

| SECTION C ESTIMATE OF QUANTITIES |  |  |  |
| :---: | :---: | :---: | :---: |
| PCN 081K - Str. No. 59-398-295 |  |  |  |
| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
| 009E0010 | Mobilization | Lump Sum | Ls |
| 009E4100 | Construction Schedule, Category I | Lump Sum | Ls |
| 633E0010 | Cold Applied Plastic Pavement Marking, 4" | 630 | Ft |
| 633E0030 | Cold Applied Plastic Pavement Marking, 24" | 16 | Ft |
| 633E0040 | Cold Applied Plastic Pavement Marking, Arrow | 1 | Each |
| 633E1200 | High Build Waterborne Pavement Marking Paint, White | 6 | Gal |
| 633E1205 | High Build Waterborne Pavement Marking Paint, Yellow | 10 | Gal |
| 633E1272 | High Build Waterborne Pavement Marking Paint, Arrow | 1 | Each |
| 633E5000 | Groving for Cold Applied Plastic Pavement Marking, 4" | 630 | Ft |
| 633E5015 | Grooving for Cold Applied Plastic Pavement Marking, 24" | 16 | Ft |
| 633E5025 | Grooving for Cold Applied Plastic Pavement Marking, Arrow | 1 | Each |
| 634E0010 | Flagging | 40.0 | Hour |
| 634E0110 | Trafic Control Signs | 201.0 | SqFt |
| 634E0120 | Traffic Contro, Miscellaneous | Lump Sum | Ls |
| 634E0135 | Traffic Control Supervisor | Lump Sum | LS |
| 634E0275 | Type 3 Barricade | 4 | Each |
| 634E0525 | Linear Delineation System Panel, Barrier Mounted | 52 | Each |
| 634E0700 | Trafic Control Movable Concrete Barrier | 52 | Each |
| 634E0750 | Temporary Concrete Barrier End Protection | 2 | Each |
| 634E0755 | Remove and Reset Temporary Concrete Barrier End Protection | 2 | Each |
| 634E1002 | Detour and Restriction Signing | 1,053.0 | SqFt |
| 634 E 2015 | Temporary Pedestrian Access Route | Lump Sum | Ls |
| 634E2020 | Temporary Curb Ramp | 1 | Each |
| 634 E 2025 | Longitudinal Pedestrian Barrier | 750 | Ft |
| PCN 081L - Str. No. 36-145-015, 28-122-513, 59-023-299 |  |  |  |
| bid ITEM NUMBER | ITEM | QUANTITY | UNIT |
| 009E0010 | Mobilization | Lump Sum | Ls |
| 009E4100 | Construction Schedule, Category I | Lump Sum | Ls |
| 633E1200 | High Build Waterborne Pavement Marking Paint, White | 6 | Gal |
| 633E1205 | High Build Waterborne Pavement Marking Paint, Yellow | 4 | Gal |
| 634E0010 | Flagging | 60.0 | Hour |
| 634E0110 | Trafic Control Signs | 490.2 | SqFt |
| 634E0120 | Traffic Control, Miscellaneous | Lump Sum | Ls |
| 634E0135 | Traffic Control Supervisor | Lump Sum | Ls |
| 634E0310 | Temporary Flexible Vertical Markers (Tabs) | 381 | Ft |
| 634E0600 | 4" Temporary Pavement Marking Tape Type I | 7,032 | Ft |
| 634E1002 | Detour and Restriction Signing | 1,026.0 | SaFt |


| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
| :---: | :---: | :---: | :---: |
| 009E0010 | Mobilization | Lump Sum | Ls |
| 009E4100 | Construction Schedule, Category I | Lump Sum | LS |
| 633E1200 | High Build Waterborne Pavement Marking Paint, White | 3 | Gal |
| 633E1205 | High Build Waterborne Pavement Marking Paint, Yellow | 2 | Gal |
| 634E0010 | Flagging | 60.0 | Hour |
| 634E0110 | Trafic Control Signs | 221.8 | SqFt |
| 634 E 120 | Trafic Control, Miscellaneous | Lump Sum | Ls |
| 634 E 1335 | Traffic Control Supervisor | Lump Sum | Ls |
| 634E0310 | Temporary Flexible Vertical Markers (Tabs) | 193 | Ft |
| 634 E 0600 | 4" Temporary Pavement Marking Tape Type I | 4,688 | Ft |
| PCN 08JC - Str. No. 43-422-370 |  |  |  |
| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
| 009E0010 | Mobilization | Lump Sum | Ls |
| 009E4100 | Construction Schedule, Category I | Lump Sum | Ls |
| 633E1200 | High Build Waterborne Pavement Marking Paint, White | 3 | Gal |
| 633E1205 | High Build Waterborne Pavement Marking Paint, Yellow | 1 | Gal |
| 634E0010 | Flagging | 60.0 | Hour |
| 634E0110 | Trafic Control Signs | 163.4 | SqFt |
| 634E0120 | Traffic Contro, Miscellaneous | Lump Sum | Ls |
| 634E0135 | Trafic Control Supervisor | Lump Sum | LS |
| 634 E 310 | Temporary Flexible Vertical Markers (Tabs) | 209 | Ft |
| 634 E 0600 | 4" Temporary Pavement Marking Tape Type I | 2,344 | Ft |
| 634 E 1002 | Detour and Restriction Signing | 477.0 | SqFt |

## SEQUENCE OF OPERATIONS

The following sequences of operations will be followed:
PCN 081K
See Traffic Control Barrier Layout sheet in Section C, and follow Scope of Bridge Work \& Sequence of Operations for 434' - $0^{\prime \prime}$ Cont. Comp. Girder Bridge in Section E.

ALL OTHERS

1. Install traffic control as shown in Standard Plate 634.24 and Traffic Control Barrier Layout Sheet (Section C) to close one half of the structure for bridge structure work (see Section E). Install first pass of temporary pavement markings
2. Perform all required structural work on the closed lane(s) of the bridge deck. (See Section E notes, Scope of Bridge Work \& Sequence of Operations).
3. Switch traffic control to close the opposite half of the structure. Install second pass of temporary pavement markings.
4. Perform all required structural work on the closed lane(s) of the bridge deck. (See Section E notes)
5. Remove temporary traffic control, including signs.

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 mee 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 prio to potential implementation.

## COORDINATION BETWEEN CONTRACTORS

The Contractor will schedule the work so as not to interfere with or hinder the progress of the work performed by other Contractors for Projec NH 0014(243)167 - PCN 05E9, Mill \& AC Resurfacing of US 14 from MRM 190.03 to MRM 167.02+0.676 and upcoming projects NH-P 0031 (59) PCN 0973, Asphalt Surface Treatment, various locations in the Pierre Area and P 0034(206)245-PCNO6TO, Mill \& AC Resurfacing \& Bike Path AC Resurfacing of SD34, SD $34 \mathrm{E} \& \mathrm{~W}$ - Fm Cleveland Ave to Farm Island Road in Pierre. Conflicting traffic control devices may need to be temporarily contract If the projects are occurring simultaneously the work zones of the bridge deck polymer chip seals will be extended to the AC overlay project.

Central Specialties, Inc
Ph: (320) 760-728

## 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 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.
Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

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

If inappropriate or conflicting pavement markings exist, the markings will be emoved 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 Marking" The additional channelizing devices will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous"

## TRAFFIC CONTROL SIGNS

Traffic control signs have been included in a table for each site. Payment will only be for those signs used on each site.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS (PCN 081K)

|  |  |  | CONVENTIO | NAL ROAD |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SIGN <br> CODE | description | NUMBER | SIGN SIIE | $\begin{array}{\|c} \hline \text { SOFT } \\ \text { PERSIGN } \end{array}$ | Saft |
| W1-4 | REVERSE CURVE (L) |  | $48^{\prime \prime} \times$ | 16.0 | ${ }^{6.0}$ |
|  | REVERSE CURVE (R) | 1 | $48^{\prime \prime} \times 48^{\prime \prime}$ | 6.0 |  |
| W3-4 | BE PREPARED TO STOP | 2 | $48^{\prime \prime} \times 48^{\prime \prime}$ | 16.0 | 32.0 |
| W4 | LLEF LANE ENDS (symbol) |  |  | 6.0 | 1.0 |
| W4-2R | RIGHT LANE ENDS (symbol) | 1 |  | 6.0 | 16.0 |
| W20-1 | ROAD WORK AHEAD | 2 |  | 6.0 | 32.0 |
| W20.5 | LeFT Lane closed ahead |  |  | 6.0 | 1.0 |
| W20.5 | RIGHT LANE CLOSED AHEAD | 1 | $48^{\prime \prime}$ | 16.0 | 6.0 |
| W20 | GGGER (symb | 2 |  | 6 |  |
| G20.2 | END ROAD WORK | 2 | 36" $\times 18^{\prime \prime}$ | 4.5 | 9.0 |
|  |  | $\underset{\substack{\text { CONVENTIONAL ROAD } \\ \text { TRAFFIC CONTROL SIGNS (PCN }}}{\text { (PBAK }}$ |  |  | 1.0 |

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS (PCN 081L)


ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS (PCN 08JA)


ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS (PCN 08JC)

|  |  | CONVENTIONAL ROAD |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SIGN | SIIN desc | ER | sIGN SIIE | $\underset{\text { ser sigi }}{\substack{\text { Saft }}}$ | saft |
| R1-1 | stop |  | ${ }^{30}$ | 5.2 | ${ }^{0.4}$ |
|  | REVERSE CURVE (Lor R) |  | $48^{\prime \prime} \times 48^{\prime \prime}$ |  | 6.0 |
| W3-1 | STOP AHEAD (symbol) | 2 | 48" ${ }^{\text {¢ }}$ | 16.0 | 32.0 |
| W20-1 | Road work ahead | 2 | 48 " $\times$ | 16.0 | 32.0 |
| W20-4 | ONE LANE ROAD AHEAD | 2 | $48^{\prime \prime} \times 48^{\prime \prime}$ | 16.0 | 32.0 |
| W20.7 | AGGER (symb |  | $48^{\prime \prime} \times 48^{\prime \prime}$ |  |  |
| 620-2 | END ROAD WORK | 2 | $36^{\prime \prime} \times 18^{\prime \prime}$ | 4.5 | 9.0 |
|  |  | $\underset{ }{\text { TRAFFIC CONTROL SIGNS (PCN }} 163$. |  |  |  |

## 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 ocations and review them with the Engineer. Overwidth restriction signs will be installed on fixed location, ground mounted, breakaway supports. It will be the project as required by the construction progress. Upon completion of the project, the Contractor will remove the overwidth restriction signs
The Contractor will coordinate with the Pierre Area Office to ensure that overwidth restriction signing does not conflict with overwidth restriction signing for PCN 03WN - Structure over the Missouri River on US14/US83/SD34 The Contractor will coordinate with the Pierre Area Office, as well as the prime contractor for the structure project, to only install the most restrictive signing at each location. The overwidth restriction signing, as required by this contract will be produced and available for installation. Overwidth restriction signing will be paid for at plans quantity at the contract unit price per square foot for Detour and Restriction Signing unless changes are ordered by the Engineer

Revised 02/23/2024 JPJ

## O3WN Contractor Contact Information

Jensen Construction Company
Attn: Landon Streit (Rasmussen Group)
Ph: (515) 290-0591

## Pierre Area Office Ph: $(605) 773-5294$

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

## FLAGGING

Operations will be conducted so that the traveling public will not have to wat 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"

## TEMPORARY PAVEMENT MARKING

Upon completion of structure site work, temporary pavement markings will be used to mark centerline of all new surfaces as per Specifications.

Temporary flexible vertical markers (tabs) will be used as detailed in the specifications.

Temporary pavement marking paint will not be allowed
The Contractor will remove and properly dispose of the tabs after permanen 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 the polymer chip seal

In the absence of a signed lane closure or pilot car operation, FLAGGER (W207) 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.

## TEMPORARY PAVEMENT MARKING TAPE, TYPEI

Temporary pavement marking for stop lines will consist of $4^{\prime \prime}$ Temporary Pavement Marking Tape Type I. Placement of each 24 " white stop line will be accomplished by placing six pieces of $4^{\prime \prime} \times 12^{\prime}$ tape adjacent to one another. Each workspace requires two stop lines which is an equivalent of approximately Tape Type I will be required for centerline markings shown on standard plate 634.25. (Estimate 6 workspaces $\times 2,200^{\prime}$ per workspace $=13,200^{\prime}$ ). Temporary tape will be removed upon completion of the project.

## 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 unplanned event that affects or impedes the no

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 Sheriffs' Departments in Haakon, Jackson, Lyman, and Stanley Counties, 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 modify 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 price per hour for "Flagging". price per hour for "Flagging".

A Temporary Pedestrian Access Route (TPAR) will be provided when crosswalks, sidewalks, or other pedestrian facilities are blocked, closed, or relocated. A TPAR may consist of a combination of existing and/or temporary pedestrian facilities. The TPAR will be kept free of any obstructions and hazards, such as holes, debris, mud, snow, construction equipment, traffic control signing, stored materials, etc.

The Contractor will notify the Engineer at least 72 hours prior to start of any construction operation that will necessitate a change in pedestrian access Pedestrian traffic signal displays controlling a crosswalk that is closed will be covered or removed.

## TEMPORARY PEDESTRIAN SIDEWALK

Temporary pedestrian sidewalk will be a smooth, continuous, non-slip, hard surface. There should be no curbs or abrupt changes in grade or terrain that could cause tripping or be a barrier to wheelchair use
Temporary pedestrian sidewalk will have a minimum width of 48 inches, with 60 inches recommended. The Contractor will try to provide boulevard sidewalk, whenever possible, for temporary pedestrian sidewalk that is 48 inches wide. Temporary pedestrian sidewalk less than 60 inches wide will provide for a $60-$
inch $\times 60$-inch passing space at intervals not to exceed 200 feet. Temporary pedestrian sidewalk will have a maximum cross slope of $2 \%$. The maximum grade will be $5 \%$ where the temporary pedestrian sidewalk does not follow the grade of the road.
All costs associated with installing and maintaining a temporary pedestrian access route, including temporary pedestrian sidewalk, will be incidental to the contract lump sum price for "Temporary Pedestrian Access Route".

## TEMPORARY CURB RAMP

Temporary curb ramps should be firm, stable, and have a non-slip surface. They will not warp or buckle, and should be made of materials strong enough to support a weight of 800 pounds. Temporary curb ramps will be yellow or color contrasting and contain marked edges, so they are noticeable by pedestrians who have visual impairments. Lateral joints or gaps between surfaces will be a maximum of 0.5 inches in width. Temporary curb ramps will include detectable warning panels.
Temporary curb ramps will be the same width as the temporary pedestrian access route, with a recommended width of 60 inches and a minimum width of free draining surfaces with a maximum cross slope of $2 \%$. Handrails on temporary curb ramps are not required unless the curb ramp has a rise exceeding 6 inches and a length exceeding 72 inches.

All costs will be incidental to the contract unit price per each for "Temporary Curb Ramp".

## LONGITUDINAL PEDESTRIAN BARRIER

When used to separate pedestrians from vehicular traffic for TPARs in the roadway, longitudinal pedestrian barrier must meet or exceed the crashworthy requirem the traffic side of devices will have retroreflective sheeting or delineation for improved nighttime visibility.

When longitudinal pedestrian barriers are combined in a series, the maximum gap between devices that do not interlock will be one inch. Joints between devices that do interlock should be closed and flush to prevent canes or smal wheels from being trapped and to facilitate safe hand trailing. Channelizing devices should provide a color contrasting pattern. Black should not be used to color any base on a device. The devices should comply with the general color and stripe pattern requirements of Chapter 6F of the MUTCD.
Longitudinal pedestrian barriers will have continuous bottom and top surfaces The top surface will be smooth to allow safe hand trailing.

All costs will be incidental to the contract unit price per foot for "Longitudinal Pedestrian Barrier".

## PEDESTRIAN CHANNELIZING DEVICE DETAILS



Longitudinal Pedestrian Barrier Longitudinal Pedestrian Barricade

1. Barricade rail supports may not extend into the pedestrian walkway more than 4 inches from the face of the barricade.
2. The top edge of the bottom portion will be a minimum of 8 inches above the walkway.
3. Devices will not block water drainage from the walkway. A gap height or opening from the walkway surface up to a maximum of 2 inches in height is allowed for drainage purposes.
4. The top edge of the longitudinal pedestrian barricade is to be used as a guiderail to provide visual and tactile guidance to pedestrians along a designated route. The top surface should have a minimum width of 0.5 inches to allow the hand to feel the surface. The surface should be smooth and free of any sharp or abrasive elements to allow safe hand
5. Longitudinal pedestrian barrier used to provide positive protection from traffic to pedestrians should be crashworthy.

Concrete barriers will be provided by the State and are available for pickup from the SDDOT Murdo Maintenance Yard located at 24305 US Hwy 83 in Murdo The barriers will be hauled back to the SDDOT Murdo Maintenance Yard when they are no longer needed on the project.

Barriers to be adjusted or moved will be disconnected from adjacent barriers to minimize damage to connecting pins. Pins damaged by the Contractor will be replaced at no cost to the Department.

Concrete barrier sections will be placed as depicted in the plans to comply with clear zone requirements and as required by the Engineer. The barriers will be pinned and bolted together as directed by the Engineer.

All costs associated with picking the barriers up from the SDDOT Maintenance Yard, transporting, setting, connecting, and hauling them back to the SDDOT Maintenance Yard will be incidental to the contract unit price per each for Traffic Control Movable Concrete Barrie

After the initial placement, the concrete barriers may need to be adjusted Adjustment of the barriers, where they do not need to be loaded on a truck for transport, will be incidental to the contract unit price per each for Traffic Contro Movable Concrete Barrier. All costs associated with removing, loading unloading, and resetting of the barriers at a new site, will be incidental to the contract unit price per each for Remove and Reset Traffic Control Movable Concrete Barrier. No additional payment will be made for barriers that are no immediately reset at a new location on the project and stored on-site until they are either reset on the project or returned to the SDDOT as indicated in these plans

## TEMPORARY CONCRETE BARRIER END PROTECTION

Crash attenuators meeting the requirements of NCHRP 350 or MASH TL-3 wil be furnished and installed by the Contractor. Attachment of the attenuators to the concrete barriers will be by approved methods.

All costs associated with furnishing, transporting, initial setup, connecting, maintaining, and removing the crash attenuators will be incidental to the contract unit price per each for Temporary Concrete Barrier End Protection.
All costs associated with moving and resetting crash attenuators to accommodate traffic flows after initial set-up will be paid for at the contract unit price per each for Remove \& Reset Temporary Concrete Barrier End resetting at a new location will be incidental to the contract unit price per and No additional payment will be made for crash attenuators that are no mmediately reset at a new location on the project and stored on-site until they are either reset or removed from the project as determined by the Engineer. No additional payment will be made for minor adjustments

The Contractor will have replacement hardware available so that in the event the crash attenuator is hit and made unusable, the crash attenuator can be made functional within 24 hours. The cost of replacement will be incidental to the contract unit price per each for Temporary Concrete Barrier Module Set or Repair Kit. No payment will be made for the Temporary Concrete Barrier project, crash attenuators will remain the property of the Contractor.

## BARRIER MOUNTED LINEAR DELINEATION SYSTEM PANELS

A linear delineation system (LDS) panel will be attached to each barrier section The color will be the same as the nearest pavement marking, white alon outside edgelines or yellow for the left side on one way traffic sections. The aluminum formed into a shape to provide retroreflective properties across wide range of angles, It will be sheeted with sheeting meeting the requirement of ASTM D4956 Type XI. The panels will be evenly spaced, with the top of the panel 4 inches below the top of the barrier. Installation will be as per the manufacturer's recommendations. This will allow for easy removal for replacement of damaged panels or to replace with an alternate color. The Contractor will furnish and install one panel along each side of the barrier if any panels are missing from the barriers. Replacement of damaged linear delineation system panels will be furnished and replaced by the Contractor. Al costs associated with furnishing, installing, and replacing, if needed, will be incidental to the contract unit price per each for Linear Delineation System Panel, Barrier Mounted.

All LDS panels will remain attached to the barrier sections and will become the property of the State of South Dakota upon completion of the project

The Contractor will verify the number of LDS panels that will need to be installed or replaced on the Traffic Control Movable Concrete Barriers. The contrac amount of LDS panels is an estimate and the full contract amount may not be needed.

Maintaining the linear delineation system, including moving LDS panels from one side of the barrier to the other side of the barrier to match the applicable color of the nearest pavement marking will be incidental to the contract lum sum price for Traffic Control, Miscellaneous

## PAVEMENT MARKING PAINT

The Contractor will advise the Engineer a minimum of 3 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

Application of permanent pavement marking will be completed within 1 calendar days following completion of the final surfacing.

## COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer's recommendations
Cold Applied Plastic Pavement Markings will be 3M Series 380 AW or an approved equal.

## HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

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

Reflective media will consist of glass beads

## 位

 MARKING PAINTSolid $4 "$ line $=27.8 \mathrm{Gal} / \mathrm{Mile}$
Dashed 4" line $=7.6 \mathrm{Gal} / \mathrm{Mil}$
Glass Beads $=8 \mathrm{Lbs} / \mathrm{Gal}$.
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.

## RETROREFLECTIVITY FOR PAVEMENT MARKING PAINT

he Department may take retroreflectivity readings on the pavement marking nes after 2 days and within 30 days of the line application using either a portable or mobile retroreflectometer that conforms to 30-meter geometry. If the Department chooses to take retroreflectivity readings, three retroreflectivity readings will be taken on each line at each test location. The three readings will

If the Department chooses to take retroreflectivity readings, three readings will be taken on the edge lines and lane lines in the direction of application. For combination solid yellow and skip yellow lines for turn lanes and for centerline combination solid yellow and skip yellow lines for turn lanes and for centerline the reflectometer will be turned 180 degrees and three more readings will be taken. The six readings for the centerline markings will be averaged and become the test reading for that test location.

If the Department chooses to take readings, the minimum retroreflectivity values will be $275 \mathrm{mc} / \mathrm{m}^{2} / \mathrm{lux}$ for white and $170 \mathrm{mc} / \mathrm{m}^{2} / \mathrm{lux}$ for yellow.

## GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by raffic action or wind. The Contractor will conduct this work to control and mimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequate will e included in the contract unit price per foot, or each for "Grooving for Cold Applied Plastic Pavement Marking" contract items.

## WIDTH RESTRICTION SIGN LAYOUT

STRUCTURE 59-398-295 ON US 83
IN THE CITY OF FORT PIERRE
PCN 081K

TOTAL OVERWIDTHSIGN AREA: 1053 SF

108"


| WIDTH RESTRICTION |
| :---: |
| 83 |
| OVER 10 FT WIDE |
| BAD RIVER |
| USE ALT ROUTE |

WIDTH RESTRICTION
83
OVER 10 FT WIDE
BAD RIVER
USE ALT ROUTE

NOTES:


WIDTH RESTRICTION SIGNING WILL BE COORDINATED WITH PIERRE AREA DUE TO
IDTH RESTRICTION SIGNS PCN081K

| INDEX | SIGNTEXT | HEIGHT WIDTH COUNT | AREA <br> (EACH) | AREA (TOTAL |
| :---: | :---: | :---: | :---: | :---: |
| A | US 83 NORTH, OVER 10 FT WIDE, BAD RIVER, USE ALT ROUTE | 96 in 108 in 6 ea | 72.0 SF | 432 S |
|  | US 83 SOUTH, OVER 10 FT WIDE, BAD RIVER, USE ALT ROUTE | 96 in 108 in 7 ea | 72.0 SF | 504 S |
|  | US 83, OVER 10 FT WIDE, BAD RIVER, USE ALT ROUTE | 96 in 108 in 1 ea | 72.0 SF |  |
| X | NO VEHICLES, OVER 10 FT WIDE | 30 in 108 in 2 ea | 22.5 SF |  |

## WIDTH RESTRICTION SIGN LAYOUT

THREE STRUCTURE SITES ON US 14 HAAKON, JACKSON, \& STANLEY COUNTIES

PCN 081L

| WIDTH RESTRICTION SIGNS - PCN 081L |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| INDEX | SIGN TEXT | HEIGHT | WIDTH COUNT | AREA (EACH) | AREA (TOTAL) |
| D | US 14 EAST US 14 WEST, OVER 14 FT WIDE, USE ALT ROUTE | 96 in | 108 in 4 ea | 72.0 SF | 288 SF |
| E | US 14 EAST, OVER 14 FT WIDE, USE ALT ROUTE | 96 in | 108 in 5 ea | 72.0 SF | 360 SF |
|  | US 14 WEST, OVER 14 FT WIDE, USE ALT ROUTE | 96 in | 108 in 4 ea | 72.0 SF | 288 SF |
| Z | NO VEHICLES, OVER 14 FT WIDE | 30 in | 108 in 4 ea | 22.5 SF | 90 SF |
|  |  | TOTAL OVERWIDTH SIGN AREA: 1026 SF |  |  |  |

D $\begin{aligned} 30 \text { in } 108 \text { in } 4 \text { ea } 22.5 \text { SF } & 90 \text { SF } \\ \text { TOTAL OVERWIDTH SIGN AREA: } & \end{aligned}$

108 "
WIDTH RESTRICTION


OVER 14 FT WIDE USE ALT ROUTE


OVER 14 FT WIDE USE ALT ROUTE
w

z


## WIDTH RESTRICTION SIGN LAYOUT



STRUCTURE 43-422-370 ON SD 47
LYMAN COUNTY
PCN 08JC

| WIDTH RESTRICTION SIGNS - PCN 08JC |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| INDEX | SIGN TEXT | HEIGHT WIDTH COUNT | $\begin{aligned} & \hline \text { AREA } \\ & (E A C H) \end{aligned}$ | AREA |
| F | SD 47 NORTH, OVER 14 FT WIDE, BULL CREEK, USE ALT ROUTE | 96 in 108 in 3 ea | 72.0 SF | 216 SF |
|  | SD 47 SOUTH, OVER 14 FT WIDE, BULL CREEK, USE ALT ROUTE | 96 in 108 in 3 ea | 72.0 SF | 216 SF |
| Z | NO VEHICLES, OVER 14 FT WIDE | 30 in 108 in 2 ea | 22.5 SF | 45 SF |




Z


NOTE:
THE ENGINEER WILL DETERMINE THE EXACT LOCATIONS OF THE SIGNS IN THE FIELD.




GENERAL NOTES:
The detailed drawings are for illustrative purpose and depicts the current version of the $F$ shape concrete barrier. If new movable concrete barriers are requested a proiett they will be constructed according to the $F$ shape movable concrete barrier details on standard plate 628.10 .

Each movable concrete barrier section weighs $5030 \pm$ pounds
Each movable concrete barrier section is detailed to provide end "A" to end "B" connection by insertion of a pin through steel loops.

The Jersey shape or any version of the $F$ shape traffic control movable concrete barriers may be used on a project, however, only the same type or version will be used for each run of barriers.

Movable concrete barrier sections will be placed to provide uniform bearing of the sections with the paved surface as approved by the Engineer
Movable concrete barrier sections will never be moved or lifted using the end loops.
Movable concrete barrier sections that have been damaged will not be used. Barrier sections are considered damaged if the loops are end welded onto existing damaged loops, loops are fractured, or here is exposed rebar from fractured concrete.

All cost for transporting the barriers from the specified location to the project site, instaling, and "Traffic Control Movable Concrete Barrier". Will be incidental to the contract unit price per each for

If the concrete barriers need to be moved and reset on the project, requiring the barriers to be transported by truck, all cost for removing, transporting, and resetting the barriers will be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". All cost for small shifts alignment of the barriers, not requiring the barriers to be transported by truck, will be incidental to various contract items.








