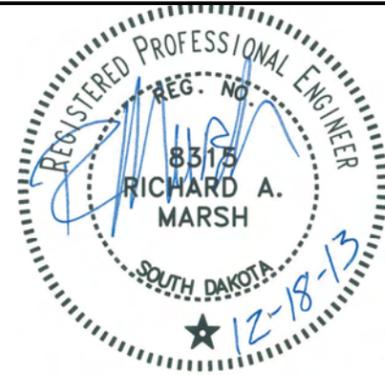


# SECTION C TRAFFIC CONTROL PLANS



PROJECT LOCATION MAP

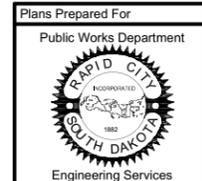


### INDEX OF SHEETS

SHEET NUMBER	DESCRIPTION
C1	PROJECT LOCATION WITH INDEX
C2-C3	ESTIMATE OF QUANTITIES & GENERAL NOTES
C4	TRAFFIC CONTROL PLAN
C5-C8	STANDARD DETAILS

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June 09, 2014, 2:35:37 PM, Drawing: I:\BSE\B214\DWG\11191000.MXD, RUSHMORE RD, UTILITIES RECONSTRUCTION (DRAWINGS) SHEETS PHASE 1 - TOWER TO FLORIANNA

Prepared By:  

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Prepared For:  
 Public Works Department  

 Engineering Services

Scale:  
 Designed By: RM  
 Drawn By: RM  
 Design Date: 12.18.2013  
 Print Date: REV 1.6.2014 RM  
 Internal Job No: 11119.02  
 Surveyed By: SDDOT  
 Survey Date: 2012  
 Project Number: 11-1926, CIP NO.50840, PCN X02D

Revisions:	Number:	Description:
	1	Added Traffic Barriers

## MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION

Sheet Title:	Sheet No:
SECTION C ESTIMATE OF QUANTITIES AND GENERAL NOTES	C2 of C8

### SECTION C ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0525	Linear Delineation System Panel, Barrier Mounted	28	Each
634E0700	Traffic Control Movable Concrete Barrier	14	Each
634E0705	Remove and Reset Traffic Control Movable Concrete Barrier	70	Each
734E5010	Sweeping	10	Hour

### COORDINATION AND SCHEDULING

Most of the water, sewer and landscaping work will be located within the proposed project limits for the roadway reconstruction. Work located within the roadway reconstruction shall be coordinated with and follow the proposed traffic control and sequencing within the roadway plans for Project NH 0016(78)67. Traffic Control Moveable Concrete Barriers have been included in this contract to protect deep excavations adjacent to traffic for water and sewer work located in Mount Rushmore Road.

Work listed in these plans shall be coordinated with the traffic control for Mount Rushmore Road, US Highway 16 (Project NH 0016(78)67). The traffic control layout within this section is for the water main tie-in located within the Oakland/Tower Road intersection located outside of the proposed limits for the roadway project.

### TRAFFIC CONTROL

All work on this project shall be coordinated with the proposed traffic control plan, specifications, special provisions, standard plates, and sequencing for Project NH 0016(78)67. No additional payment will be made for any sequencing or splitting of work due to routing traffic.

All costs for implementing the traffic control plan including but not limited to the installation, maintenance, and removal of temporary traffic control devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

### GENERAL MAINTENANCE OF TRAFFIC

Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. The amber light shall be mounted on the uppermost part of the contractor's vehicle. Lights must have peak intensity within the range of 40 to 400 candelas and must flash at 75 ± 15 flashes per minute. Vehicle flasher/hazard lights are not acceptable.

Traffic control shall be in accordance with current MUTCD Standards, the Standard Specifications, Standard Details, and the layouts contained in these plans.

The Contractor shall at all times, keep the portion of the project being used by public traffic in a condition that will adequately and safely accommodate traffic. A power broom meeting the air quality standards will be required. The power broom shall be a pick-up type street sweeper with sufficient water to clean all loose debris off of the paved surface. Payment for the power broom shall be incidental to the contract unit price per hour for Sweeping.

Storage of vehicles and equipment shall be at least 10' away from the traveling public or as near as possible to the right-of-way line. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work.

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

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

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas. If the duration is more than 3 days the signs shall be on fixed location, ground mounted, breakaway supports at the time of initial installation.

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

If the Contractor elects not to work in an area for more than 3 days, for reasons within the control of the Contractor, the Contractor shall remove applicable traffic control devices and replace them when work resumes. There will be no payment for this work.

No work, except for emergencies, shall be done between the hours of 9 PM and 6 AM unless specifically approved otherwise by the Engineer in writing per Section 7.48 of the standard specifications.

### GENERAL MAINTENANCE OF TRAFFIC CONT.

The Contractor shall be required to have a person available 24 hour/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.

The Contractor's traffic control supervisor shall make weekly night inspections and after a new traffic control is setup to ensure the adequacy, legibility and reflectivity of all traffic control signs and devices. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection.

### PROTECTION OF PEDESTRIANS

Orange safety fence shall be used to protect pedestrian traffic from open excavations, construction activity, or as directed by the Engineer. All costs to furnish, install, and maintain the safety fence shall be incidental to associated contract items. No separate payment will be made. Open excavations shall be loose lift backfilled for weekends or anytime work will not resume the following morning after PM work shut down.

### PRESS RELEASE ANNOUNCEMENTS

The Contractor shall coordinate Press Releases with the roadway reconstruction project to be released 48 hours prior to any phase change or any other major change that affects traffic flow. A copy of the Press Release shall be given to the Engineer three days prior to the change. The Contractor shall be responsible to keep law enforcement, emergency services, adjacent businesses, and the traveling public notified of changes in project access. All costs for the Press Releases shall be incidental to the various bid items.

### PROJECT INFORMATION SIGN

In addition to the signage requirements for the Storm Water Pollution Prevention Plan, the Contractor shall furnish and install a project information sign that clearly identifies the project name, completion date(s), Contractor name, and Contractor phone number. A detail for the project information sign has been included in the plans. All costs for furnishing and installing the project information sign shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.



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Prepared For:  

 Public Works Department  
 Engineering Services

Scale:	Designed By:	Drawn By:	Revisions:
	RM	RM	Number: Description:
Design Date:	12.18.2013	Print Date:	REV 1.6.2014 RM
Internal Job No:	11119.02	Survey Date:	2012
Surveyed By:	SDDOT	Project Number:	11-1926, CIP NO.50840, PCN X02D

Revisions:	Number:	Description:
	1	Added Traffic Barriers

## MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION

Sheet Title:	Sheet No:
SECTION C	C3
ESTIMATE OF	of
QUANTITIES AND	
GENERAL NOTES	C8

### TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS

The DOT will provide 12 concrete barriers (F Shape Interior Section) and 2 end section concrete barriers (F Shape End Section) for the Mount Rushmore Road Utility Reconstruction Project. The traffic control movable concrete barriers are available for pickup at the SDDOT South Maintenance Yard on Highway 79.

All costs associated with loading/unloading, transporting to project site, placing and transporting back to the SDDOT South Yard after use shall be incidental to the contract unit price per each for Traffic Control Movable Concrete Barrier.

The barriers shall be pinned and bolted together per the associated standard plate or as directed by the Engineer. Concrete barriers that are to be adjusted or moved shall be disconnected from adjacent barriers to minimize damage to connecting pins. Pins damaged by the Contractor shall be replaced at no cost to the South Dakota Department of Transportation or the City of Rapid City.

No additional payment will be made for concrete barriers that are not immediately reset at a new location on the project and will be stored onsite until they are either reset or returned to the SDDOT South Yard as determined by the Engineer. No additional payment will be made for minor adjustments.

If the concrete barriers need to be moved and reset on the project, all costs for removing, transporting, and resetting the barriers shall be incidental to the contract unit price per each for Remove and Reset Traffic Control Movable Concrete Barrier.

Concrete barriers shall, at all times, be set on a flat surface (10:1 or less) with a minimum of 4' behind the barrier. Where 4' of flat surfacing is not attainable behind the barriers, the Contractor shall furnish and install Guardrail Post and Block behind the barriers at 6' spacing or a minimum of 2 posts per section of barrier. Other means for securing the barrier from lateral movement may be acceptable with written approval by the Engineer.

All costs associated with furnishing and installing Guardrail Post and Block or securing the barrier by other means, shall be included in the contract unit price per each for "Traffic Control Movable Concrete Barrier."

Concrete barrier sections shall be placed to comply with clear zone requirements and as directed by the Engineer.

### TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (CONT'D)

Concrete barriers will be required to protect deep excavations at the following locations:

Sta. 21+16	Water crossing
Sta. 22+55	Water crossing
Sta. 24+72	Water Service Bore
Sta. 26+28	Sanitary sewer crossing
Sta. 26+57	Water crossing
Sta. 29+55	Water crossing
Sta. 33+73	Sanitary sewer crossing
Sta. 33+85	Water crossing

### LINEAR DELINEATION SYSTEM PANEL, BARRIER MOUNTED

A linear delineation system panel shall be attached to each side of the barrier section. One panel shall be white and the other panel shall be yellow. The color shall be the same as the nearest pavement marking, white along outside edge lines or yellow for the left side on one-way traffic sections. The linear delineation system shall be 34 inches long and 6 inches in height and be constructed of aluminum formed into a shape to provide retro-reflective properties across a wide range of angles. It shall be sheeted with super high or very high intensity sheeting. The Contractor shall furnish, install, and maintain one panel along each side of the barrier. The panels shall be installed at the center of the barrier when measured along the length, with the top of the panel 4 inches below the top of the barrier. Installation shall be as per the manufacturer's recommendation using stainless steel inserts and bolts. This will allow for easy removal for replacement of damaged panels or to replace with an alternate color. Replacement of damaged linear delineation system panels shall be furnished and replaced by the Contractor. All costs associated with furnishing, installing and maintaining the linear delineation system panels shall be incidental to the contract unit price per each for Linear Delineation System Panel, Barrier Mounted.

All linear delineation system panels shall remain attached to the barrier sections and shall become the property of the State of South Dakota upon completion of the project.

The Contractor shall verify the number of linear delineation system panels that will need to be installed or replaced on the Traffic Control Moveable Concrete Barriers. The contract amount of linear delineation system panels is an estimate and the estimated quantity may not be required as the barriers may have had panels previously installed.



Mount Rushmore Road

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Prepared For:



Public Works Department  
Engineering Services

Scale:	AS NOTED
Designed By:	RM
Drawn By:	MS
Design Date:	12.18.2013
Print Date:	REV 01.06.2014 RM
Internal Job No.:	11119.02
Surveyed By:	SDDOT
Survey Date:	2012
Project Number:	11-1926, CIP NO.50840, PCN X02D

Revisions:	Description:
Number: 1	Sheet Number

# MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION

Sheet Title:	Sheet No.:
TRAFFIC CONTROL PLAN	C4 of C8

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 Drawing: TRAFFIC CONTROL PLAN  
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REGISTERED PROFESSIONAL ENGINEER  
REG. NO. 83152  
RICHARD A. MARSH  
SOUTH DAKOTA  
1-6-14

0' 30' 60'

**NOTE:**  
SIGN LOCATIONS ON THIS PLAN  
ARE DIAGRAMMATIC. FINAL  
LOCATIONS SHALL BE DETERMINED  
BY THE ENGINEER IN THE FIELD.

**MOUNT RUSHMORE ROAD  
 UTILITY RECONSTRUCTION**

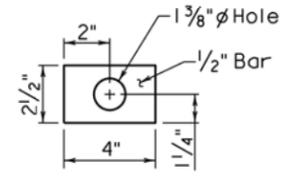
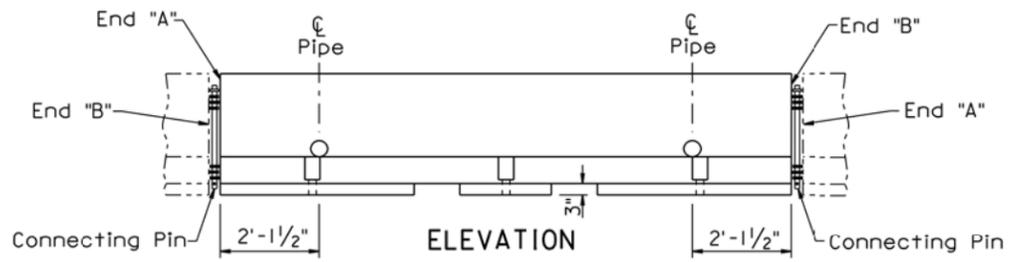
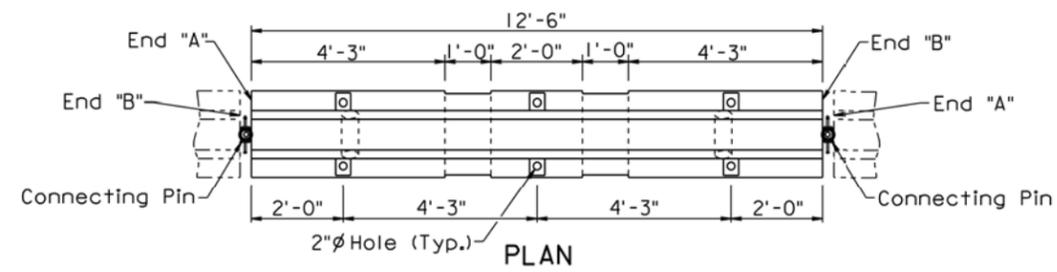
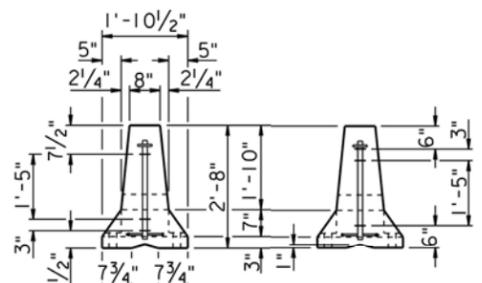
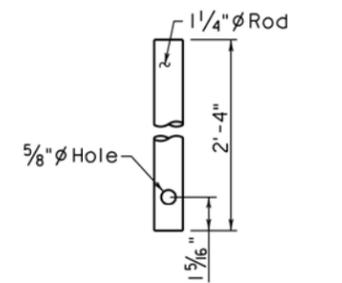


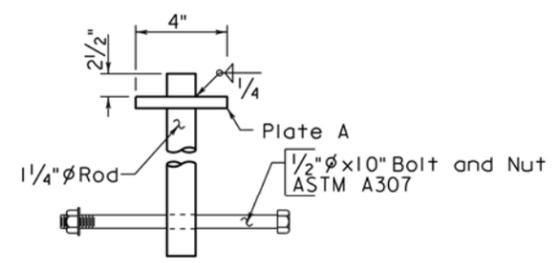
PLATE A



VIEW END A VIEW END B



CONNECTING PIN DETAIL



ASSEMBLED CONNECTING PIN

**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 on a project, they shall be constructed according to the F shape movable concrete barrier details on standard plate 628.10.

Each movable concrete barrier section weighs 5030 ± 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 shall be used for each run of barriers.

Movable concrete barrier sections shall be placed to provide uniform bearing of the sections with the paved surface as approved by the Engineer.

Movable concrete barrier sections shall never be moved or lifted using the end loops.

Movable concrete barrier sections that have been damaged shall not be used. Barrier sections are considered damaged if the loops are end welded onto existing damaged loops, loops are fractured, or there is exposed rebar from fractured concrete.

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

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 shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". All cost for small shifts in alignment of the barriers, not requiring the barriers to be transported by truck, shall be incidental to various contract items.

June 26, 2009

Published Date: 1st Qtr. 2014	S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01
			Sheet 1 of 2

June 26, 2009

Published Date: 1st Qtr. 2014	S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01
			Sheet 2 of 2

June 09, 2014 2:30:48 PM  
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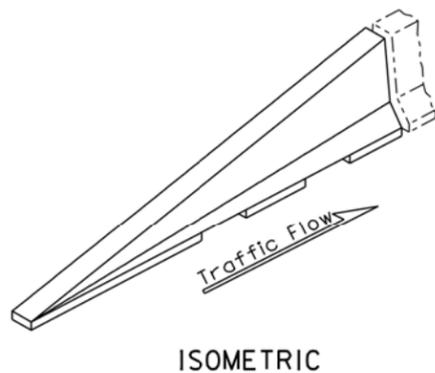
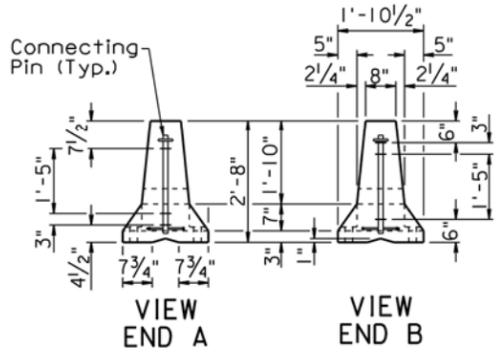
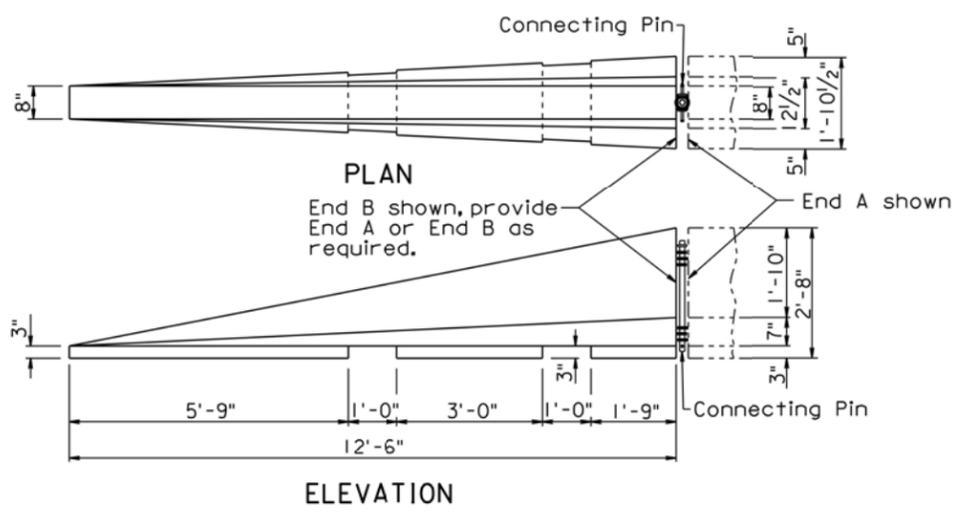
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Public Works Department  
**RAPID CITY**  
 SOUTH DAKOTA  
 Engineering Services

Scale: AS NOTED	Revisions: Number: 1 Description: Added Standard Plates
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Internal Job No: 11119.02	
Surveyed By: SDDOT	Survey Date: 2012
Project Number: 11-1926, CIP NO.50840, PCN X02D	

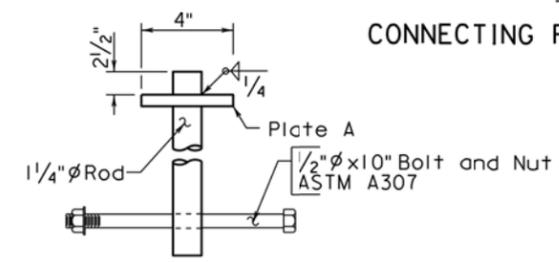
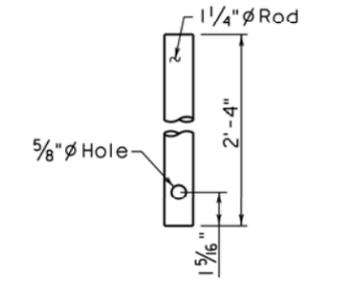
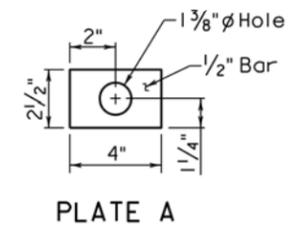
# MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION

Sheet Title: STANDARD DETAILS	Sheet No: C6 of C8
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June 26, 2009

Published Date: 1st Qtr. 2014	S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02
			Sheet 1 of 2



ASSEMBLED CONNECTING PIN

**GENERAL NOTES:**

The detailed drawings are for illustrative purpose and depicts the current version of the F shape concrete barrier end section. If new concrete barrier end sections are requested on a project, they shall be constructed according to the F shape movable concrete barrier end section details on standard plate 628.11.

Each movable concrete barrier end section weighs 2450 ± pounds.

Each movable concrete barrier end 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 shall be used for each run of barriers.

Movable concrete barrier sections shall be placed to provide uniform bearing of the sections with the paved surface as approved by the Engineer.

Movable concrete barrier end sections shall never be moved or lifted using the end loops.

Movable concrete barrier end sections that have been damaged shall not be used. Barrier sections are considered damaged if the loops are end welded onto existing damaged loops, loops are fractured, or there is exposed rebar from fractured concrete.

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

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 shall be incidental to the contract unit price per each for "Remove and Reset Traffic Control Movable Concrete Barrier". All cost for small shifts in alignment of the barriers, not requiring the barriers to be transported by truck, shall be incidental to various contract items.

June 26, 2009

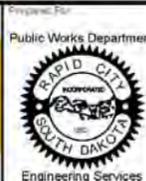
Published Date: 1st Qtr. 2014	S D D O T	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02
			Sheet 2 of 2

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Scale: AS NOTED  
Designed By: RM  
Drawn By: MS  
Revision: 1  
Description: Sheet Number & Std Plates  
Design Date: 12.18.2013  
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Internal Job No: 11119.02  
Surveyed By: SDDOT  
Survey Date: 2012  
Project Number: 11-1926, CIP NO.50840, PCN X02D

# MOUNT RUSHMORE ROAD UTILITY RECONSTRUCTION

Sheet Title:  
STANDARD DETAILS

Sheet No:  
C7  
of  
C8

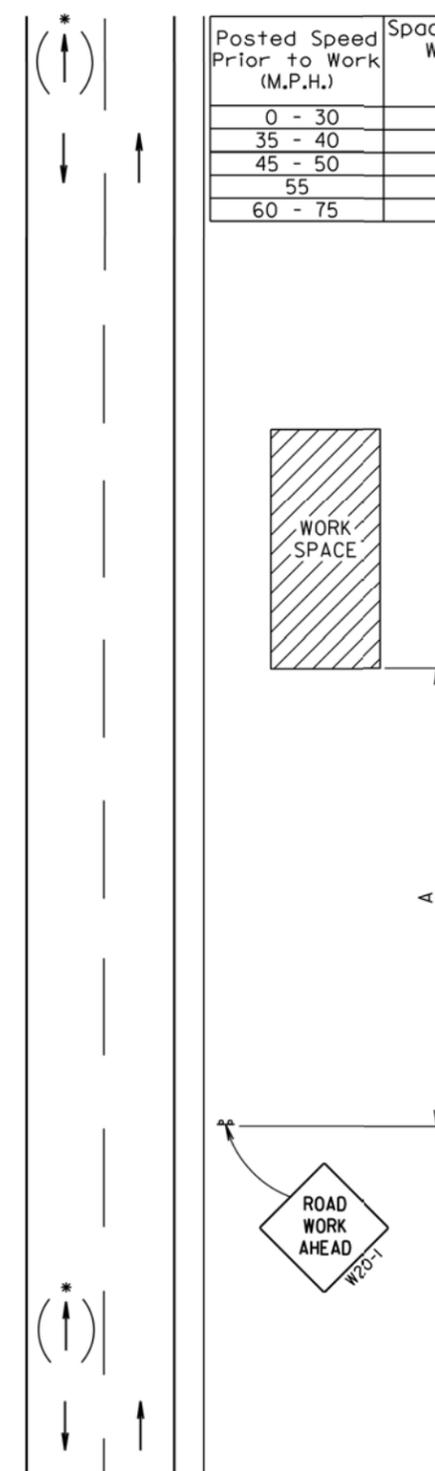
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated shall be used where there are distracting situations, such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

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

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 75	1000

July 1, 2005

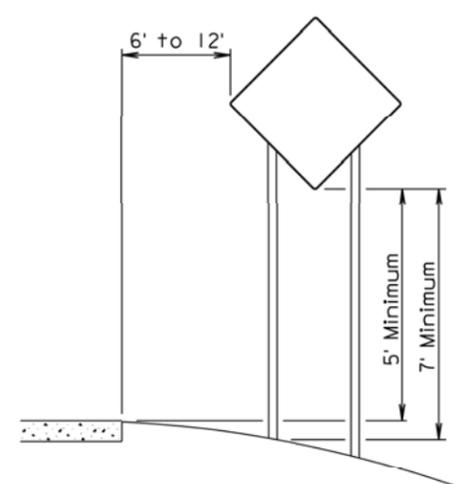
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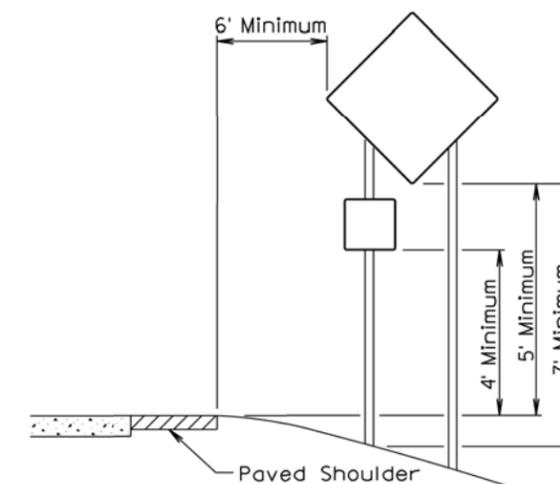
## GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER

PLATE NUMBER  
634.01

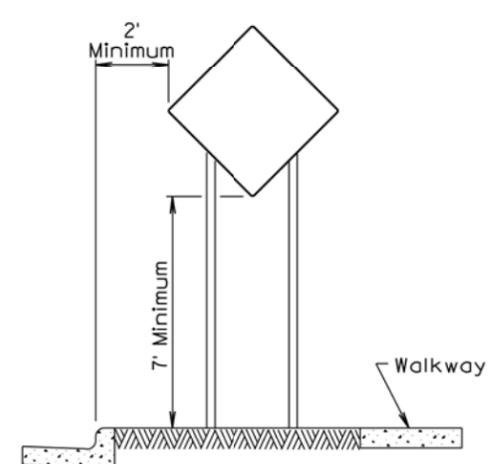
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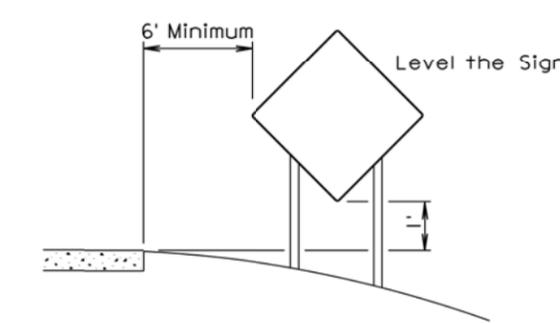
RURAL DISTRICT



RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



URBAN DISTRICT



RURAL DISTRICT  
3 DAY MAXIMUM

February 14, 2011

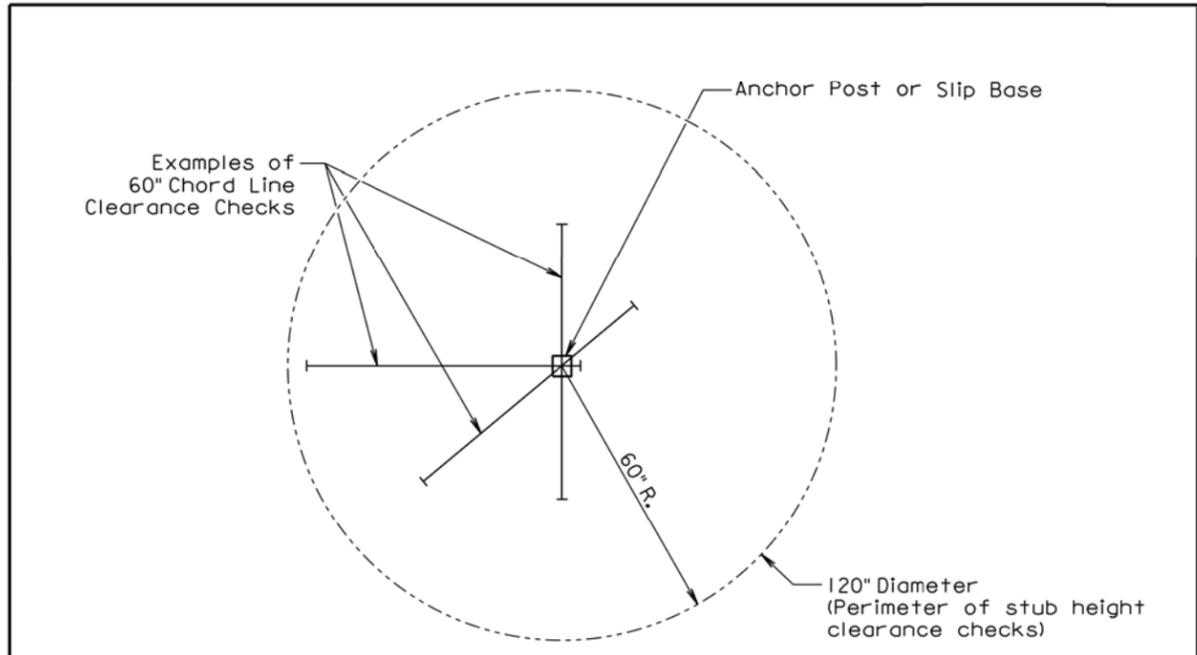
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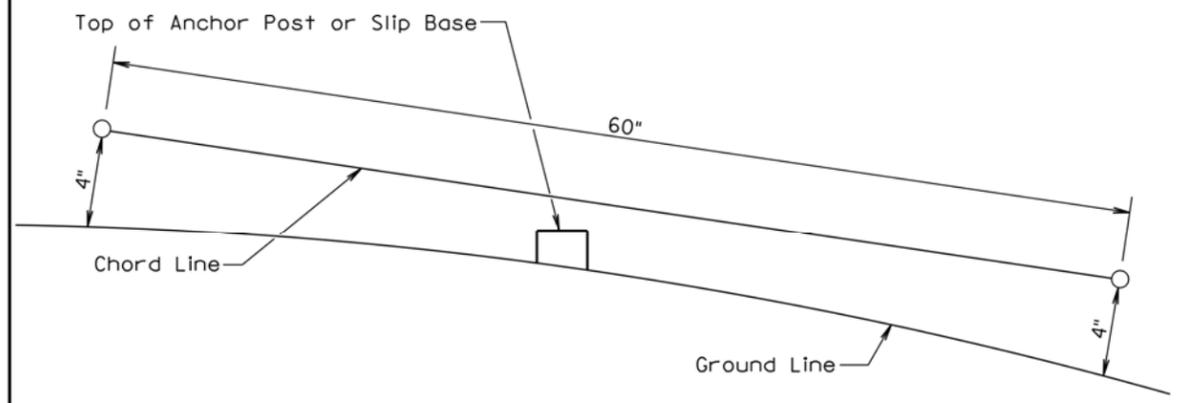
## CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)

PLATE NUMBER  
634.85

Sheet 1 of 1



**PLAN VIEW**  
 (Examples of stub height clearance checks)



**ELEVATION VIEW**

**GENERAL NOTES:**

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

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

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



**NOTES:**

- \* 48" x 48" SIGN
- \* ADJUST LINE SPACING TO FIT PROJECT INFORMATION

**PROJECT INFORMATION SIGN DETAIL**  
 NOT TO SCALE

June 09, 2014, 2:30:48 PM, Drawing: DETAILS.DWG (SCHILDE) \\WANN-DATA\CETEC\PROJECTS & PROPOSALS\11119.02 - MOUNT RUSHMORE RD. UTILITIES RECONSTRUCTION DRAWINGS\SHEETS\PHASE 1 - TOWER TO FLORIMANN\

<b>SDDOT</b> Published Date: 3rd Qtr. 2013	<b>BREAKAWAY SUPPORT STUB CLEARANCE</b>	PLATE NUMBER <b>634.99</b>
		Sheet 1 of 1

July 1, 2005