

None Requried

	STATE OF		SHEET	TOTAL SHEETS
	SOUTH DAKOTA	090E-452, 090E-452 & 090E-452	2 1	20
	Plotting Date:	06/01/2016		
IN	DEX O	F SHEETS		
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# **ESTIMATE OF QUANTITIES**

PCN i4dv

BID ITEM	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow Excavation	109	CuYd
230E0020	Contractor Furnished Topsoil	109	CuYd
634E0110	Traffic Control Signs	199.9	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each
734E0010	Erosion Control	Lump Sum	LS
734E0131	Type 1 Turf Reinforcement Mat	649.0	SqYd

**ESTIMATE OF QUANTITIES** 

DCN i4du

BID ITEM	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	12	Ft
120E0600	Contractor Furnished Borrow Excavation	104	CuYd
230E0020	Contractor Furnished Topsoil	22	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
380E1000	6" Miscellaneous PCC Pavement	11.8	SqYd
380E6110	Insert Steel Bar in PCC Pavement	62	Each
632E2520	Type 2 Object Marker	2	Each
634E0110	Traffic Control Signs	56.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
650E1090	Type F69 Concrete Curb and Gutter	240	Ft
650E4689	Modified Type P9 Concrete Gutter	38	Ft
734E0010	Erosion Control	Lump Sum	LS
734E0131	Type 1 Turf Reinforcement Mat	16.0	SqYd

#### **ESTIMATE OF QUANTITIES** PCN i4dq

BID ITEM	ITEM	QUANTITY	UNIT	
009E0010	Mobilization	Lump Sum	LS	
230E0020	Contractor Furnished Topsoil	41	CuYd	
634E0110	Traffic Control Signs	222.2	SqFt	
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS	
634E0420	Type C Advance Warning Arrow Board	1	Each	
700E0110	Class A Riprap	30.0	Ton	
700E0310	Class C Riprap	60.0	Ton	
734E0010	Erosion Control	Lump Sum	LS	
734E0131	Type 1 Turf Reinforcement Mat	343.0	SqYd	
831E0110	Type B Drainage Fabric	130	SqYd	

# **ESTIMATE OF QUANTITIES**

PCN i4dr

BID ITEM	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
230E0020	Contractor Furnished Topsoil	29	CuYd
634E0110	Traffic Control Signs	222.2	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each
734E0010	Erosion Control	Lump Sum	LS
734E0131	Type 1 Turf Reinforcement Mat	237.0	SqYd

#### **ESTIMATE OF QUANTITIES** PCN i4e7

ID ITEM ITEM		QUANTITY	UNI	
09E0010	Mobilization	Lump Sum	LS	
20E0600	Contractor Furnished Borrow Excavation	36	CuY	
30E0020	Contractor Furnished Topsoil	4	CuY	
34E0110	Traffic Control Signs	222.2	SqF	
34E0120	Traffic Control, Miscellaneous	Lump Sum	LS	
34E0420	Type C Advance Warning Arrow Board	1	Eac	
34E0010	Erosion Control	Lump Sum	LS	
34E0131	Type 1 Turf Reinforcement Mat	36.0	SqY	

#### **ESTIMATE OF QUANTITIES** PCN i4dt

BID ITEM	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
230E0020	Contractor Furnished Topsoil	66	CuYd
634E0110	Traffic Control Signs	237.7	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0420	Type C Advance Warning Arrow Board	1	Each
734E0010	Erosion Control	Lump Sum	LS
734E0131	Type 1 Turf Reinforcement Mat	588.0	SqYd

#### SPECIFICATIONS

in the Proposal.

### **ENVIRONMENTAL COMMITMENTS**

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

#### COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

#### **COMMITMENT B2: WHOOPING CRANE**

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 pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and 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**

#### 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.

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Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included

Construction activities constitute less than 1 acre of disturbance.

#### COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall 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 may not be disposed of within the State ROW.

The waste disposal site(s) shall 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 Environment and Natural Resources.

The waste disposal site(s) shall 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 Project Engineer.

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

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

Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall 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) shall be incidental to the various contract items.

#### COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical 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 review of cultural resources impacts. 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 shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on 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 shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order 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 shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

#### COMMITMENT K: RAPID CITY AREA AIR QUALITY CONTROL ZONE

Administrative Rule of South Dakota (ARSD) 74:36:18:03 states that "no state facility or state contractor may engage in any construction activity or continuous operation activity within the Rapid City air quality control zone which may cause fugitive emissions of particulate to be released into the ambient air without first obtaining a permit issued by the board or the secretary."

Construction activity is defined as any temporary activity at a state facility, which involves the removal or alteration of the natural or pre-existing cover of one acre or more of land. One acre of surface area is based on a cumulative area of disturbance to be completed for the entire project. Construction activity shall include, but not be limited to, stripping of topsoil, drilling, blasting, excavation, dredging, ditching, grading, street maintenance and repair, or earth moving. Construction activity is generally completed within one year. It also includes stockpiles, access roads, and disposal areas. An off-site disposal area of excess material will require an additional permit.

#### **Action Taken/Required:**

beginning the construction activity.

Program 523 East Capitol, Joe Foss Building Pierre, SD 57501-3181 Phone: 605-773-3151

The permit requires the Contractor to use reasonably available technology to control fugitive dust emissions. The Contractor is required to use control measures for track out, paved areas, unpaved roads, unpaved parking lots, disturbed areas, and for material handling and storage. The control measures that the Contractor is required to use are listed in the permit.

#### COMMITMENT R: FIRE PREVENTION IN THE BLACK HILLS AREA

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

#### Action Taken/Required:

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In order to be considered eligible for authorization to conduct a construction activity under the terms and conditions of this permit, the owner operator must submit a Notice of Intent (NOI) form. The form must be submitted to the address below at least seven business days prior to the anticipated date of

South Dakota Department of Environment and Natural Resources Air Quality

The Contractor shall adhere to the "Special Provision for Fire Plan".

#### UTILITIES

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor shall contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

The Contractor shall contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It shall be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

#### CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor shall provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material shall be approved by the Engineer. Contractor Furnished Borrow Excavation will be paid for by load count due to the variability of the volume of the erosion ruts.

Contractor Furnished Borrow Excavation material shall be used to fill erosion areas on the project. The borrow material shall be graded to an elevation and covered with 4" of topsoil, so that it blends with the existing ground.

Restoration of the Contractor furnished borrow excavation site shall be the responsibility of the Contractor.

#### PLACING CONTRACTOR FURNISHED TOPSOIL

The Contractor will be required to furnish and place 4 inches of topsoil on borrow material used to fill erosion ruts and areas as determined by the Engineer during construction.

All costs to furnish and place the topsoil shall be incidental to the contract unit price per cubic yard for "Placing Contractor Furnished Topsoil".

#### **REMOVE AND REPLACE TOPSOIL**

Topsoil shall also be salvaged and stockpiled prior to constructing the Curb & Gutter and Miscellaneous PCC Pavement. Limits of this work, depth of salvage, and stockpile location will be directed by the Engineer. Following completion of construction, topsoil shall be spread evenly over the disturbed areas.

The estimated amount of topsoil to be removed and replaced is 16 CuYd.

All costs associated with removing and replacing the topsoil along areas of Curb & Gutter and Miscellaneous PCC Pavment shall be incidental to the contract lump sum price for "Remove and Replace Topsoil".

#### **6" MISCELLANEOUS PCC PAVEMENT**

The Contractor shall place steel bars in the joints between the 6" Miscellaneous PCC Pavement and the back of the Modified Type P9 Concrete Gutter. The bars shall be installed in accordance with Standard Plate 380.11. All costs to furnish and place the steel bars shall be incidental to the contract unit price per square yard for 6" Miscellaneous PCC Pavement. The purpose of placing the steel bars is to prevent any settlement that may occur at the joint.

#### **STEEL BAR INSERTION**

The Contractor shall insert the Steel Bars (No. 5 x 30 inch epoxy coated deformed tie bars) into drilled holes in the existing concrete pavement. An epoxy resin adhesive must be used to anchor the steel bar in the drilled hole.

The steel bars shall be cut to the specified length by sawing or shearing and shall be free from burring or other deformations.

Epoxy coated deformed steel bars shall be inserted on 48 inch centers in the longitudinal joint and shall be placed a minimum of 15 inches from the existing transverse contraction joint.

#### **TABLE OF STEEL BAR INSERTION**

LOCATION		QUANTITY OF BARS No. 5
US Hwy 85 MRM 31.127 US Hwy 85 MRM 32.538	Totals:	31 31 62

#### **EROSION CONTROL**

The estimated area requiring erosion control is 19.123 square feet. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding, seed inoculant, fertilizing, fiber mulch shall be incidental to the contract lump sum price for "Erosion Control".

construction.

#### **Permanent Seeding**

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000)
Vestern Wheatgrass	Arriba, Flintlock, Rodan, Rosana	2.5
Green Needlegrass	Lodorm	1.5
ideoats Grama	Butte, Killdeer, Pierre, Trailway	1
lue Grama	Bad River, Willis	1
Dats or Spring Wheat: April through May;		3
Vinter Wheat: August nrough November		
	Total:	9

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#### Mycorrhizal Inoculum

include the following fungal species:

Glomus intraradice Glomus aggregatu Glomus mosseae Glomus etunicatun

All seed shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed shall be incidental to the contract lump sum price for "Erosion Control".

The mycorrhizal inoculum shall be as shown below or an approved equal:

Product

**MycoApply** 

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The limits of erosion control work will be determined by the Engineer during

Type F Permanent Seed Mixture shall consist of the following:

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall

es	25%
1	25%
	25%
п	25%

Manufacturer Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 http://www.mycorrhizae.com/

#### **EROSION CONTROL (CONT.)**

#### Fertilizing

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer shall be applied at a rate of 34 pounds per 1000 sqft in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer shall be as shown below or an approved equal:

Product

Sustane

Manufacturer

Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 http://www.sustane.com/

#### **Fiber Mulching**

Fiber mulch shall be applied in a separate operation following permanent seeding.

Fiber mulch shall be applied at the rate of 2,000 pounds per acre.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

The fiber mulch provided shall be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

http://sddot.com/business/certification/products/Default.aspx

#### **TURF REINFORCEMENT MAT**

Turf Reinforcement Mat shall be installed at locations as shown on the Curb Opening Detail sheet. The Contractor shall use a turf reinforcement mat from the approved products list. The approved product list for turf reinforcement mat may be viewed at the following internet site:

http://sddot.com/business/certification/products/Default.aspx

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## PROJECT 090W-451 PCN i4dv

			Contractor Furnished Borrow	Contractor Furnished			Type I Turf Reinforcement
Location	Length	Width	Excavation	Topsoil	Seeding	Fertilizing	Mat
	Ft	Ft	CuYd	CuYd	Lb	Lb	SqYd
Exit 8 WB On Ramp	730	8	109	109	53	199	649
Totals:			109	109	53	199	649



Exit 8 WB on ramp

Exit 8 WB on ramp

# PROJECT 085-451 PCN i4du

	Concrete		Type F69				Contractor						
	Curb &	Remove &	Concrete	Modified	6"	Insert Steel Bar	Furnished	Contractor				Type I Turf	Type II
	Gutter	Replace	Curb &	Type P9	Miscellaneous	in PCC	Borrow	Furnished			Fiber	Reinforcement	Object
Location	Removal	Topsoil	Gutter	Gutter	PCC Pavement	Pavement	Excavation	Topsoil	Seeding	Fertilizing	Mulching	Mat	Marker
	Ft		Ft	Ft	SqYd	Each	CuYd	CuYd	Lb	Lb	Lb	SqYd	Each
MRM 31.127	6	8	119.9	19	5.9	31	52	11	20	73	98	8	1
MRM 32.538	6	8	119.9	19	5.9	31	52	11	20	73	98	8	1
Totals:	12	16	239.8	38	11.8	62	104	22	40	146	196	16	2

Type II Object Markers are to be placed at the curb opening.

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## PROJECT 090W-452 PCN i4dq

			Contractor Furnished			Type I Turf Reinforcement	Class A	Class C	Type B Drainage	
Location	Length	Width	Topsoil	Seeding	Fertilizing	Mat	Riprap	Riprap	Fabric	Discription
	Ft	Ft	CuYd	Lb	Lb	SqYd	Ton	Ton	SqYd	
Exit 55 WB Off Ramp	32	8	4	3	9	29				
	70	8	7	6	20	63				
	32	8	4	3	9	29				
	32	8						60	60	3' depth
	115	8	12	9	32	103				
	100	2					30		70	2' depth
	40	16	8	6	22	72				
Exit 55 WB On Ramp	30	8	3	3	9	27				
	22	8	3	2	6	20				
Totals:			41	32	107	343	30	60	130	









Exit 55 WB off ramp



Exit 55 WB off ramp gore



Exit 55 WB off ramp (Class A RipRap)



Exit 55 WB off ramp (Class

Exit 55 WB off ramp gore

Exit 55 WB off ramp

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## PROJECT 090E-452 PCN i4dr

			Contractor Furnished			Type I Turf Reinforcement
Location	Length	Width	Topsoil	Seeding	Fertilizing	Mat
	Ft	Ft	CuYd	Lb	Lb	SqYd
Exit 55 EB Off Ramp	20	8	2	2	6	18
	32	8	4	3	9	29
	32	8	4	3	9	29
	105	8	11	8	29	94
Exit 55 EB On Ramp	75	8	8	6	21	67
Totals:			29	22	74	237





Exit 55 EB off ramp gore area

Exit 55 EB off ramp gore area

Exit 55 EB on ramp gore area

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## PROJECT 090E-452 PCN i4e7

Location	Length	Width	Contractor Furnished Borrow Excavation	Contractor Furnished Topsoil	Seeding	Fertilizing	Type I Turf Reinforcement Mat
	Ft	Ft	CuYd	CuYd	Lb	Lb	SqYd
Exit 57 EB On Ramp	40	8	36	4	3	11	36
Totals:			36	4	3	11	36



Exit 57 EB on ramp gore area

## PROJECT 090E-452 PCN i4dt

Location	Length	Width	Contractor Furnished Topsoil	Seeding	Fertilizing	Type I Turf Reinforcement Mat
	Ft	Ft	CuYd	Lb	Lb	SqYd
Exit 61 EB On Ramp	30	16	6	5	17	54
	90	16	18	13	49	160
	120	16	24	18	66	214
	90	8	9	7	25	80
	90	8	9	7	25	80
Totals:			66	50	182	588





Exit 61 EB on ramp

Exit 61 EB on ramp

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#### **TRAFFIC CONTROL – GENERAL NOTES**

Unless otherwise stated in these plans, no work will be allowed during hours of darkness.

Existing guide, route, informational logo, regulatory, warning signs and delineation shall be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging and resetting of the above items shall be the responsibility of the Contractor.

All non-applicable existing signing and temporary traffic control devices shall be covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 48 hours. The cost of removing or covering non-applicable signs and temporary traffic control devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

All haul trucks shall be equipped with a second flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights shall be incidental to the various related contract bid items.

All construction operations shall be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD - whichever is more stringent shall be used, as determined by the Engineer.

Temporary Flexible Vertical Markers (Tabs) shall be used for lane closure tapers or lane shift tapers and shall be installed at 5' spacing. Tabs used for tapers and shifts will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous,

#### TABLE OF TRAFFIC CONTROL DEVICES – PCN i4dv

#### ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		EXPRESSWAY / INTERSTATE			ΛTE
Sign Code	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT	1	36" x 48"	12.0	12.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0
G20-5aP	EXIT (symbol)	1	36" x 32"	8.0	8.0
EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT		ERSTATE L SIGNS	199.9		

#### TABLE OF TRAFFIC CONTROL DEVICES - PCN i4du

#### ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		EXPRESSWAY / INTERSTA				
Sign Code	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQF	
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16	
W20-1	ROAD WORK AHEAD	1	48" x 48"	16.0	16	
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16	
G20-2	END ROAD WORK	1	48" x 24"	8.0	8	
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			56.	

## TABLE OF TRAFFIC CONTROL DEVICES – PCN i4dq

### ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		EXPRESSWAY / INTERSTATE					
SIGN CODE	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT		
R1-2	YIELD	1	36"	3.9	3.		
R2-1	SPEED LIMIT	1	36" x 48"	12.0	12.		
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.		
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.		
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.		
W5-4	RAMP NARROWS	1	48" x 48"	16.0	16.		
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.		
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.		
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0		
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0		
G20-5aP	EXIT (symbol)	1	36" x 32"	8.0	8.0		
		EXPRES TRAFF	SWAY / INTI IC Contro Sqft	ERSTATE L SIGNS	222.		

#### TABLE OF TRAFFIC CONTROL DEVICES - PCN i4dr

#### ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		EXPRESSWAY / INTERSTATE				
SIGN CODE	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT	
R1-2	YIELD	1	36"	3.9	3.9	
R2-1	SPEED LIMIT	1	36" x 48"	12.0	12.0	
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0	
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0	
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0	
W5-4	RAMPNARROWS	1	48" x 48"	16.0	16.0	
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3	
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0	
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0	
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0	
G20-5aP	EXIT (symbol)	1	36" x 32"	8.0	8.0	
EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			ERSTATE L SIGNS	222.2		

# TABLE OF TRAFFIC CONTROL DEVICES – PCN i4e7

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT	1	36" x 48"	12.0	12.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W5-4	RAMPNARROWS	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	48" x 24"	8.0	16.0
G20-5aP	EXIT (symbol)	1	36" x 32"	8.0	8.0
	EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT				222.2

### TABLE OF TRAFFIC CONTROL DEVICES - PCN i4dt

		EX	ATE		
SIGN Code	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	1	36"	7.5	7.5
R1-2	YIELD	1	36"	3.9	3.9
R2-1	SPEED LIMIT	1	36" x 48"	12.0	12.0
W3-2	YIELD AHEAD (symbol)	1	48" x 48"	16.0	16.0
W4-1	MERGE (symbol)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W5-4	RAMP NARROWS	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	1	30" x 30"	6.3	6.3
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	3	48" x 24"	8.0	24.0
G20-5aP	EXIT (symbol)	1	36" x 32"	8.0	8.0
		EXPRES TRAFF	SWAY / INTI IC Controi Sqft	ERSTATE L SIGNS	237.7

	STATE OF	PROJECT	SHEET	TOTAL SHEETS
	DAKOTA	090E-452, 090E-452 & 090E-4	, 52 10	20

### ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

#### ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS



	STATE OF	090\\/-451	PROJECT	090\\/-452	SHEET	TOTAL SHEETS
	DAKOTA	090E-452,	090E-452	& 090E-452	2 11	20
	Plotting Date:	06/01	1/2016			
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# Install Curb Taper

# MODIFIED TYPE P9 CONCRETE GUTTER



The stated radii on the plans and cross sections refer to this line and it shall also be the basis for horizontal linear foot measurement and payment.



#### GENERAL NOTES:

The concrete for the Modified Type P9 Concrete Gutter shall comply with the requirements of the Specifications for Class M6 Concrete.

When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.

Transverse contraction joints shall be constructed at 10' intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint shall be constructed in the concrete gutter at each mainline PCC pavement transverse contraction joint location.

When concrete gutter is placed monolithically with mainline PCC pavement, the transverse contraction joints in the concrete gutter shall be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.

When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter shall be 1 1/2 inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint shall be at least 1/4 the thickness of the concrete.









# **TRAFFIC CONTROL**

RAMP ENTRANCE AND EXIT SIGNING DETAILS





# Panel Style: construction\_guide.ssi M.U.T.C.D.: 2009 Edition

-- THE WARNING LIGHT SHALL BE A SHIELDED TYPE B. IN ACCORDANCE WITH THE MUTCD













# - Plotted From - trrc1161

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tted From - trrc11













	STATE OF SOUTH	090W-451	PROJECT , 085-451, 090W-452	SHEET	TOTAL SHEETS
	DAKOTA	090E-452,	090E-452 & 090E-45	2 20	20
	Plotting Date:	06/01	/2016		
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and gutter ar	nd existir	ng curb	and gutter.		
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			September 6, 2013		
			PLATE NUMBER		
CONCRETE CURB	AND GUT	TER	650.90		
			Sheet 2 of 2		
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