FOR BIDDING PURPOSES ONLY

SECTION C
TRAFFIC CONTROL PLANS

PROJECT LOCATION MAP

N

0' 175' 350'

INDEX OF SHEETS

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
2780
GREGORY M. WIERENGA
SOUTH DAKOTA
8-19-16

ONE CALL BEFORE DIGGING 1-800-781-7474

Plans Prepared For
Public Works Department
RAPID CITY SOUTH DAKOTA
Engineering Services

August 17, 2016 12:50:33 p.m.
Drawing: TITLESHEET.DWG (JOENS) (P:\PROJECTS & PROPOSALS\11119.00 MT. RUSHMORE RD. UTILITIES RECONSTRUCTION\DRAWINGS\SHEETS\PHASE 2 - FLORMANN TO SAINT JAMES\)

SECTION C ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	100.0	Hour
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0700	Traffic Control Movable Concrete Barrier	34	Each
634E0705	Remove and Reset Traffic Control Movable Concrete Barrier	100	Each
634E2000	Longitudinal Pedestrian Barricade	600	Ft
734E5010	Sweeping	30	Hour

TRAFFIC CONTROL GENERAL NOTES

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(84)67 PCN 049F. Most of the water, sewer and landscaping work will be located within the proposed project limits for the roadway reconstruction. No additional payment will be made for any sequencing or splitting of work due to routing traffic.

Where water and sewer work is located outside of, but adjacent to, the roadway project limits, barricades and similar traffic control devices shall be adjusted to protect utility work areas and exclude traffic from the affected work area. No additional payment will be made for adjusting the locations of traffic control devices to include utility construction areas within the protected work limits. This note shall pertain to construction of city sewer main and services on St. Cloud Street from Sta. 2+90 to 3+90, and to water service line construction on St. Cloud Street at approximately Sta. 6+45.

Traffic Control Moveable Concrete Barriers have been included in this contract to protect deep excavations adjacent to traffic for landscaping, water and sewer work located in Mount Rushmore Road.

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.

Traffic control shall be in accordance with current MUTCD Standards, the Standard Specifications, SDDOT Specifications section 634 and these plans.

Traffic on Mount Rushmore Road shall not be stopped for any period of time unless approved by the Engineer.

Non-applicable signing, including construction signing, shall be covered completely or removed from the shoulder during periods of inactivity. Period of inactivity is defined as 1 day. All costs for this work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

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.

Hauling materials to and from the project site shall be conducted in a safe manner by utilizing flaggers and appropriate traffic control devices to control traffic on Mount Rushmore Road.

Construction materials and equipment shall not be unloaded from lanes open to traffic.

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.

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.

ORANGE PLASTIC SAFETY FENCE

The Contractor shall install orange safety fence around all unattended excavations. Pedestrian traffic shall be protected from all open excavations and construction activity, or as directed by the Engineer. All costs to furnish, install, and maintain the safety fence shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous". No separate payment will be made.

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LONGITUDINAL PEDESTRIAN BARRICADE

If a temporary pedestrian access route (TPAR) is located within 6' horizontally of an open excavation, then longitudinal pedestrian barricades (LPB) shall be used to channelize the TPAR past the open excavation. The LPB shall be placed on the trench side of the TPAR. Installation of the LPB does not eliminate the requirement for orange safety fence. Orange safety fence shall also be installed between the LPB and the trench.

Longitudinal Pedestrian Barricades should not be used to provide positive protection for pedestrians.

Barricade rail supports may not project into the pedestrian routes more than 4 inches from the face of the barricade. To prevent any tripping hazard to pedestrians, ballast shall be located behind or internal to the device.

When Longitudinal Pedestrian Barricades are combined in a series, the maximum gap between devices that do not interlock shall be one inch. Joints between devices that do interlock shall be closed and flush to prevent canes or small wheels from being trapped and provide safe hand trailing. When used as a sidewalk closure mechanism, Longitudinal Pedestrian Barricade must run the entire width of the sidewalk. Longitudinal Pedestrian Barricade 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 requirement of Section 6F.68 of the MUTCD.

Longitudinal Pedestrian Barricade shall have continuous bottom and top surfaces. A gap height or opening from the walkway surface up to a maximum of 2 inches is allowed for drainage purposes. The top edge of the bottom portion shall be a minimum of 8 inches above the walkway. The top of the top portion shall be between 34 and 38 inches above the walkway. The top surface shall be smooth to allow safe hand trailing. Both upper and lower surfaces shall share a common vertical plane.

Longitudinal pedestrian barricades shall be Safety Wall by Plastic Safety Systems, Inc. (www.plasticsafety.com); ADAcade by Three D TrafficWORKS (www.trafficwks.com) or Engineer approved equal.

All costs for furnishing, installing, maintaining, cleaning, and removing the LPB shall be incidental to the contract unit price per foot for Longitudinal Pedestrian Barricade. Payment will be based on the largest quantity in place at any one time and removal and resetting of the barricades are incidental to the contract price per foot for Longitudinal Pedestrian Barricade. No separate payment will be made for the Orange Plastic Safety Fence.

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.

TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS

The DOT will provide up to 30 concrete barriers (F Shape Interior Section) and 4 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.

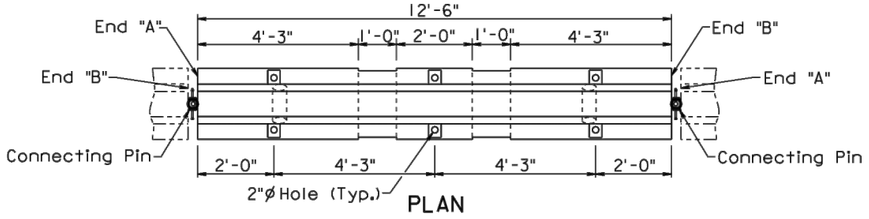
Concrete barriers will be required to protect the traveling public from deep excavations at the following locations, however other locations may present based upon the Contractors trenching operations and ultimate project sequence. The numbering of barriers required at each location is variable depending upon the type of work and size of the excavation. Barriers shall extend the full length of the excavation area plus at least one barrier length on each side beyond the excavation limits. Barrier shall be removed and stockpiled when deep excavations are backfilled to the roadway subgrade elevation.

A quantity of 34 each for “Traffic Control Moveable Concrete Barrier” has been included in the estimate of quantities. It is anticipated that barricades will be used multiple times on the project, but that 30 barricades and 4 end section barriers will be the maximum number needed at any one time on the project.

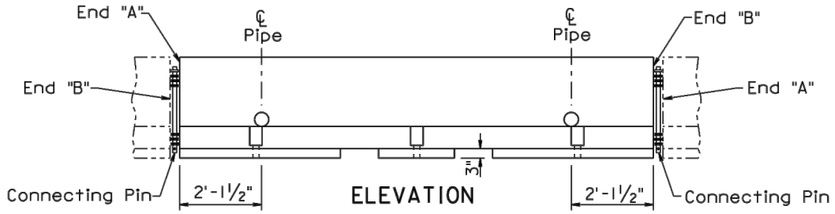
TABLE OF CONCRETE BARRIERS

Station	Description
37+30	Water Main
41+15	Water Main
43+34	Water Service
44+88	Water Main
46+41	Sanitary Sewer
48+31	Sanitary Sewer
48+62	Water Main
31+33	Water Main
52+10	Sanitary Sewer
52+41	Water Main
53+10	Sanitary Sewer Service
53+67	Sanitary Sewer Service
54+00	Sanitary Sewer
54+58	Sanitary Sewer Service
55+90	Sanitary Sewer
56+02	Water Main
56+83	Sanitary Sewer Service
57+77	Sanitary Sewer
57+90	Water Service
58+70	Sanitary Sewer Service
59+71	Sanitary Sewer
60+00	Water Main

The use of concrete barriers may be waived by the Engineer to facilitate the installation of the utility crossings within the proximity of the adjacent traveled way. In these instances, the utility work shall be completed during one work shift. This shall include backfilling of the excavation to the subgrade level. Additional flagging procedures may be required.



PLAN



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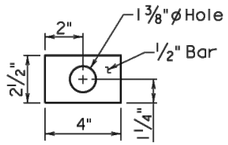
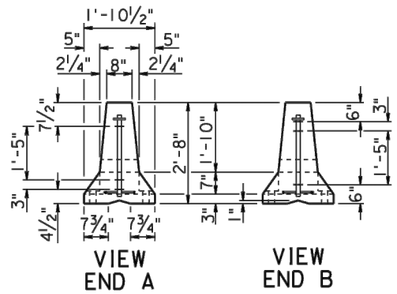
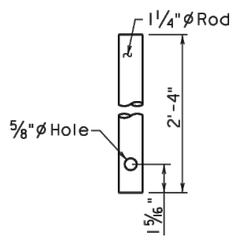


PLATE A

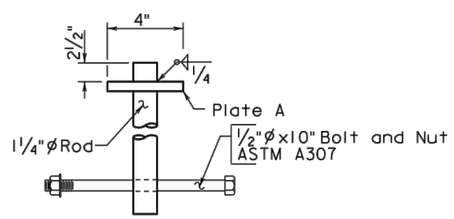


VIEW END A

VIEW END B



CONNECTING PIN DETAIL



ASSEMBLED CONNECTING PIN

June 26, 2009

Published Date: 4th Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01 — Sheet 1 of 2

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: 4th Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE INTERIOR SECTION)	PLATE NUMBER 628.01 — Sheet 2 of 2

May 19, 2016 4:30:20 p.m.
Drawing: DETAILS.DWG (SCHILLE) (P:\PROJECTS & PROPOSALS\11119.00 MT. RUSHMORE RD. UTILITIES RECONSTRUCTION\DRAWINGS\SHEETS\PHASE 2 - FLORMANN TO SAINT JAMES\)

Prepared By:

Prepared For:
Public Works Department
Engineering Services

Scale: AS NOTED	
Designed By: GW	Drawn By: MS
Design Date: 02.2016 - 04.2016	Print Date: 08.19.2016
Internal Job No: 11119.04	
Surveyed By: SDDOT	Survey Date: 2012
Project Number: 12-2051, CIP NO.50867, PCN X02P	

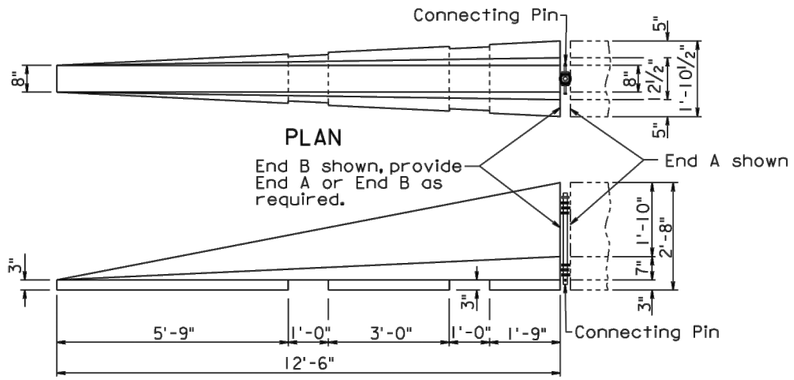
Revisions: Number:	Description:

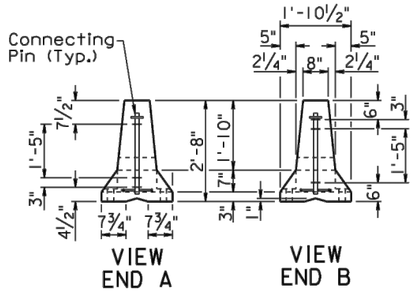
FOR BIDDING PURPOSES ONLY

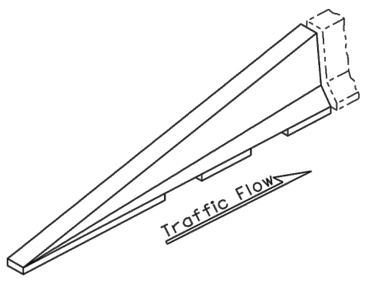
MOUNT RUSHMORE ROAD
UTILITY RECONSTRUCTION

Sheet Title: STANDARD DETAILS

Sheet No: C5 of C5



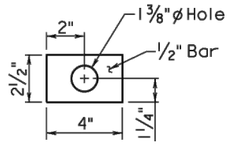




ISOMETRIC

June 26, 2009

Published Date: 4th Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02 Sheet 1 of 2



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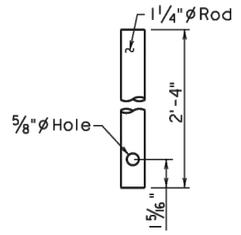

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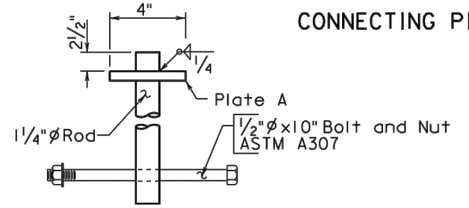

ASSEMBLED CONNECTING PIN

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: 4th Qtr. 2014	SDDOT	TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS (F SHAPE END SECTION)	PLATE NUMBER 628.02 Sheet 2 of 2