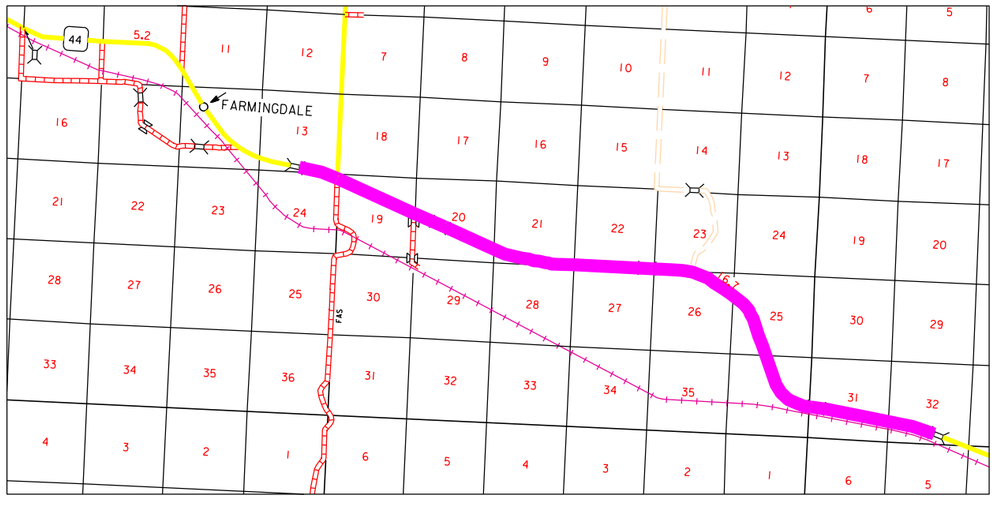


DESIGN DESIGNATION
(US212, MRM 15.32+0.09 TO MRM 38+0.19)

ADT (2024)	1728
ADT (2044)	2480
DHV	395
D	50%
T DHV	5.4%
T ADT	11.8%
V	65 MPH
LENGTH	22.78 MILES

DESIGN DESIGNATION
(SD44, MRM 65+0.464 TO MRM 74.9+0.0)

ADT (2024)	1568
ADT (2044)	2472
DHV	291
D	50%
T DHV	2.1%
T ADT	4.7%
V	65 MPH
LENGTH	9.436 MILES



ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E4100	Construction Schedule, Category I	Lump Sum	LS
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	114.6	Mile
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	47.1	Ton
350E0010	Asphalt Concrete Crack Sealing	19,720	Lb
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	1,820	Gal
634E0010	Flagging	300.0	Hour
634E0020	Pilot Car	100.0	Hour
634E0110	Traffic Control Signs	152.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each
634E0630	Temporary Pavement Marking	229.2	Mile

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf >

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

This commitment will be provided when projects are within Whooping Crane migratory areas. This commitment does not apply to urban areas. The Whooping Crane migratory areas consist of **ALL counties EXCEPT** Brookings, Clay, Deuel, Fall River, Grant, Lake, Lincoln, Minnehaha, Moody, Roberts, and Union. Contact the Environmental Office Wildlife Biologist to determine if the Whooping Crane Commitment will apply.

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight, and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris except as noted elsewhere in the plans may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Agriculture and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 100 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT S: FIRE PREVENTION IN THE BLACK HILLS AREA

This project is located within the Black Hills Forest Fire Protection Boundary.

Action Taken/Required:

The Contractor will adhere to the “Special Provision for Fire Plan”.

SEQUENCE OF OPERATIONS

1. Install traffic control for 3 mile closure.
2. Grind sinusoidal rumble stripes.

2b. Rout centerline cracks on US12 and US16A segments only.

3. Clean the rumble stripes and roadway

3b. Seal centerline cracks on US12 and US16A segments only.

4. Place temporary pavement markings before the end of each day and remove traffic control.
5. Flush seal rumble stripes.
6. Repeat 3 mile process.
7. Install permanent pavement marking paint

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.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project NH-P 0044(235)39 – PCN 08JE will be (or has been) awarded to another Contractor for Polymer Chip Seal on Highway SD 44 adjacent to this project (PCN 09UV). The Polymer Chip Seal for PCN 08JE will begin at MRM 65.68 +0.000.

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by the other Contractor on PCN 08JE. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer and at no additional cost to the contract.

GENERAL TRAFFIC CONTROL

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation. Fixed location signing is not needed. Portable signing is sufficient.

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.

Portable signing placed 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 portable signs, posts and bases will be removed within 7 calendar days following permanent pavement marking.

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.

A mobile operation will be used for permanent pavement marking application.

Lane closures will be limited to 3 miles in length or the one-day completion length proven in the field by the Contractor. The distance between the closest points of any two-lane closures will be at least 3 miles, excluding tapers.

Lane closure with flaggers will be used if it is anticipated that the operation will occupy a location for more than one hour and/or is not moving intermittently or continuously.

TRAFFIC CONTROL SIGNS

Traffic control signs have been included in a table for all routes for two flagger setups, and lane closures for the climbing lane sections. Payment will only be for those signs used.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W1-4L	LANE SHIFT LEFT	1	36"X36"	9	9
W1-4R	LANE SHIFT RIGHT	1	36"X36"	9	9
W3-4	BE PREPARED TO STOP	2	36"X36"	9	18
W4-2	LANE ENDS	1	36"X36"	9	9
W13-1P	ADVISORY SPEED PLAQUE	1	18"X18"	2.25	2.25
W20-1	ROAD WORK AHEAD	2	36"X36"	9	18
W20-4	ONE LANE ROAD AHEAD	2	36"X36"	9	18
W20-5	LEFT LANE CLOSED AHEAD	1	36"X36"	9	9
W20-7	FLAGGER (SYMBOL)	2	36"X36"	9	18
W21-2	FRESH OIL	2	36"X36"	9	18
G20-2	END ROAD WORK	2	36"X18"	4.5	9
CUSTOM	WAIT FOLLOW PILOT CAR	4	30"X18"	3.8	15.2
				CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT TOTAL:	152.45

FLAGGING

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

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.

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”.

GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

The Contractor will demonstrate to the Engineer an initial 50’ foot test section that the equipment and method will provide the desired ground rumble stripe and surface inside each depression. If the desired results are not being provided, as determined by the Engineer, the Contractor will provide different equipment or methods until satisfactory installation is completed. Any damage to the asphalt concrete will be replaced by the Contractor at no additional cost to the State.

Sinusoidal rumble stripes will be constructed on the centerline, as detailed in the plans. Sinusoidal centerline rumble stripe installation will be completed prior to application of the flush seal, temporary pavement markings and permanent pavement markings.

Rumble stripes will not be installed on bridge decks and joints to avoid damage in these areas.

Rumble stripes will not be installed within 50 feet of any railroad crossings.

Sinusoidal centerline rumble stripes will be paid for at the contract unit price per mile for “Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete”. It is estimated that 114.6 miles of sinusoidal centerline rumble stripes will be required.

This sinusoidal centerline rumble stripes will be constructed according to the details of Standard Plate 320.40.

CENTERLINE ASPHALT CONCRETE CRACK SEALING

It is anticipated that centerline crack routing and sealing may be required after grinding the centerline rumble stripes on certain highway segments.

All quantities are based on a factor of 0.4 lbs. of sealant per 1 foot of existing crack. Actual quantities used may vary depending upon the location and width of the existing crack. Rates may vary as directed by the Engineer.

The Typical Reservoir Section will be 3/4 inch wide x 3/4 inch deep.

The use of a squeegee will be allowed on this project where the sealant begins to run out of the routed crack due to the grade or superelevation of the road and at locations where cracks are less than 6” apart.

The squeegee will be used to push the sealant material back into the crack and remove as much sealant as possible from the roadway surface at these locations.

At locations with multiple cracks less than 6” apart, rout only the widest crack. Routing will not be required to seal the remaining cracks. Trace these remaining cracks with sealant and use a squeegee to level and fill.

TABLE OF CRACK SEALING QUANTITIES

HIGHWAY	FROM MRM	DISP	TO MRM	DISP	LENGTH (MILES)	ASPHALT CRACK SEALING (LBS)
US12	80.50	0.000	86.00	0.967	6.467	13660
US12	89.00	0.849	90.00	0.720	0.871	1840
US16A	24.05	0.095	26.00	0.141	1.996	4220
					TOTAL:	**19720 LBS**

SINUSOIDAL CENTERLINE RUMBLE STRIPE / ROADWAY CLEANING

The Contractor will be required to remove loose material from the driving surface and/or shoulders on a daily basis. Loose material may be used as fill material adjacent to the paved shoulder. It will be the Contractor’s responsibility to ensure the loose material does not enter any vegetated areas and/or waterways. A pick-up broom will not be required.

All costs associated with this cleaning work will be incidental to the contract unit price per mile for “Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete”.

CENTERLINE RUMBLE STRIPES – ASPHALT FOR FLUSH SEAL

The Flush Seal will be applied the same day the grinding operation is completed and rumble stripe is cleaned, and prior to the installation of Temporary Pavement Marking.

Asphalt for Flush Seal will be applied after the centerline rumble stripes have been installed and prior to the application of temporary and permanent pavement markings. The asphalt for flush seal will be applied at a width of 20” and a rate of 0.1 Gal/SqYd. All costs associated with placing the flush seal will be incidental to the contract unit price per ton for “SS-1h or CSS-1h Asphalt for Flush Seal”.

TEMPORARY PAVEMENT MARKING

Temporary flexible vertical markers (tabs) will be installed on one side of the centerline rumble for the temporary pavement marking. No passing zones will be marked in accordance with Specifications.

Temporary flexible vertical markers (tabs) will be installed on one side of the centerline rumble for the temporary pavement marking. No passing zones will be marked in accordance with Specifications. DO NOT PASS (R4-1) and PASS WITH CARE (R4-2) signs may also be used in addition to the temporary flexible vertical markers (tabs) placed per Specifications to mark no passing zones.

The total length of no passing zone on this project is estimated to be 43.3 miles.

It is estimated that 50 DO NOT PASS and 50 PASS WITH CARE signs may be required.

Temporary flexible vertical markers (tabs) will be used to mark dashed centerline, No Passing Zones, and applicable lane lines. Paint will not be allowed for temporary pavement marking after application of the flush seal.

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 after cleaning the centerline rumble stripe and roadway and a second pass after the flush seal

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.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

The Contractor shall survey and mark the location of no passing zones prior to removal of existing pavement markings. Application of permanent pavement marking may begin 7 calendar days following completion of the flush seal and shall be completed within 14 calendar days following completion of the flush seal.

All materials will be applied as per manufacturer’s recommendations. High build waterborne pavement marking paint will conform to the supplemental specifications for Section 980.1 B.

Reflective media will consist of glass beads. Reflective media will require a Certificate of Compliance for Certification for each source and lot. Acceptance sampling will not be required.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4” line = 22.5 Gals/Mile
Dashed 4” line = 6.2 Gal/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor, and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

MARKINGS WITHIN SINUSOIDAL CENTERLINE RUMBLE STRIPES

The sinusoidal centerline rumble stripes are recessed below the pavement surface, so pavement marking grooving will not be required at these locations.

Retro-reflectivity readings will not be taken for pavement markings within the sinusoidal rumble stripe. Restriping of pavement markings to meet the specified application rate requirements and to provide a quality retroreflective line will be at the expense of the Contractor with no additional cost to the Department. Sections to be restriped will be determined by the Engineer.

DATA LOGGING SYSTEM

The Contractor will provide striper computerized data logging system files as described below. The pavement marking device will have an onboard monitoring system for the purpose of managing the amount of pavement marking materials being applied to the pavement surface.

The following will be included in the documentation from the data logging system:

- State project number and PCN
- Highway number
- Beginning and end MRMs of the section marked rounded to the nearest hundredth of a mile, including direction of travel
- Beginning and ending coordinates determined by a Global Positioning System receiver with 3-meter accuracy, including direction of travel
- Date and beginning and ending time of application
- Product applied
- Lot number(s) of product (binder and reflective material) applied
- Striping Contractor (striper code)
- Designation of the marking being applied (LEL – Left Edgeline, REL – Right Edgeline, CL – Centerline, LL – Lane Line Broken or Dotted, 1LL – leftmost LL in multilane, 2LL – second to leftmost LL in multilane, etc.)
- Width of marking being applied
- Presence of recess or rumble strip
- Presence of contrast
- Average material application rate and film thickness calculated for the section striped

The following data will be included in the documentation from the data logging system reported as an average for each drive mile (or other segment approved by the Engineer) installed:

- Application vehicle speed rounded to the nearest tenth of a mile per hour
- Weight (Lbs) and/or volume (Gal) as measured through a positive displacement pump (mechanism or flow meter) of liquid material used by color
- Weight (Lbs) of reflective material used
- Ratio of reflective material used (weight) per liquid material used (volume) reported as Lbs/Gal
- Ambient air temperature (in degrees Fahrenheit)
- Road surface temperature (in degrees Fahrenheit)
- Humidity (percent)
- Dew point (in degrees Fahrenheit)

Provide the measurement report in the form of an electronic database file, or delimited text file, containing raw data collected. Provide the Engineer with a printed summary and submit the electronic data to the Region Traffic Engineer at the e-mail below and copy the Engineer.

Jesse.Nelson@state.sd.us

The data logging system equipment will be operational, calibrated, and in use during pavement marking operations. Pavement marking installation without the use of a data logging system may not be accepted.

Upon request, provide to the Engineer the data logging system manufacturer’s recommendations for equipment calibration frequency and provide certification that the equipment meets manufacturer’s recommended calibration.

Verify that the physical and electronic measurement of distance travelled is consistent by travelling a 100-foot distance prior to the start of pavement marking operations.

All cost for materials, labor, and equipment necessary to provide the pavement marking data as described will be incidental to the contract unit price for the respective pavement marking items.

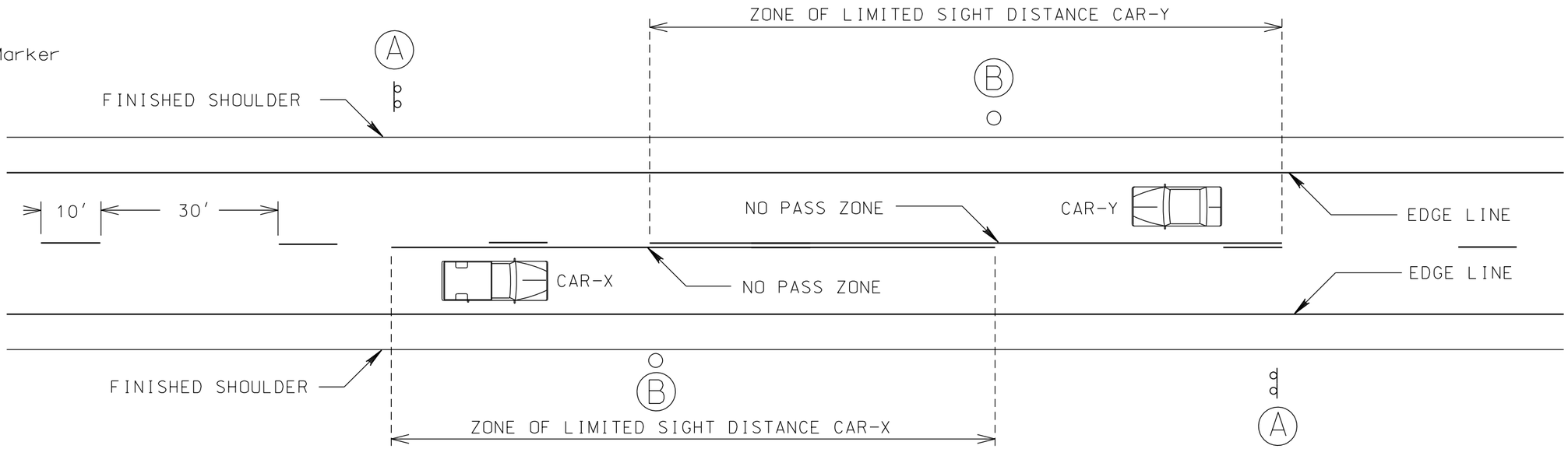
TABLE OF SINUSOIDAL CENTERLINE RUMBLE STRIPES

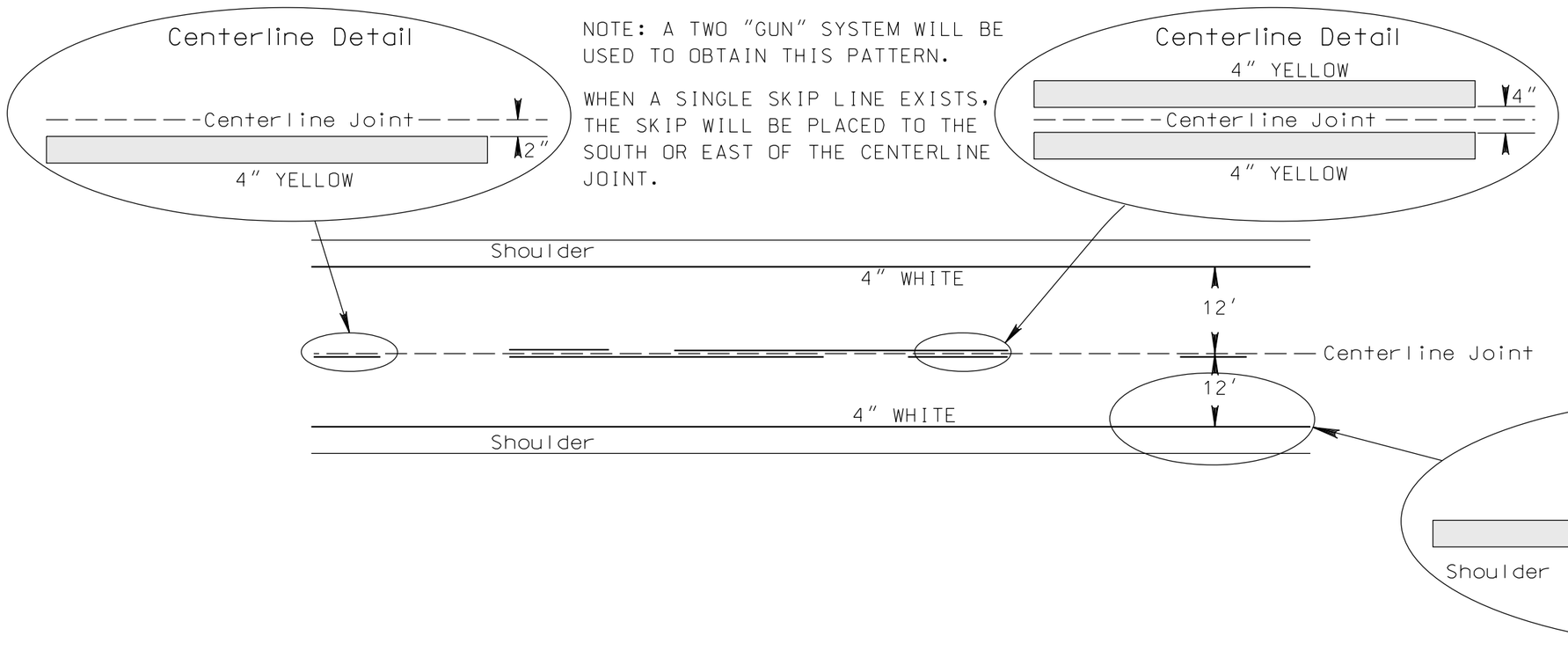
Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete								No Passing Zones (miles)	High Build Waterborne Pavement Marking Paint	Asphalt for Flush Seal (ton)
Highway	Location Description	County	Begin MRM	End MRM	Pavement	Resurfacing Year	Length (miles)		Yellow Paint (gal)	
12	ND Border to West of 188th Ave/Four Mile Rd	Perkins	80.5+0	86+0.967	Asphalt	2019	6.467	2.967	110	2.7
12	East of 190th Ave to West of SD Highway 73/192nd Ave	Perkins	89+0.849	90+0.72	Asphalt	2019	0.871	0.644	30	0.4
12	East of Lemmon to SD Highway 73	Perkins/Corson	92.33+0	101.68+0	Asphalt	2019/2022	9.350	1.410	90	3.8
34	East of Mandan Loop/166th to East of Hope Rd	Meade	77+0.246	80+0.689	Asphalt	2021	3.443	1.129	50	1.4
34	East of Ball Field Rd to West of Elm Springs Rd in Enning	Meade	81.1+0.101	86+0.187	Asphalt	2021	4.986	0.772	50	2
34	East of Elm Springs Rd to East of Tidewater	Meade	86.51+0.282	96+0.546	Asphalt	2021	9.754	4.428	170	4
73	SD Highway 20 to South of US 12	Perkins	213.45+0	241+0.21	Asphalt	2023	27.760	18.163	640	11.4
85	Old Highway 85/79 to South of Mackey Rd	Butte/Harding	99+0.666	112+0.321	Asphalt	2020	12.655	0.740	100	5.2
212	Business 212 to Hope Road in Newell	Butte	15.32+0.09	38+0.19	Asphalt	2020/2025	22.780	7.483	350	9.4
44	East of Hammerquist Rd to Rapid Creek Bridge in Creston	Pennington	65+0.464	74.9+0	Asphalt	2020	9.436	2.038	100	3.9
385	Upper Two Bit Rd to South of Grizzly Gulch Rd	Lawrence	118+0.657	121+0.08	Asphalt	2018	2.423	1.318	40	1
16	Pleasant Valley Rd to French Creek bridge	Custer	22+0.314	25+0	Asphalt	2016	2.686	0.785	40	1.1
016A	Spring Pl in Custer to East of Lower French Creek Rd	Custer	24.05+0.095	26+0.141	Asphalt	2016	1.996	1.387	50	0.8
						TOTALS	**114.6**	**43.3**	**1820**	**47.1**

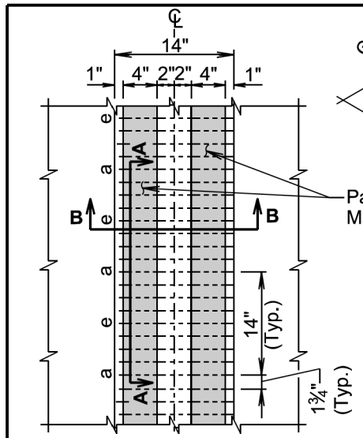
TYPICAL PAVEMENT MARKING LAYOUT

SD DOT	PROJECT	SECTION	SHEET
	PH 0040(358)	Non	9/13

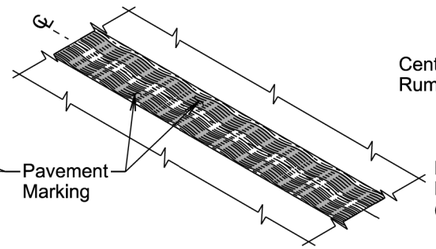
Plotting Date: 12/4/2025



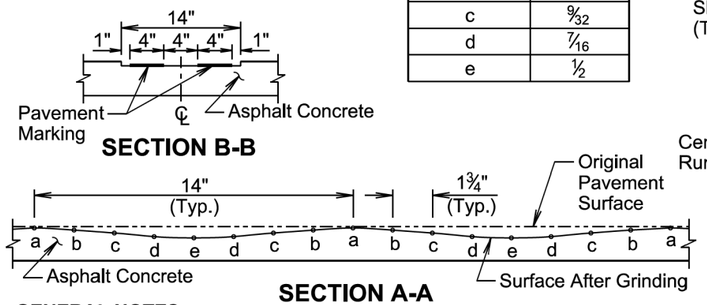




PLAN VIEW
(Typical Rumble Strip in Asphalt Concrete)



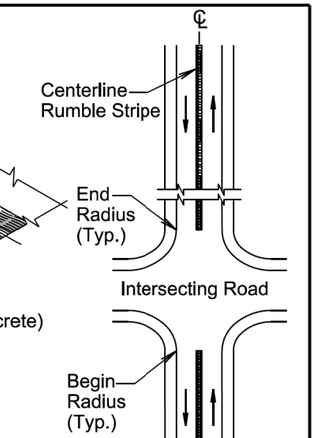
SECTION B-B



SECTION A-A

SINUSOIDAL GRINDING	
Location	* Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	1/2

PERSPECTIVE VIEW
(Typical Rumble Strip in Asphalt Concrete)



PLAN VIEW

GENERAL NOTES:

A rumble stripe will be constructed by grinding continuous sinusoidal indentations in the asphalt concrete. The rumble stripe will receive a flush seal or asphalt surface treatment as specified in the plans.

A rumble stripe will not be constructed through intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. The beginning and ending locations of the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings will be adjusted as approved by the Engineer.

Prior to constructing the rumble stripe the Contractor will submit to the Engineer, for approval, the proposed method of constructing the rumble stripe.

* The sinusoidal rumble stripe construction grinding tolerance will be ± 1/16 inch.

Measurement and payment of the rumble stripe will be to the nearest 0.1 of a mile along the centerline and will include segments without the rumble stripe at intersecting roads, bridge decks, bridge approach slabs, and railroad crossings. Payment for constructing the rumble stripe will be at the contract unit price per mile for "Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete".

September 14, 2019

Published Date: 2026	SDDOT	SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE	PLATE NUMBER 320.40	Sheet 1 of 1

* Messages on signs will vary depending on the operation being conducted.

Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

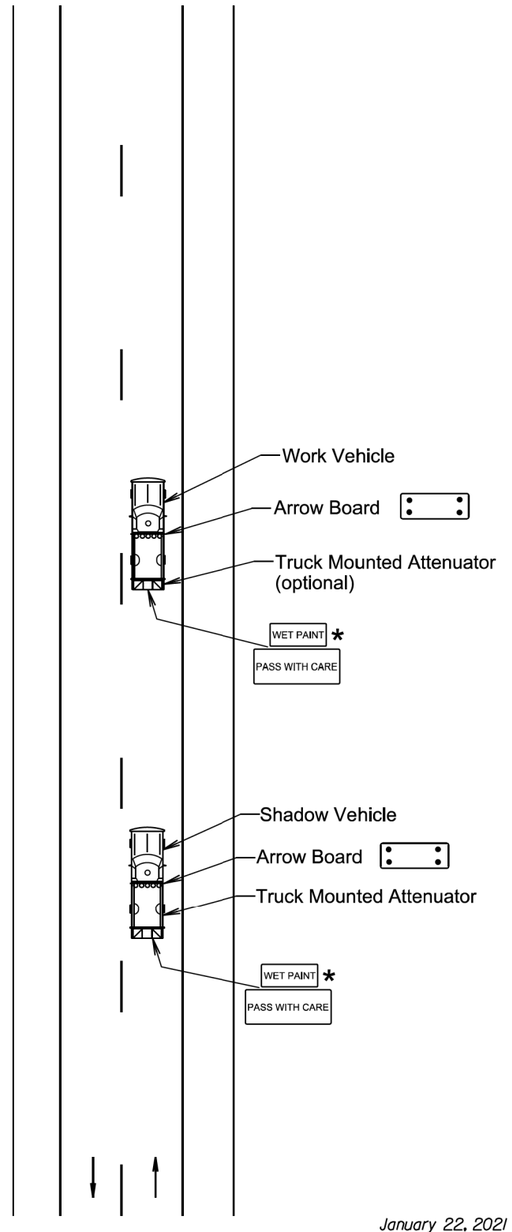
Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

When an arrow board is used, it will be used in the caution mode. Marching Diamonds are acceptable.

Arrow boards will, as a minimum, be Type B, with a size of 60" x 30".

All costs associated with the traffic control for mobile operation including signs, arrow boards and equipment will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".



January 22, 2021

Published Date: 2026	SDDOT	MOBILE OPERATIONS ON 2-LANE ROAD	PLATE NUMBER 634.06	Sheet 1 of 1

* Messages on signs will vary depending on the operation being conducted.

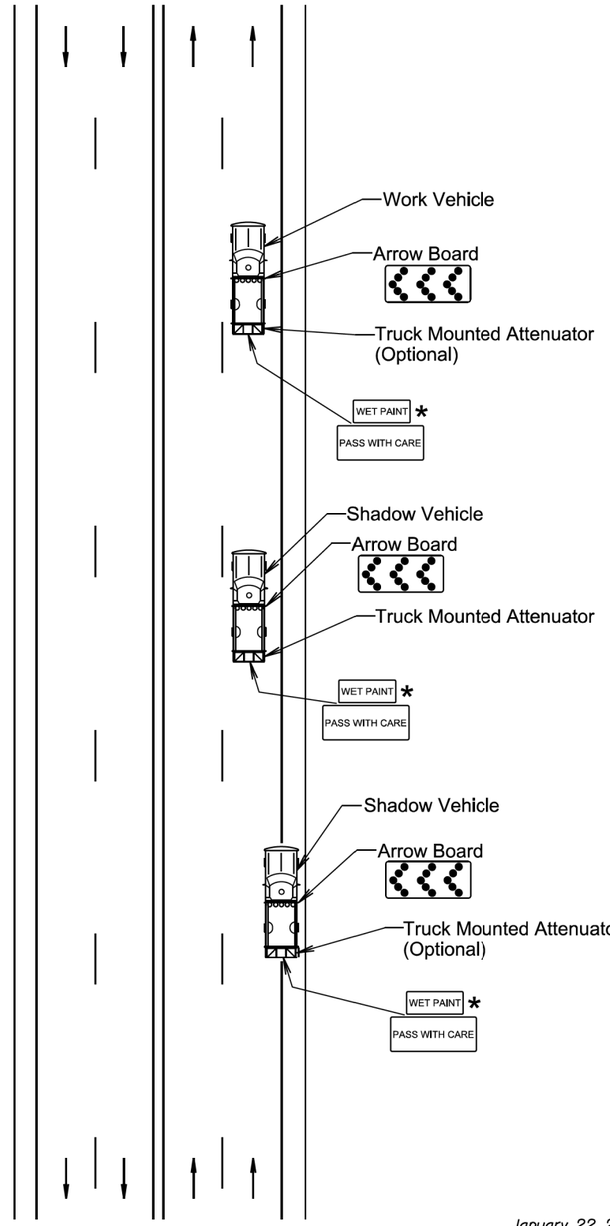
Vehicle-mounted signs will be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs will be covered or turned from view when work is not in progress.

Shadow and Work vehicles will display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow boards.

Vehicle hazard warning signals will not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.

Arrow boards will, as a minimum, be Type B, with a size of 60" x 30".

All costs associated with the traffic control for mobile operation including signs, arrow boards and equipment will be incidental to the contract lump sum price for “Traffic Control, Miscellaneous”.



January 22, 2021

Published Date: 2026

SDDOT

MOBILE OPERATIONS ON MULTI-LANE HIGHWAYS

PLATE NUMBER 634.08

Sheet 1 of 1

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	500	25
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.

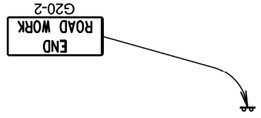
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) will 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 will be drums or 42" cones.

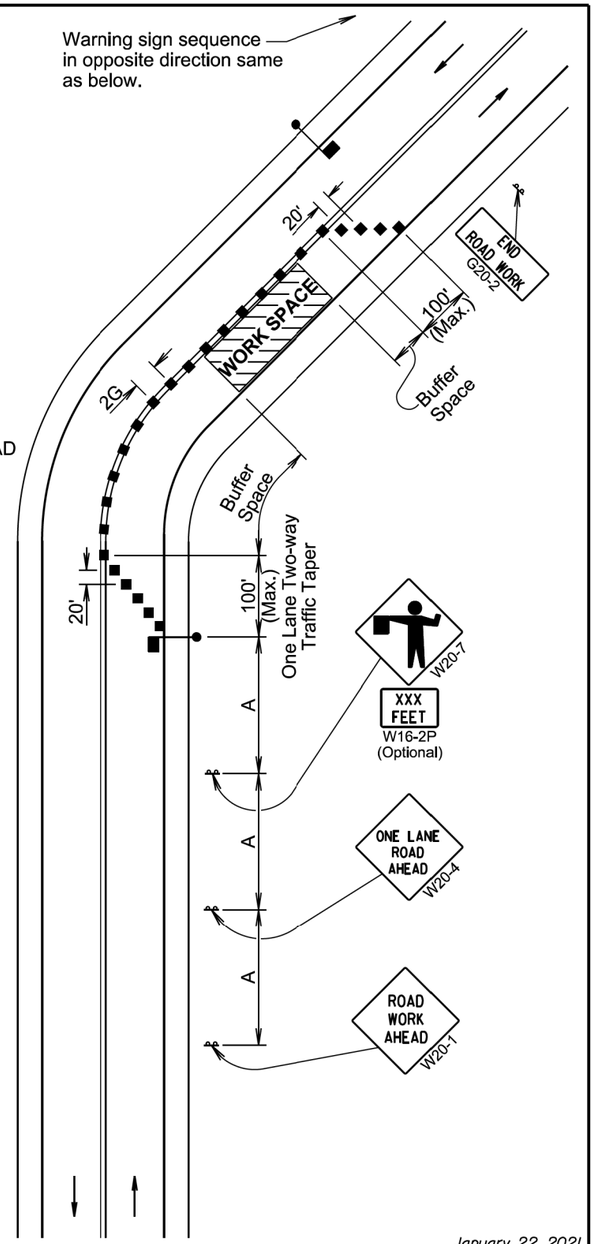
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



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.



January 22, 2021

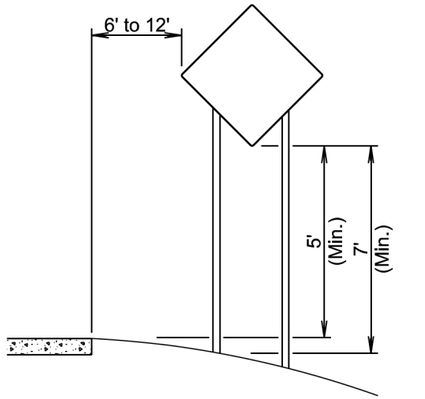
Published Date: 2026

SDDOT

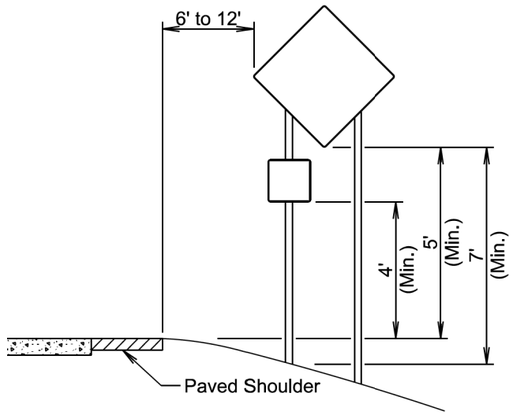
LANE CLOSURE WITH FLAGGER PROVIDED

PLATE NUMBER 634.23

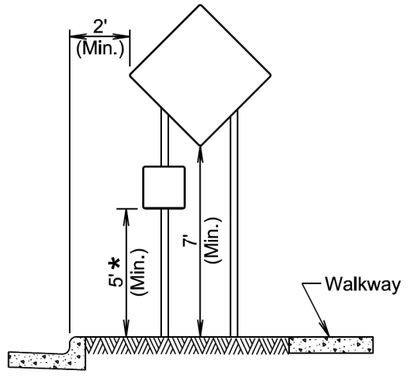
Sheet 1 of 1



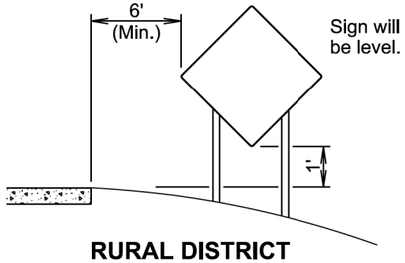
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT



RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

* 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: 2026	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85 Sheet 1 of 1

LANE CLOSURE ON CLIMBING LANE SECTION OF HIGHWAY

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 - 50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

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

◎ Reflectorized Drum

■ Channelizing Device 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 any night time hours.

4" Yellow temporary pavement marking shall be used for overnight and long term operations.

4" white temporary pavement marking shall be used for overnight and long term operations.

Longitudinal dimensions may be adjusted to fit project conditions such as horizontal curves, vertical curves, and other site restrictions.

- ■ Channelizing Device
- Ⓨ 4" Yellow temporary pavement marking
- Ⓦ 4" White temporary pavement marking
- ** Speed to be determined on site by the Highway Authority.

The traffic control devices shown are appropriate for high-speed highway.

Pavement markings no longer applicable shall be removed or obliterated as soon as practical. Temporary markings shall be used as necessary.

The channelization must be made dominant by using G/2 device spacing for intermediate-term, up to 3 days, when it is not feasible to remove and restore pavement markings. This is especially important in locations of conflicting information such as where traffic is directed over a double yellow centerline. In such locations, a maximum channelizing device spacing of 25' is recommended.

The channelizing devices shall be drums or 42" cones.

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

This plate is not intended for intersection work.

Warning lights may be used to mark channelizing devices at night as needed.

Traffic signal cone of vision and sight distance must be mainained.