

STATE OF	PROJECT	SHEET	TOTAL SHEETS
DAKOTA	016W - 452	1	18
Plotting Date:	05/02/2019		

INDEX OF SHEETS

1	General Layout with Index
2-5	Estimate with General Notes & Tables
6	Typical Sections
7 - 8	Plan Sheets
9	Details
10-18	Standard Plates

- ...\Title_30APR2019.dgn

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	LUMP SUM	LS
110E1010	Remove Asphalt Concrete Pavement	17.8	SqYd
110E1100	Remove Concrete Pavement	60.4	SqYd
110E1700	Remove Silt Fence	30	Ft
110E7150	Remove Sign for Reset	3	Each
120E0020	Unclassified Excavation	LUMP SUM	LS
230E0020	Contractor Furnished Topsoil	520	CuYd
250E0020	Incidental Work, Grading	LUMP SUM	LS
260E2010	Gravel Cushion	145.0	Ton
380E1120	Miscellaneous PCC Pavement	26.7	SqYd
380E6110	Insert Steel Bar in PCC Pavement	448	Each
451E6080	Adjust Water Valve Box	3	Each
632E3500	Reset Sign	3	Each
634E0010	Flagging	150.0	Hour
634E0110	Traffic Control Signs	88.0	SqFt
634E0120	Traffic Control, Miscellaneous	LUMP SUM	LS
634E0275	Type 3 Barricade	2	Each
634E0420	Type C Advance Warning Arrow Board	1	Each
650E1100	Type F610 Concrete Curb and Gutter	1,185	Ft
650E4700	Type P10 Concrete Gutter	76	Ft
650E6280	8" Concrete Valley Gutter	120.0	SqYd
671E0100	Adjust Junction Box	5	Each
730E0251	Special Permanent Seed Mixture 1	297	Lb
731E0100	Fertilizing	382	Lb
732E0550	Fiber Reinforced Matrix	2,930	Lb
734E0154	12" Diameter Erosion Control Wattle	60	Ft
734E0604	High Flow Silt Fence	30	Ft
734E0610	Mucking Silt Fence	5	CuYd
734E0620	Repair Silt Fence	10	Ft
900E5147	Articulated Concrete Mattress	1,084.4	SqYd

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: http://www.sddot.com/resources/Manuals/EnvironProcManual.pdf

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT H: WASTE DISPOSAL SITE

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

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

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

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

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

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

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period 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) will be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

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: staging areas, borrow sites, waste disposal sites, and all material processing sites...

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

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

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

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

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

COMMITMENT 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 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 will include, but not be limited to, stripping of topsoil, drilling, blasting, excavation, dredging, ditching, grading, street maintenance and repair, or earth moving. It also includes stockpiles, access roads, and disposal areas. An off-site disposal area of excess material will require an additional permit.

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	016W - 452	2	18

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits.

COMMITMENT K: RAPID CITY AREA AIR QUALITY CONTROL ZONE, continued

Action Taken/Required:

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 beginning the construction activity.

South Dakota Department of Environment and Natural Resources Air Quality 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.

The Rapid City Air Quality Permit will need to be renewed annually by the Contractor until construction activities are completed.

The online form can be found at: http://denr.sd.gov/des/aq/airpermits.aspx

UTILITIES

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. 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.

UNCLASSIFIED EXCAVATION

Unclassified Excavation is for the necessary removal of soil materials and granular base materials required to install the new Curb and Gutter and Valley Gutter. The excavated material will be used to back fill the curb and gutter. Any excess material shall be placed along the inslope prior to the installation of topsoil at no additional cost to the Department. For informational purposes, the estimated quantity of Unclassified Excavation is 211 CuYds. All work, labor, equipment, and materials necessary to perform the work described shall be incidental to the contract lump sum price for Unclassified Excavation.

INCIDENTAL WORK, GRADING

The following work shall be considered incidental to the Incidental Work, Grading bid item:

- Removal and disposal of the topsoil in the work limits from the edge of the roadway to the bottom of the channel.
- Removal and disposal of the topsoil/sediment material from the pond and rock check dams.
- Salvage and relocate the rock check dams closer to the nearby inlets to create a ditch block that is 1.5 feet in height to maximize flow capture and minimize bypass of the inlet.

- Removal and disposal of existing turf reinforcement mat.
- Cleaning out the existing inlets and flushing the existing pipe. All
 material removed from the pipe and inlets shall be disposed of at no
 additional cost to the Department.
- Slope Grading from the top back of the new curb to the ditch bottom. The final grading of the material shall allow for 4" of Contractor Furnished Topsoil over the top of it while matching the top back of new curb, concrete pads, inlet elevations, and other fixtures/infrastructure that may exist.
- Grading of the ditch bottom to reshape scour and provide a smooth, trapezoidal ditch bottom sufficient for topsoil placement and installation of the Articulated Concrete Mattress. The bottom of the trapezoidal channel shall be 4 feet wide. The side slopes shall graded to match the existing slopes.

The Contractor shall use care during grading efforts to avoid damaging existing infrastructure and trees. Any damage shall be repaired by the Contractor at no additional cost to the Department. Water valves may require adjustment to match the elevation of the graded channel bottom. Payment to adjust the water valve boxes will be at the contract unit price for Adjust Water Valve Box.

REMOVAL OF EXISTING ASPHALT PAVEMENT

Removal of existing asphalt pavement is necessary to install the new curb and gutter to the desired location. The plan quantity was arrived at by measuring 80 feet of asphalt to be removed at a width of 2 feet.

REMOVAL OF EXISTING CONCRETE PAVEMENT

Removal of existing concrete pavement is necessary to provide a minimum clear zone of 1 foot behind the new curb and gutter to the light pole footings. The plan quantity was arrived at by measuring 1,087 feet of concrete pavement to be removed at a width of 6 inches.

GRAVEL CUSHION

5 inches of Gravel Cushion shall be furnished and installed under all new concrete including curb and gutter, valley gutter, and Miscellaneous PCC Pavement.

MISCELLANEOUS PCC PAVEMENT

Miscellaneous PCC Pavement shall be installed at a thickness of 4" and shall encase the light pole footing and the adjusted electrical junction boxes. The 4" concrete shall be 6' x 8' in size.

TYPE F610 CONCRETE CURB AND GUTTER

The quantity of F610 Concrete Curb and Gutter includes the curb for the radii at the curb openings connecting to the 8" Concrete Valley Gutter.

INSERT STEEL BAR IN PCC PAVEMENT

The Contractor shall insert No. 5 Epoxy Coated Deformed Tie Bars into drilled holes in the existing concrete pavement. The No. 5 Epoxy Coated Deformed Tie Bars shall be 24 inches in length and be installed at 30 inches center to center in accordance with Plate Number 380.10.

<u>8" CONCRETE VALLEY GUTTER</u>

The 8" Concrete Valley Gutter shall include the concrete and reinforcing steel from the back of curb to the inlet and 2 feet of sloped concrete at 5% grade on all four sides of the inlets.

ADJUST JUNCTION BOX

The junction boxes located near each of the street lights along the new curb and gutter shall be adjusted to match the new ditch slope and shall be encased within the Miscellaneous PCC Pavement.

CONTRACTOR FURNISHED TOPSOIL

The existing topsoil material on the inslope is contaminated with road salts and is not sufficient for vegetation growth. The Contractor will be required to furnish and place 4 inches of new topsoil on the roadway inslopes and any other areas as determined by the Engineer during construction.

Contractor furnished topsoil will be free from clay lumps, stones, coarse gravel, or similar objects larger than 1/2 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, litter, or any other material which may be harmful to plant growth will not be allowed. Organic material will be decomposed. All costs to furnish and place the Contractor furnished topsoil will be incidental to the contract unit price per cubic yard for "Contractor Furnished Topsoil".

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum will 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 will provide certification of the fungal species claimed and the live propagule count. The inoculum will include the following fungal species:

25% Glomus intraradices
25% Glomus aggregatum or deserticola
25% Glomus mosseae
25% Glomus etunicatum

All seed will be inoculated by the seed supplier with a minimum of 20,000 live propagules of mycorrhizal fungi per 1,000 square feet. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

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

Produc MycoApp

AM 120 Multi Spe

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	016W - 452	3	18

<u>t</u>	Manufacturer
oly	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 <u>www.mycorrhizae.com</u>
ecies Blend	Reforestation Technologies Int. Gilroy, CA Phone: 1-800-784-4769 <u>www.reforest.com</u>

FERTILIZING

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (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 will 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 will 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 will 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 will be applied at a rate of 9 pounds per 1,000 square feet in accordance with the manufacturer's recommended method of application.

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

> Product Manufacturer Sustane Sustane Corporate Headquarters Cannon Falls. Minnesota Phone: 1-800-352-9245 www.sustane.com Perfect Blend Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation, and areas designated to be sod.

Special Permanent Seed Mixture 1 will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Crested Wheatgrass		1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Annual Ryegrass		1.4
Hard Fescue		1.4
Alakli Grass	Fults, Fults II, Quill, Salty	1.4
	Total [.]	7 0

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment will be installed at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles will remain on the project until vegetation has been established and then they will be removed in accordance with the Engineer.

The erosion control wattle provided will be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

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

HIGH FLOW SILT FENCE

The high flow silt fence fabric provided will be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

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

High flow silt fence will be placed at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

FIBER REINFORCED MATRIX

Fiber reinforced matrix shall be applied in a separate operation following permanent seeding throughout the project at locations determined by the Engineer during construction. The application rate is 3,000 pounds per acre.

The fiber reinforced matrix will be from the list below:

Product	
Flexterra FGM	
or	
CocoFlex ET-FGM	

Flex Guard

Profile Products LLC Buffalo Grove, IL Phone: 1-800-508-8681 www.profileproducts.com

Manufacturer

Mat. Inc. Floodwood, MN Phone: 1-888-477-3028 www.matinc.biz

ARTICULATED CONCRETE MATTRESS

Articulated concrete mattress will be installed at the ditch bottom and at locations determined by the Engineer during construction. The articulated concrete mattress shall be 8 feet in width. The estimated length of articulated concrete mattress is 1.220 feet.

Installation of the articulated concrete mattress will be in accordance with the manufacturer's installation instructions.

All costs for furnishing and installing the articulated concrete mattress including hauling, materials, equipment, labor, and incidentals necessary will be paid for at the contract unit price per square yard for "Articulated Concrete Mattress".

The articulated concrete mattress will be as shown below or an approved equal:

Flexamat

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 delineation, will be the responsibility of the Contractor. Cost for this work will be 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.

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports. Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

movement.

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

of darkness.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

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. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All 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 bid items.

STATE OF	PROJECT	SHEET	TOTAL
SOUTH DAKOTA	016W - 452	4	18

Motz Enterprises, Inc. Cincinnati, OH Phone: 1-513-772-6689 http://www.flexamat.com/

All construction operations will be conducted in the general direction of traffic

Unless otherwise stated in these plans, work will not be allowed during hours

SHEETING FOR TRAFFIC CONTROL SIGNS

All fluorescent orange background material on traffic control signs, all temporary delineators, and all temporary STOP (R1-1), YIELD (R1-2), DO NOT ENTER (R5-1), and WRONG WAY (R5-1a) signs will conform to the requirements of ASTM D4956 Type IX or XI. All other traffic control signs and background colors will conform to the requirements of ASTM D4956 Type IV.

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

TRAFFIC CONTROL SIGNS

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W20-1	ROAD WORK AHEAD	1	48" x 48"	16.0	16.0
W20-5	RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	1	48" x 24"	8.0	8.0
W21-5	SHOULDER WORK	1	48" x 48"	16.0	16.0
W20-7	FLAGGER	1	48" x 48"	16.0	16.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT		88.0			

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	1 Each

SOUTH DAKOTA 016W - 452 5 18		STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL
			016W - 452	5	18















Sawcut and Remove Asphalt Pavement **Articulated Concrete Mattress**

New Curb and Gutter

Sawcut and Remove Concrete Pavement 8" Concrete Valley Gutter **Miscellaneous PCC Pavement**







tables:

Tie Bar Spacing 48" M	laximum
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

tie bars within each panel.

formed, a metal recess strip is not required.

Published Date: 2nd Qtr. 2019	S D D 0 T	PCC PA Joii
-------------------------------	-----------------------	----------------

STATE OF	PROJECT	SHEET	TOTAL SHEETS
SOUTH DAKOTA	016W - 452	10	18







				P	ROJECT	QUEET	TOTAL
			SOUTH	016W	/ - 452	11	SHEETS 18
				0.00			
						_	
LUNGITUDINA		INSTRUCTION JOINT M (Individually Formed)	IIH IIE	BAR2			
Concrete Concrete Cu	e Gut urb ai	ter or nd Gutter PCC Pc > <	ovement				
Sawed Joint filled with Hot— Poured Elastic Joint Sealer			- D	T			
		<u>3/8"</u>	I = P	avement I	nickness		
In Place Gutter Curb and Gutter — - — - E	or 		ess Strip				
		No. 5	Epoxy Cod	ted Defor	YY med Tie Bar		
No.5 epoxy coated deformed keyway shown above is a fem	tie b ale k	ars shall be spaced 48 in eyway.	iches cen	ter to cei	nter. The		
The tie bars shall be placed of joints.	o mini	mum of 15 inches from e	existing t	ransverse	contraction		
The keyway is optional and is keyway is provided, a metal re formed, a metal recess strip i	not ecess is not	required. When concrete strip shall be used. Wher required.	pavement concret	t is forme e pavemer	d and a nt is slip		
The transverse contraction j shall be placed at each mainlin contraction joints in the con- inches deep if formed in fres- to cut the transverse contra- 1/4 the thickness of the con- The term "In Place Gutter or place concrete gutter and co	oints ne PC crete sh co actio crete Curb oncre	in the concrete gutter C pavement transverse of gutter or the concret ncrete using a suitable n joints, then the depth gutter or concrete cur and Gutter" in the abov te curb and gutter was	or concr contracti e curb ar grooving of the j rb and gu re drawing placed of	rete curb on joint. 1 nd gutter tool. If a oint shall utter. g indicates n the curr	and gutter he transver shall be 1½ saw is used be at least s that the ir rent project	se	
	PO	JRED MONOLITHICALLY	· /				
Concrete	Gutt	er or	·				
	rb an		/ement	~ > >			
۵. ۵.			T = Pa	vement Th	ickness		
	. A . . A . . A . . A .	New PCC Pavement					
GENERAL NOTES:					- L		
The mainline curb and gutter mainline lane width is less the used, the tie bars and the so shall be eliminated.	may an or awed	be placed monolithically equal to 12 feet. If thi joint between the curb	with the s method and gutte	PCC paven of const er and the	nent if the ruction is PCC paveme	nt	
The gutter or curb and gutt contraction joint. The transv shall be sawed and sealed sam pavement.	er sh verse ne as	all be sawed transversel contraction joints in th the transverse contrac	y at each le gutter ction join [.]	h mainline or curb o ts in the	transverse and gutter PCC		
The slope of the gutter shall be the slope designated for the type of gutter or curb and gutter to be constructed. The bottom slope of the gutter or curb and gutter shall be constructed at the same slope as the mainline concrete pavement. June 26, 20/3						1 2013	
	S D	PCC PAVEMENT LONGITUDI	NAL CONST	RUCTION	PLATE NUMBL	ĒR	
Published Date: 1st Qtr. 2019		CONCRETE CURB A	ND GUTTEI	un R	Sheet of		







	STATE OF	P	ROJECT	SHEET	TOTAL
	SOUTH DAKOTA	016V	V - 452	13	18
		1			
1	DOF DOCT	or slip D			
Andr	IUI POST	UT SHP B	U26		
<u> </u>					
· / ``.	\				
	``\				
, ,	Ň				
>					
	1				
	į				
	/				
6	į				
R	/				
`	!				
$\langle \langle \langle \rangle \rangle$					
	<u> </u>	Diameter			
	(Peri	meter of	stub height		
	Ciedr		51.57		
VIEW					
ight clearanc	e check	S)			
<u></u>					
0"					
			\frown		
		7	= 1		
0	1		4		
Ground	Line —/				
	and char		bord line		
ost with end	s 4" abov	ve u ou c ve the gra	ound.		
ter adjacent	to the	breakawa	y sign		
um of 4"abov	e the gr	round line	at the		
support stu	ID.				
sary for U-cl	nannel la	ip splices	where		
			July I, 20	05	
			PLATE NUMBE	R	
A SIIPPORT ST	TIR CIFAR	RANCE	634 . 99		
		UTINUL	Shoot 1 of 1		







	STATE OF			SHEET	SHEETS
	SOUTH DAKOTA	016\	N - 452	15	18
				٦	
-Sawad laint E	illod				
with Hot Pour	ed				
Elastic Joint S	Sealer	Low I	Modulus *		
В		Silico	ne Sealant		
			<u> /8" †0 /4"</u>		
	_	۵ · ۵ ·			
		· /	V '		
В		SECTIO	N A-A		
nic with					
11 /	\bigcap	-Sawed Joi with Hot	nt Filled Poured		
		Elastic Jo	int Sealer		
			1/8" to 1/4"		
			< / 1		
С	T				
		· · · · ·			
	ц				
· Þ · Þ ·	v				
	<u> </u>	-			
C		SECTIO	N B-B		
lithic with					
Mainline					
* The silicon	ne sealar	nt shall be	placed such		
that it co bonded to	mpletely the side	seals th es of the	e joint and is clean ioint		
as approve	ed by th	e Enginee	r.		
			September 6,20	113	
			PLATE NUMBER	7	
CONCRETE CUR	B AND G	UTTER	650.90		
			Sheet I of 2	7	

PRO JECT









GENERAL	NOTES:
---------	--------

At cut or fill slope installations, wattles shall be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor shall dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes shall be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the ends. See Detail C.

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than $\frac{1}{2}$ ". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

			December 23, 2004
	S D D	EROSION CONTROL WATTLE	plate number 7 34. 06
Published Date: 1st Qtr. 2019	0 T		Sheet 2 of 2

STATE OF	PROJECT	SHEET	SHEETS
SOUTH	016W - 452	18	18
DAKUTA		.0	10