

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT		SHEET NO.	TOTAL SHEETS
	P 6109(04)	P 8212(02)		
Plotting Date: 12/02/15 Revised Date: mm/dd/yy Initials: JHE				

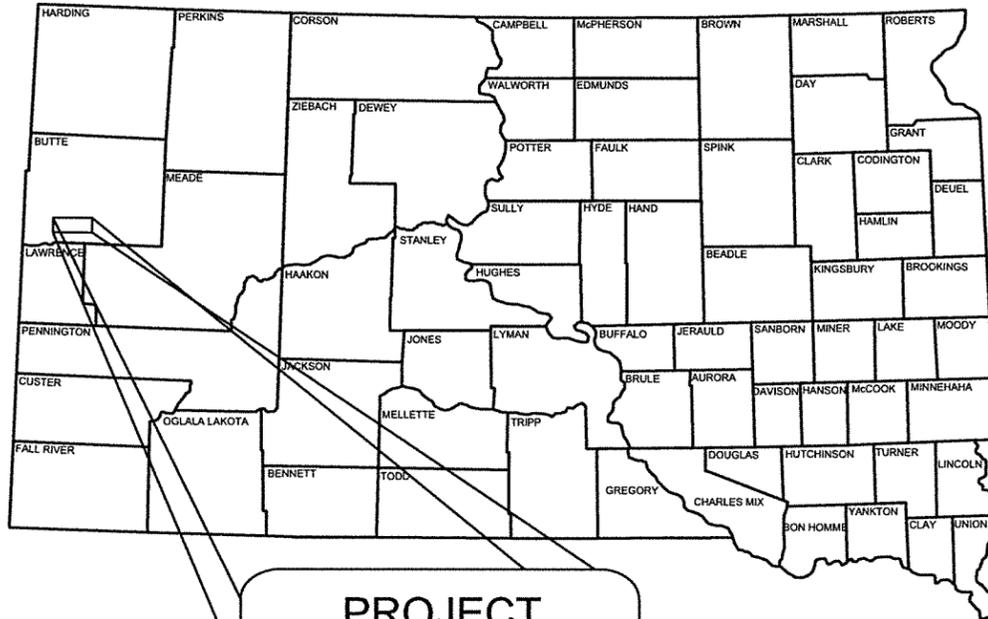
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
PROJECTS P 6109(04)
P 8212(02), P 8611(02),
P 6575(01)

BUTTE COUNTY
ASPHALT SURFACE TREATMENT
PCN 04LJ, 04RA, 04RD, 04RE

INDEX OF SHEETS

SHEET NO. 1	TITLE AND LAYOUT MAP
SHEET NO. 2-5	ESTIMATE OF QUANTITIES & NOTES
SHEET NO. 6-7	TYPICAL SECTION & RATES OF MATERIAL
SHEET NO. 8-9	TRAFFIC CONTROL
SHEET NO. 10-11	STANDARD PLATES



PROJECT
Butte County, South Dakota

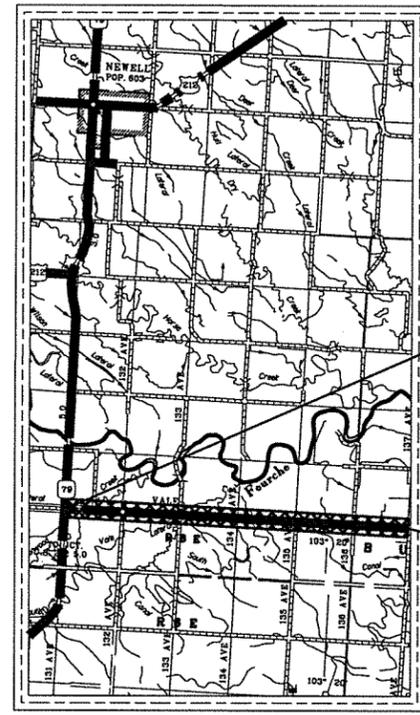
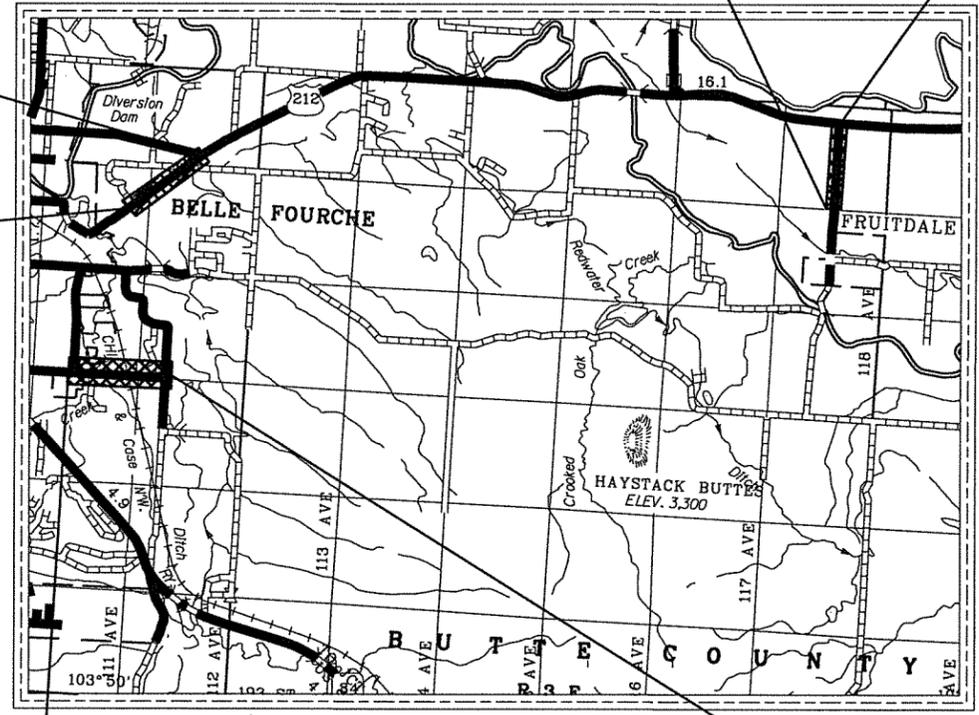


Begin Project P 8212(02) - Business 212
Station 0+00 at the Intersection of US Hwy 212 & Business 212

End Project P 8212(02) - Business 212
Station 27+50 Approx. 0.52 Miles West of the Intersection of US Hwy 22 & Business 212

BEGIN PROJECT P 6575(01) - Fruitdale Road
Sta. 0+00 Approx. 1.61 Miles South of Fruitdale Road & US Hwy 212 Intersection At the North end of the existing Bridge.

END PROJECT P 6575(01) - Fruitdale Road
Sta. 85+20 South of the Intersection of Fruitdale Road & US Hwy 212



Begin Project P 6109(04) - Valley Township Road
Station 0+00 at the Intersection of Valley Township Road & US Hwy 79

End Project P 6109(04) - Valley Township Road
Station 315+75 Approx. 6.0 Miles East of the Intersection of Valley Township Road & US Hwy 79

DESIGN DESIGNATION		DESIGN DESIGNATION	
P 6109(04)		P 8212(02)	
ADT (2011)	740	ADT (2011)	980
ADT (2031)	835	ADT (2031)	1402
DHV	130	DHV	158
D	50%	D	50%
T DHV	4.6%	T DHV	1.3%
T*ADT	10.20%	T*ADT	2.90%

DESIGN DESIGNATION		DESIGN DESIGNATION	
P 8611(02)		P 6575(01)	
ADT (2011)	655	ADT (2014)	300
ADT (2031)	937	ADT (2034)	338
DHV	106	DHV	52
D	50%	D	50%
T DHV	1.3%	T DHV	3.50%
T*ADT	2.90%	T*ADT	7.60%

END PROJECT P 8611(02) - Ziebach Street
Sta. 45+70 Approx. 0.87 miles West of the intersection of Ziebach Street & Helmer Road

BEGIN PROJECT P 8611(02) - Ziebach Street
Sta. 0+00 at the Intersection of Ziebach Street & Helmer Road

STORM WATER PERMIT (None Required)

PLANS	
Survey by:	Brosz Engineering, Inc. Sturgis, SD
Plans by:	Brosz Engineering, Inc. Sturgis, SD

Gross length	47 415 Feet	8.980 Miles
Length of exceptions	2 642 Feet	0.500 Miles
Net length	44 773 Feet	8.480 Miles

ESTIMATE OF QUANTITIES & PLAN NOTES

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO	TOTAL SHEETS
	P 6109(04) P 8212(02) P 8611(02), P 6575(01)	2	11
Plotting Date: 12/14/2015			
Revised Date: 12/14/2015			
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ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	P 6109(04) PCN 04LJ QUANTITY	P 8212(02) PCN 04RA QUANTITY	P 8611(02) PCN 04RD QUANTITY	P 6575(01) PCN 04RE QUANTITY	TOTAL QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
120E0100	Unclassified Excavation, Digouts	150				150	CuYd
260E1010	Base Course	300.0				300.0	Ton
320E1200	Asphalt Concrete Composite	150.0	13.0	21.8	27.8	212.6	Ton
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	17.5	1.7	2.5	3.4	25.1	Ton
350E0010	Asphalt Concrete Crack Sealing		944		694	1 638	Lb
360E0042	CRS-2P Asphalt for Surface Treatment	114.5	10.8	16.7	22.4	164.4	Ton
360E1200	Modified Cover Aggregate	1 010.6	95.2	147.0	197.5	1 450.3	Ton
633E1300	Pavement Marking Paint, White	202	18	31	38	289	Gal
633E1305	Pavement Marking Paint, Yellow	150	13	29	38	230	Gal
634E0010	Flagging	80.0	40.0	30.0	60.0	210.0	Hour
634E0020	Pilot Car	30.0	20.0	15.0	30.0	95.0	Hour
634E0110	Traffic Control Signs	435	314	266	266	1 281	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
634E0630	Temporary Pavement Marking	12.0	1.0	1.8	2.2	17.0	Mile
998E0100	Railroad Protective Insurance			Lump Sum		Lump Sum	LS

SPECIFICATIONS

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

Construction activities constitute less than 1 acre of disturbance.

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.

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 or County 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:

1. Construction and/or demolition debris consisting of concrete, asphalt 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 or County ROW through the use of 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.

PLAN NOTES

STATE OF SOUTH DAKOTA	PROJECT		SHEET NO	TOTAL SHEETS
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Plotting Date:		12/1/2015		
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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.

ESTIMATED QUANTITIES

The quantities of asphalt for surface treatment and cover aggregate are based on the rates shown in the Rates of Materials. This is only an estimate. The actual application rates of materials will be determined by mix design as stated in these plans. The mix design rates may vary from the estimated rates stated in the Rates of Materials depending on the aggregate source, gradation and flakiness index. The application rates may also be adjusted in the field due to results of gradations, flakiness index and differing surface conditions. Pay quantities will be based off the actual target rates the inspectors use even though they may vary significantly from plans estimates.

SEQUENCE OF OPERATIONS

The following sequence of operations will be followed on a per project basis unless an alternate sequence is submitted in writing to and approved by the engineer at least two weeks prior to the requested change.

1. Install fixed location traffic control devices.
2. Install and remove temporary traffic control devices as needed.
3. Complete digouts, base course and Asphalt Concrete Composite as determined by the Engineer.
4. Complete Asphalt concrete crack sealing.
5. Place temporary pavement marking tabs not more than 72 hours prior to asphalt surface treatment application.
6. Apply asphalt surface treatment.
7. Remove plastic covers on tabs after asphalt surface treatment application.
8. Broom asphalt treated areas.
9. Apply fog seal.
10. Remove the second set of plastic covers on tabs after fog seal application.
11. Apply permanent pavement marking paint.
12. Remove "for construction only" traffic control devices.

SHOULDER WORK

Prior to construction, Butte County employees will inspect shoulders for excess vegetation and spray if necessary. It will be the Contractor's responsibility to notify the County a minimum of 30 days prior to commencing work on the project. The County assumes no responsibility for the effectiveness of the herbicide applied. The contact

person for Butte County is Highway Superintendent Don Adams 605-892-4414.

Vegetation and accumulated material on or adjacent to the roadway shall be removed by the Contractor to the satisfaction of the engineer prior to asphalt surface treatment. This work is considered incidental to other contract items and separate measurement or payment will not be made.

EXISTING PAVEMENT CONDITIONS AND TRAFFIC VOLUMES

The existing pavement conditions for each project are listed below. The traffic volumes are also shown.

Project	Surface Condition	Traffic Volume ADT
P 6109(04)	Slightly pocked, porous & oxidized, minor cracking	740
P 8212(02)	Slightly pocked, porous & oxidized, minor cracking	980
P 8611(02)	Slightly pocked, porous & oxidized, minor cracking	655
P 6575(01)	Slightly pocked, porous & oxidized, minor cracking	300

UNCLASSIFIED EXCAVATION, DIGOUTS – P 6109(04)

Unclassified Excavation, Digouts will include all excavation and removal of unsatisfactory material. Unstable material will be excavated and removed to a maximum depth of 1', cut to a true line with a vertical face or as directed by the Engineer. Base course gravel will be placed and compacted to the satisfaction of the Engineer to within 4 inches of the top of the digout area. Asphalt concrete will be placed in the top 4 inches of the digout area in two 2 inch lifts on project P 6109(04).

The quantity will be measured and paid for per cubic yard of the removed volume. Base Course materials will be paid for by the ton. Asphalt Concrete will be paid for under the Asphalt Concrete Composite Item by the ton. Saw cutting will be incidental to the contract unit price per CuYd for Unclassified Excavation, Digouts. Traffic will be maintained and controlled by the contractor through the digout locations. Digout locations will be filled prior to nightfall.

Unclassified Excavation, Digouts shall be estimated at 25 cubic yards per mile. The Base Course is estimated to be 50 ton per mile.

PLAN NOTES

STATE OF SOUTH DAKOTA	PROJECT		SHEET NO	TOTAL SHEETS
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Plotting Date:		12/1/2015		
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RAILROAD PROTECTIVE INSURANCE

The Contractor shall be required to purchase Railroad Protective Insurance for this project. Cost of this insurance shall be included in the contract price for "Railroad Protective Insurance".

WATER FOR COMPACTION OF GRANULAR MATERIALS

Cost of water for compaction of the granular material shall be incidental to the Base Course item. Three percent, plus or minus of optimum, moisture shall be required at the time of compaction unless otherwise directed by the Engineer.

MAINTENANCE PATCHING

Prior to the Asphalt Surface Treatment the Contractor shall remove and backfill any digout locations, repair any surface deformations, pot holes, edge breakups, wheel ruts or irregularities by removing the unstable material, cutting to a true line with a vertical face or as directed by the Engineer; and place hot mix asphalt concrete in the repair area. The repair shall restore the driving surface to a smooth and stable condition.

The repair areas will be inspected and accepted by the Engineer prior to the placement of the Asphalt Surface Treatment. Saw cutting will be incidental to the contract unit price per ton for Asphalt Concrete Composite. Traffic will be maintained and controlled by the contractor through the patching locations. Patching locations will be filled prior to nightfall. Payment for Asphalt Concrete Composite will be by the ton. The contractor should inspect the roadway for an accurate assessment of the surface condition prior to bidding the work.

Asphalt Concrete Composite for Maintenance patching shall be estimated at 25 tons per mile The Asphalt Concrete furnished by the contractor for Maintenance Patching shall meet the requirements for Asphalt Concrete Composite, Class E, Type 1.

CRACK SEAL QUANTITIES

Estimated quantities to complete the project were figured based on the existing transverse cracks only.

All quantities are based on a factor of 0.4 lbs. of sealant per 1 foot of existing crack. Actual quantities used may vary depending upon the location and width of the existing crack. Rates may vary as directed by the Engineer.

The transverse cracks shall be sealed the full pavement width or as directed by the Engineer.

The crack sealing operation shall be completed during the seasonal limitations and prior to the application of the asphalt surface treatment.

ROADWAY CLEANING

The Contractor shall be responsible for removing the router tailings from the roadway surface, including shoulders, intersecting roads and/or as directed by the Engineer.

BLOTTING MATERIAL

Blotting material shall be placed over the sealant material immediately following placement of sealant on all cracks.

MODIFIED COVER AGGREGATE

Cover aggregate shall conform to the requirements of the SDDOT Standard Specifications for Aggregates for Asphalt Surface Section 881, Treatment **Type 2A** except:

Percent Passing #200 will be: 0-1.5%

ASPHALT FOR FOG SEAL

An SS-1h or CSS-1h emulsion shall be used for Fog Seal. The oil will be blended 1/2 water and 1/2 oil for a diluted solution applied at a rate of 0.10 gallons per square yard (0.05 gallons per square yard of oil). The water will not be paid for separately.

The Fog Seal will be applied after waiting a minimum of 48 hours but no more than 5 calendar days after the completion of the Asphalt Surface Treatment.

Prior to applying the fog seal the entire surface shall be broomed from the center outward to the edge of the shoulder. This will be considered incidental to the contract unit price per ton for item SS-1h or CSS-1h Asphalt for Fog Seal.

TEMPORARY PAVEMENT MARKING

Paint will not be allowed for Temporary Pavement Marking.

Prior to asphalt surface treatment the Contractor shall install night visible temporary flexible vertical markers (tabs) as per section 634.3 L.2.c of the Specifications. The Contractor shall install DO NOT PASS signs at the beginning of all No Passing Zones and PASS WITH CARE signs at the end of all No Passing Zones. For informational use only the number of Do Not Pass signs needed for the projects is estimated at 18 signs and the number of PASS WITH CARE signs is estimated at 15 signs.

The temporary flexible vertical markers (tabs) shall have secure covers. If the covers become detached, prior to sealing, the temporary flexible vertical marker shall be replaced with a new marker. Any markers that are non-reflective shall be cleaned or replaced.

The Contractor shall take steps necessary to assure that the temporary markings on the final surface match the markings on the existing surface.

The Contractor shall remove and dispose of the temporary flexible vertical markers (tabs) after the Permanent Pavement Marking has been applied. Method of removal shall be non-destructive to the road surface and shall result in the marker being separated from the adhesive (the adhesive shall remain on the road surface and the marker is discarded) or the marker shall be cut in such a manner that no more than a 1/4" of the vertical portion of the marker remains on the road surface. Removal shall be accomplished within seven days of completion of the Permanent Pavement Marking.

Flagger symbol signs and flaggers or shadow vehicle with rotating amber or strobe lights shall be positioned on the roadway shoulder in advance of the workers in both directions of traffic during the installation and removal of the temporary flexible vertical markers (tabs).

The traffic control shall be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), FLAGGER Symbol (W20-7) or BE PREPARED TO STOP (W3-4) shall be mounted on the rear of the shadow vehicle.

The method of traffic control used for this operation shall be approved by the Engineer.

The cost for the traffic control to remove and install the temporary flexible vertical markers (tabs) shall be incidental to the contract unit price per mile for Temporary Pavement Marking.

GENERAL MAINTENANCE OF TRAFFIC

Work activities shall be conducted during daylight hours only. During nights, weekends and other nonworking hours, all materials and equipment shall be removed from the roadway.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to 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 owner and to the satisfaction of the Engineer.

STATE OF SOUTH DAKOTA	PROJECT		SHEET NO	TOTAL SHEETS
	P 6109(04) P 8212(02) P 8611(02), P 6575(01)		5	11
Plotting Date:		12/1/2015		
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PLAN NOTES

PERMANENT PAVEMENT MARKING PAINT

Permanent pavement markings shall be furnished and applied by the Contractor in accordance with Section 633 of the Specifications, the details in these plans and as per manufacturer's recommendations.

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the Permanent Pavement Marking to allow the County to check and mark the location of no passing zones. All materials shall be applied as per manufacturer's recommendations.

The application of Permanent Pavement Marking Paint may begin 7 calendar days following completion of final surfacing and shall be completed within 14 calendar days following completion of final surfacing.

The Contractor shall be required to repaint all existing pavement markings including centerline, edge line, lane lines, gore areas, stop bars, etc. The Contractor will be required to inventory and mark, with appropriate colored tabs, the extent and location of the existing word messages, turn arrows, stop bars, railroad crossings, pedestrian crossings, gore areas etc. before the markings are obliterated. The cost of the tabs shall be incidental to the contract unit prices for the various items.

For each working day the application of permanent pavement marking paint remains uncompleted after the previously stated time requirements, the Contractor will be assessed liquidated damages at the rate of \$250.00 per day. This provision applies up to the Contract Completion Date, as extended. After the completion date, liquidated damages will be assessed in accordance with section 8.8, until the Permanent Pavement Marking is completed, even though the project may be open to traffic.

The approximate paint application rates shall be as follows:

- 4" Edge line – 33.8 ± gallons per mile of white paint.
(Rate is for both Edge Lines)
- 4" Centerline – 25 ± gallons per pass mile of yellow paint
(Includes No Passing Zones)
- 4" Double No Passing Centerline – 33.8 ± gallons per mile of yellow paint

The rate of application of glass beads shall be 8 lbs. per gallon of paint.

TABLE OF PERMANENT PAVEMENT MARKING PAINT

PROJECT	Length	Pavement Marking Paint	
		White	Yellow
<u>P 6109(04), PCN 04LJ</u>			
4" Edge line	5.98 Miles	202 gallons	
4" Centerline	5.98 Miles		150 gallons
<u>P 8212(02), PCN 04RA</u>			
4" Edge line	0.52 Miles	18 gallons	
4" Centerline	0.52 Miles		13 gallons
<u>P 8611(02), PCN 04RD</u>			
RR Crossing		2 gallons	
4" Edge line	0.87 Miles	29 gallons	
4" Centerline	0.87 Miles		29 gallons
<u>P 6575(01), PCN 04RE</u>			
4" Edge line	1.11 Miles	38 gallons	
4" Centerline	1.11 Miles		38 gallons

Removing, relocating, covering, salvaging and resetting of existing 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 State or County.

The Contractor shall furnish any flagging required. Only SDDOT certified flaggers will be allowed. Tickets showing the name, certification number of the flagger and the number of hours flagging shall be supplied to the Engineer, daily.

In addition to the traffic control shown in the layouts contained in these plans, the Contractor shall provide additional flagger(s) and flagger symbol sign(s) at major intersections during daylight hours after the asphalt surface treatment has been applied and prior to the initial brooming being completed.

The Contractor shall furnish, install and maintain TRUCK CROSSING signs. The TRUCK CROSSING signs shall be displayed at all times when haul vehicles are hauling material. When hauling conditions no longer exist, the signs shall be covered or removed from view. The exact number and location shall be determined on construction. Payment for additional signs will be based on the contract unit price per square foot for Traffic Control.

Flagger(s) shall provide each motorist with a printed notice on the Contractor's letterhead similar to the one shown. Cost for the notice shall be incidental to the contract unit prices for the various items.

"CONTRACTOR'S LETTERHEAD"

THIS ROADWAY IS BEING RESURFACED WITH A CHIP SEAL APPLICATION.

THIS TYPE OF CONSTRUCTION HAS THE POTENTIAL OF CAUSING VEHICLE DAMAGE SUCH AS CHIPPED WINDSHIELDS AND BROKEN HEADLIGHTS DUE TO ROCKS BEING THROWN BY HIGH SPEED ONCOMING TRAFFIC.

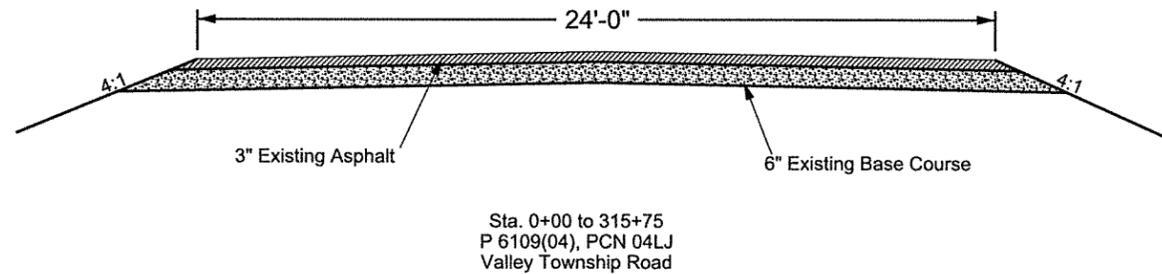
YOU MAY WISH TO CONSIDER TAKING AN ALTERNATE ROUTE. IF YOU PROCEED, KEEP TO THE RIGHT AND DRIVE 40 MPH OR LESS. ANOTHER FLAGGER AND A PILOT CAR WILL BE ESCORTING YOU AROUND THE SEAL COAT APPLICATION AREA.

THANK YOU!

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT		SHEET	TOTAL
	P 6109(04) P 8611(02)	P 8212(02) P 6575(01)	NO. 6	SHEETS 11
Plotting Date: 12/01/15 Revised Date: mm/dd/yy Initials: JHE				

Typical Section

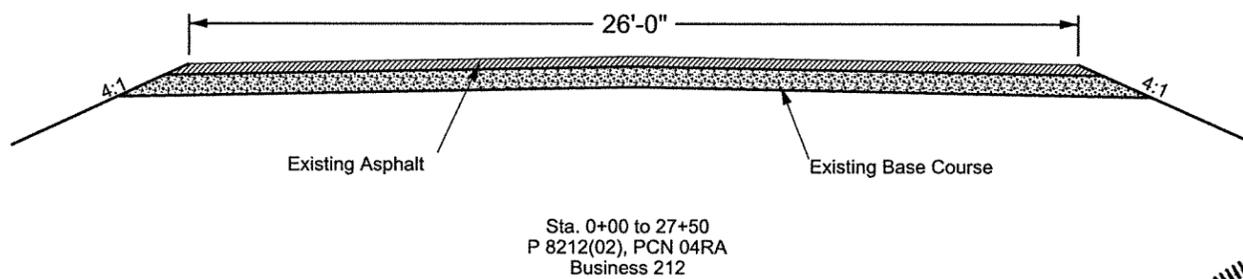


RATES OF MATERIALS

Valley Township Road
Butte County
P 6109(04), PCN 04LJ

The Estimate of Quantities is based on the following quantities of materials per mile (project length = 5.98 miles).

0+00 to 315+75
CRS-2P Asphalt for Surface Treatment at the rate of 19.15 tons/mile applied 24' wide (Rate = 0.32 gallons per square yard).
Cover Aggregate, (Modified Cover Aggregate) at the rate of 169.0 tons/mile applied 24' wide (Rate = 24 pounds per square yard).
SS-1h or CSS-1h for Fog Seal at a rate of 2.92 tons/mile applied 24' wide (Rate = 0.05 gallons per square yard).

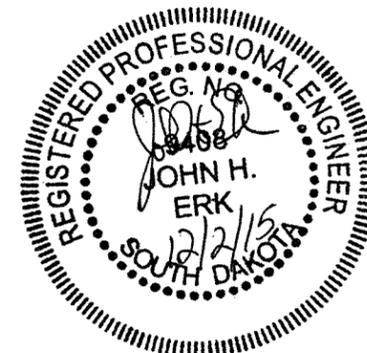


RATES OF MATERIALS

Business 212
Butte County
P 8212(02), PCN 04RA

The Estimate of Quantities is based on the following quantities of materials per mile (project length = 0.52 miles).

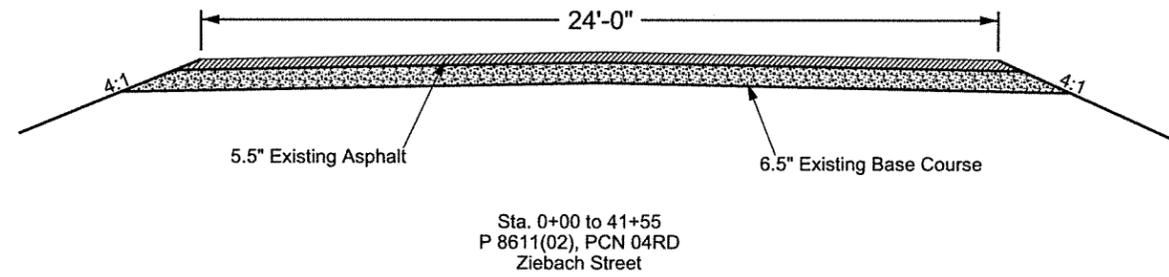
0+00 to 27+50
CRS-2P Asphalt for Surface Treatment at the rate of 20.74 tons/mile applied 26' wide (Rate = 0.32 gallons per square yard).
Cover Aggregate, (Modified Cover Aggregate) at the rate of 183.0 tons/mile applied 26' wide (Rate = 24 pounds per square yard).
SS-1h or CSS-1h for Fog Seal at a rate of 3.17 tons/mile applied 26' wide (Rate = 0.05 gallons per square yard).



Typical Section

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Plotting Date: 12/01/15 Revised Date: mm/dd/yy Initials: JHE				

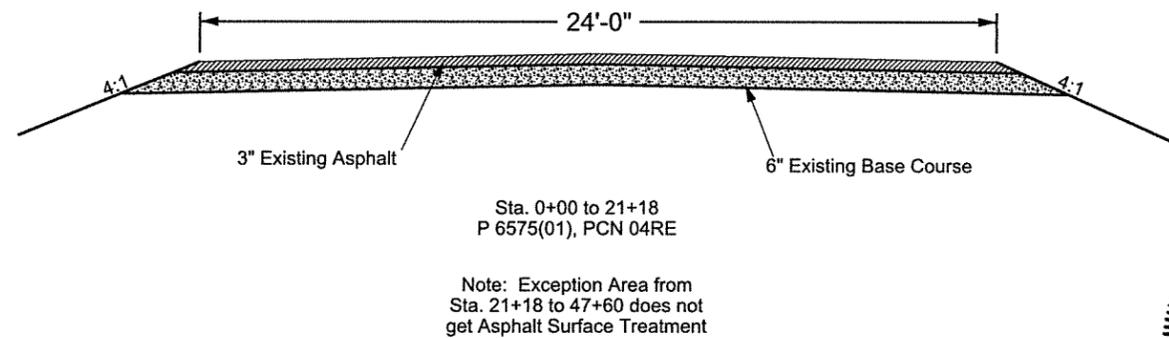


RATES OF MATERIALS

Ziebach Street
Butte County
P 8611(02), PCN 04RD

The Estimate of Quantities is based on the following quantities of materials per mile (project length = 0.87 miles).

0+00 to 45+70
CRS-2P Asphalt for Surface Treatment at the rate of 19.15 tons/mile applied 24' wide (Rate = 0.32 gallons per square yard).
Cover Aggregate, (Modified Cover Aggregate) at the rate of 169.0 tons/mile applied 24' wide (Rate = 24 pounds per square yard).
SS-1h or CSS-1h for Fog Seal at a rate of 2.92 tons/mile applied 24' wide (Rate = 0.05 gallons per square yard).

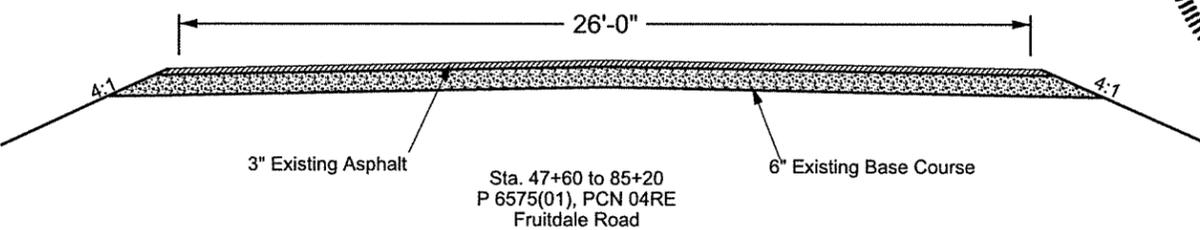


RATES OF MATERIALS

Fruitdale Road
Butte County
P 6575(01), PCN 04RE

The Estimate of Quantities is based on the following quantities of materials per mile (project length = 0.40 miles).

0+00 to 21+18
CRS-2P Asphalt for Surface Treatment at the rate of 19.15 tons/mile applied 24' wide (Rate = 0.32 gallons per square yard).
Cover Aggregate, (Modified Cover Aggregate) at the rate of 169.0 tons/mile applied 24' wide (Rate = 24 pounds per square yard).
SS-1h or CSS-1h for Fog Seal at a rate of 2.92 tons/mile applied 24' wide (Rate = 0.05 gallons per square yard).



The Estimate of Quantities is based on the following quantities of materials per mile (project length = 0.71 miles).

47+60 to 85+20
CRS-2P Asphalt for Surface Treatment at the rate of 20.74 tons/mile applied 26' wide (Rate = 0.32 gallons per square yard).
Cover Aggregate, (Modified Cover Aggregate) at the rate of 183.0 tons/mile applied 26' wide (Rate = 24 pounds per square yard).
SS-1h or CSS-1h for Fog Seal at a rate of 3.17 tons/mile applied 26' wide (Rate = 0.05 gallons per square yard).



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT		SHEET NO.	TOTAL SHEETS
	P 6109(04) P 8611(02)	P 8212(02) P 6575(01)		
Plotting Date: 12/01/15 Revised Date: mm/dd/yy Initials: JHE			8	11

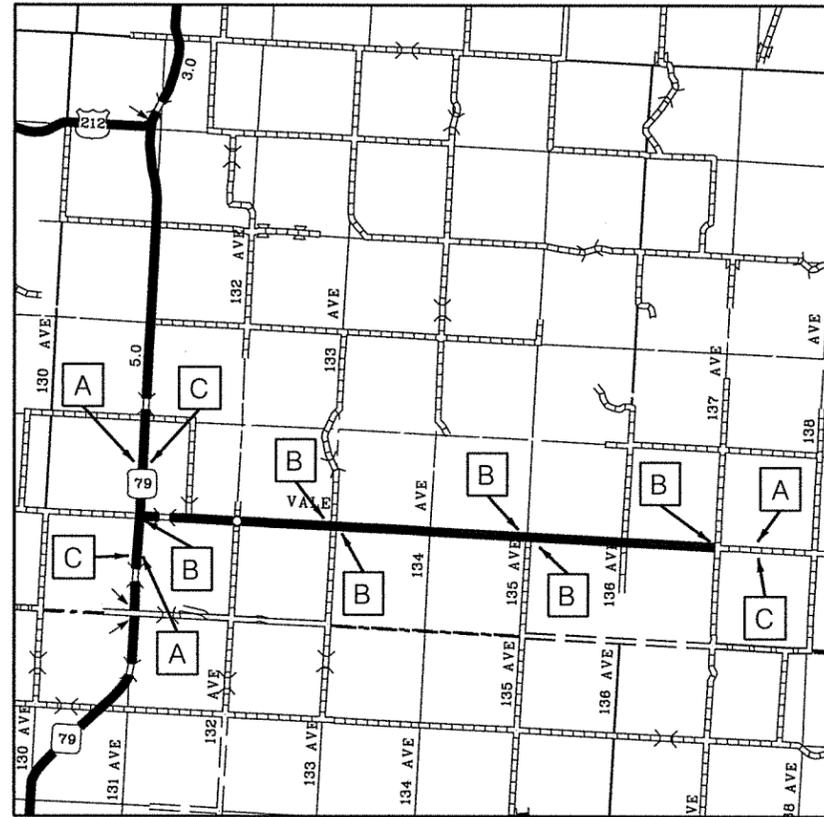
TRAFFIC CONTROL BUTTE COUNTY

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
P 6109(04), PCN 04LJ
P 8212(02), PCN 04RA

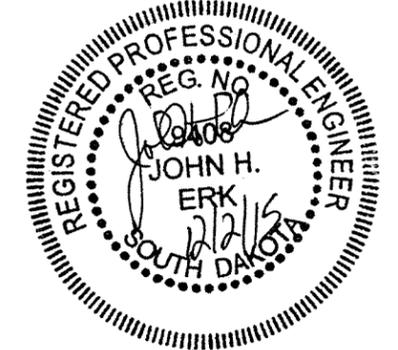
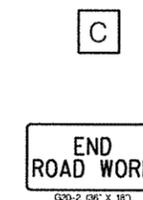
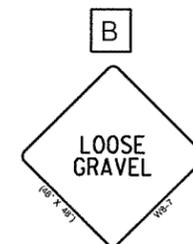
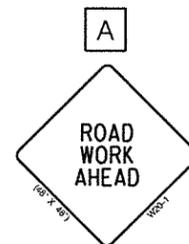
P 6109(04), PCN 04LJ
Valley Township Road

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	3	48" x 48"	16.0	48.0
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	6	48" x 48"	16.0	96.0
W13-1P	ADVISORY SPEED (plaque)	6	30" x 30"	6.3	37.8
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	3	48" x 48"	16.0	48.0
W20-7	FLAGGER (symbol)	3	48" x 48"	16.0	48.0
W21-2	FRESH OIL	4	48" x 48"	16.0	64.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			435



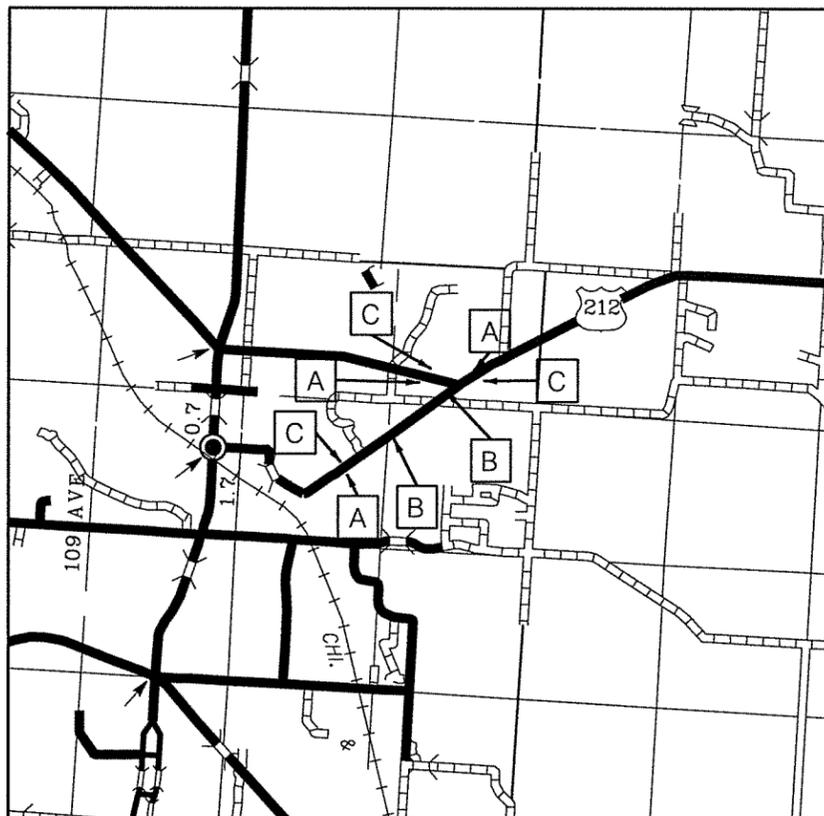
P 6109(04), PCN 04LJ
Valley Township Road



P 8212(02), PCN 04RA
Business 212

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W3-4	BE PREPARED TO STOP	3	48" x 48"	16.0	48.0
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	3	48" x 48"	16.0	48.0
W20-7	FLAGGER (symbol)	3	48" x 48"	16.0	48.0
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			314



P 8212(02), PCN 04RA
Business 212

Notes:

All Fixed Location signs shall remain in place until the permanent pavement marking is complete.

All Fixed Location signs shall be placed 200' to 300' from intersection. Exact location to be approved by the Engineer.

Construction signs shall not obscure existing signs and must be installed a minimum of 200' from an existing sign.

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT		SHEET NO.	TOTAL SHEETS
	P 6109(04) P 8611(02)	P 8212(02) P 6575(01)		
Plotting Date: 12/01/15 Revised Date: mm/dd/yy Initials: JHE				

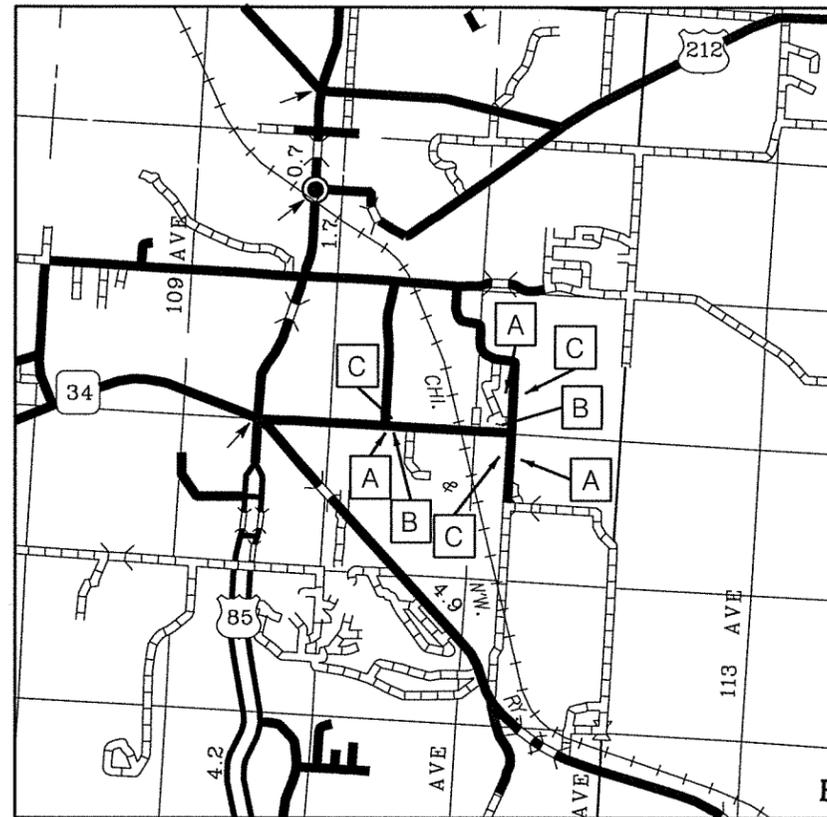
TRAFFIC CONTROL BUTTE COUNTY

FIXED LOCATION SIGNS
(GROUND MOUNTED SUPPORTS)
P 8611(02), PCN 04RD
P 6575(01), PCN 04RE

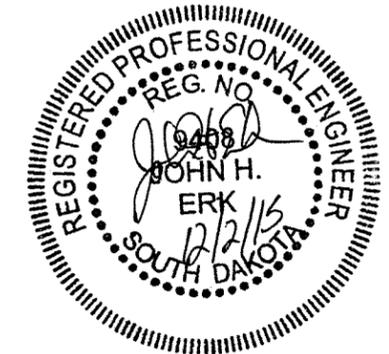
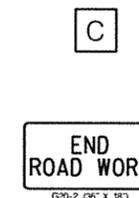
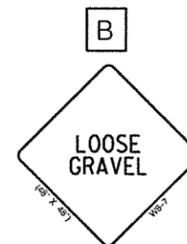
P 8611(02), PCN 04RD
Ziebach Street

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	3	48" x 48"	16.0	48.0
W20-7	FLAGGER (symbol)	3	48" x 48"	16.0	48.0
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CONVENTIONAL ROAD			266
		TRAFFIC CONTROL SIGNS SQFT			



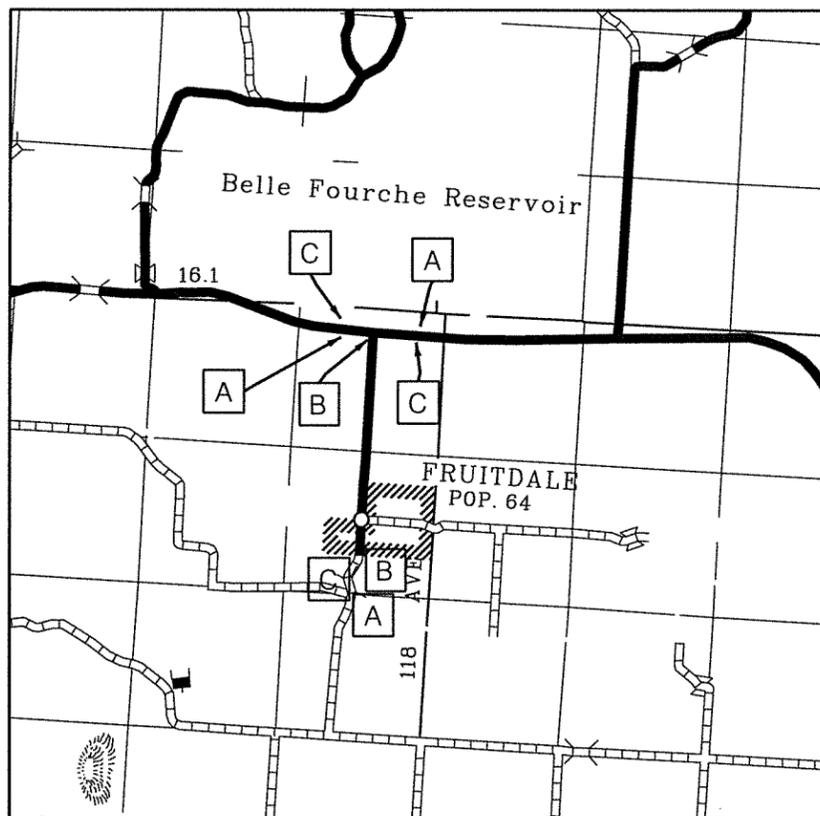
P 8611(02), PCN 04RD
Ziebach Street



P 6575(01), PCN 04RE
Fruitdale Road

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W8-6	TRUCK CROSSING	2	48" x 48"	16.0	32.0
W8-7	LOOSE GRAVEL	2	48" x 48"	16.0	32.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	3	48" x 48"	16.0	48.0
W20-7	FLAGGER (symbol)	3	48" x 48"	16.0	48.0
W21-2	FRESH OIL	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
		CONVENTIONAL ROAD			266
		TRAFFIC CONTROL SIGNS SQFT			



P 6575(01), PCN 04RE
Fruitdale Road

Notes:

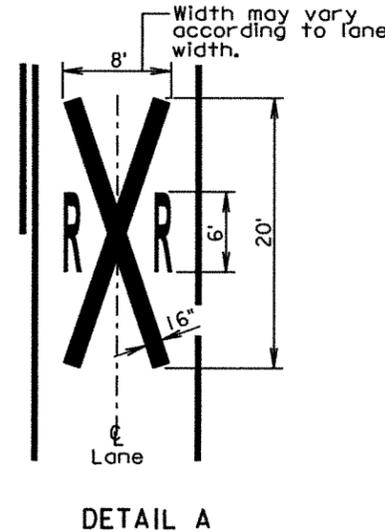
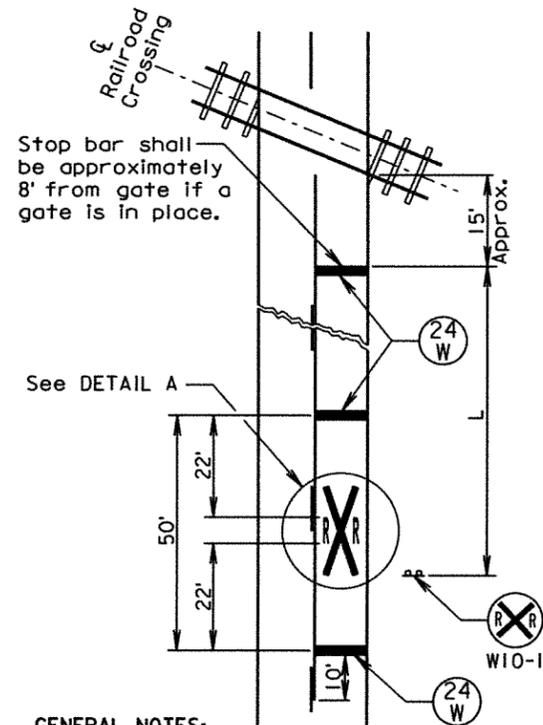
All Fixed Location signs shall remain in place until the permanent pavement marking is complete.

All Fixed Location signs shall be placed 200' to 300' from intersection. Exact location to be approved by the Engineer.

Construction signs shall not obscure existing signs and must be installed a minimum of 200' from an existing sign.

KEY	ITEM
(24 W)	24" White
X	White

Posted Speed Limit (M.P.H.)	L (Ft.)
≤ 30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550



GENERAL NOTES:

The railroad crossing pavement markings shall be placed symmetrically about the centerline of the railroad crossing.

When pavement markings are used, a portion of the RRR symbol shall be placed directly opposite of the advance warning sign W10-1.

On multi-lane roads the transverse bands shall extend across all approach lanes and individual RRR symbols shall be placed in each approach lane.

The railroad crossing pavement markings shall consist of all the transverse bands, stop bars, and RRR symbols.

When pavement marking paint is used for marking the railroad crossing, all costs for furnishing and painting the markings, materials, labor, and necessary equipment shall be incidental to the contract unit price per gallon for "Pavement Marking Paint, White".

When pavement marking tape is used for marking the railroad crossing, all costs for furnishing and placing the markings, materials, labor, and necessary equipment shall be incidental to the contract unit price per each for "Cold Applied Plastic Pavement Marking, Railroad Crossing".

June 26, 2013

Published Date: 4th Qtr. 2015

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PAVEMENT MARKINGS AT RAILROAD CROSSING

PLATE NUMBER
633.10

Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (C)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

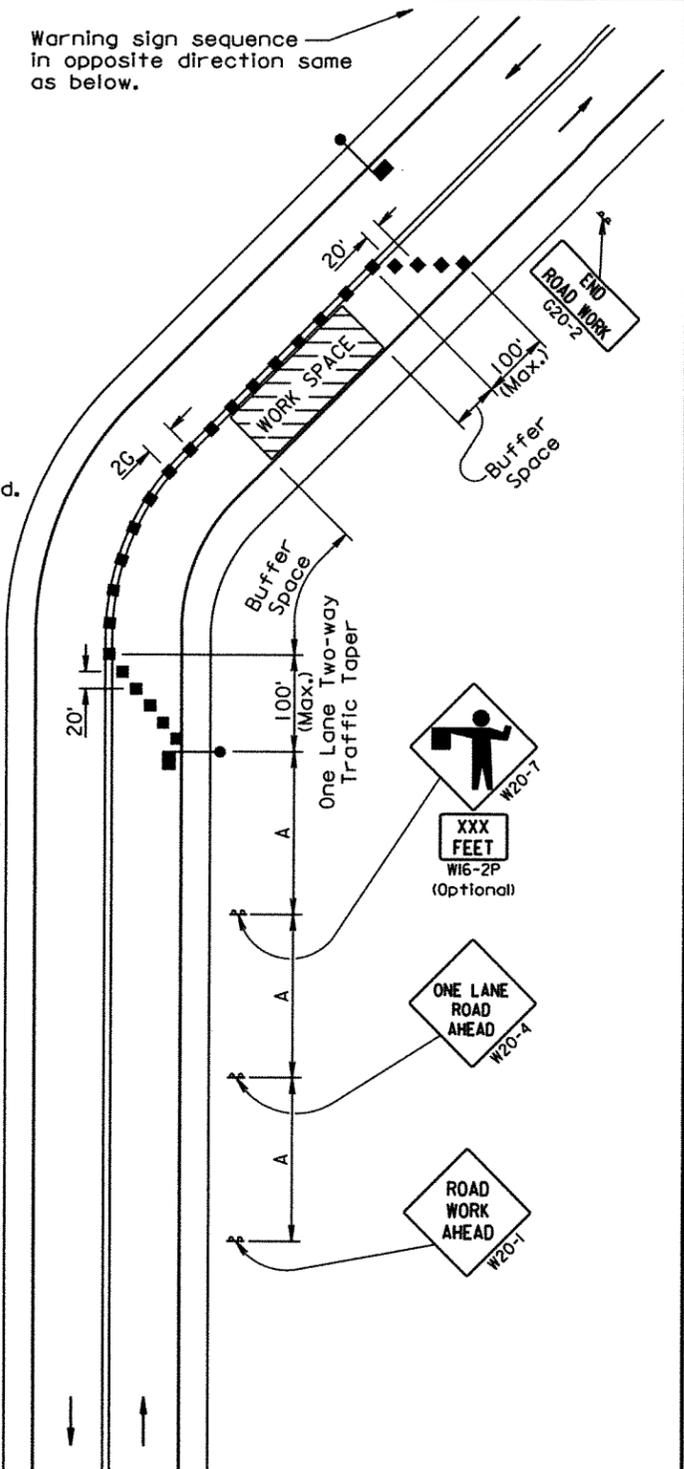
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.



September 22, 2014

Published Date: 4th Qtr. 2015

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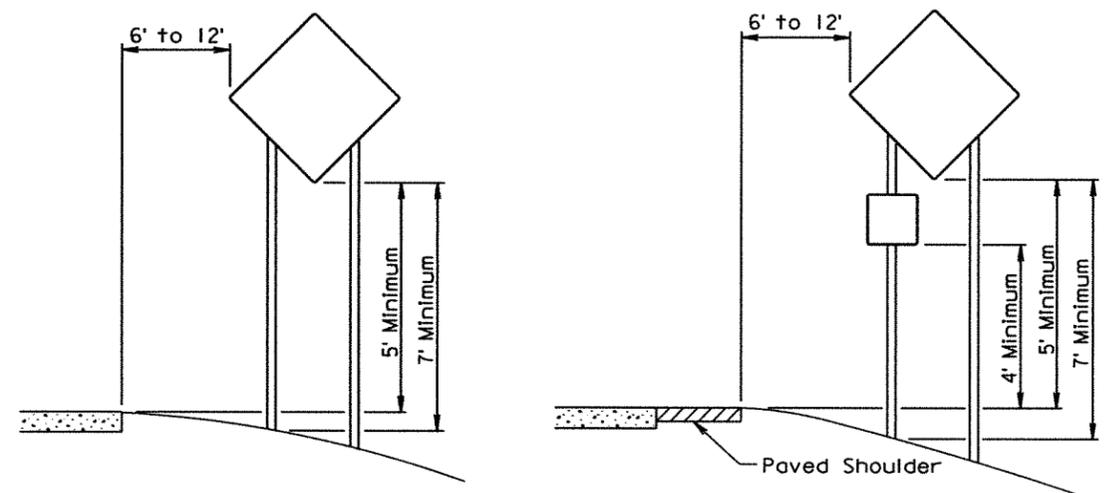
**GUIDES FOR TRAFFIC CONTROL DEVICES
LANE CLOSURE WITH FLAGGER PROVIDED**

PLATE NUMBER
634.23

Sheet 1 of 1

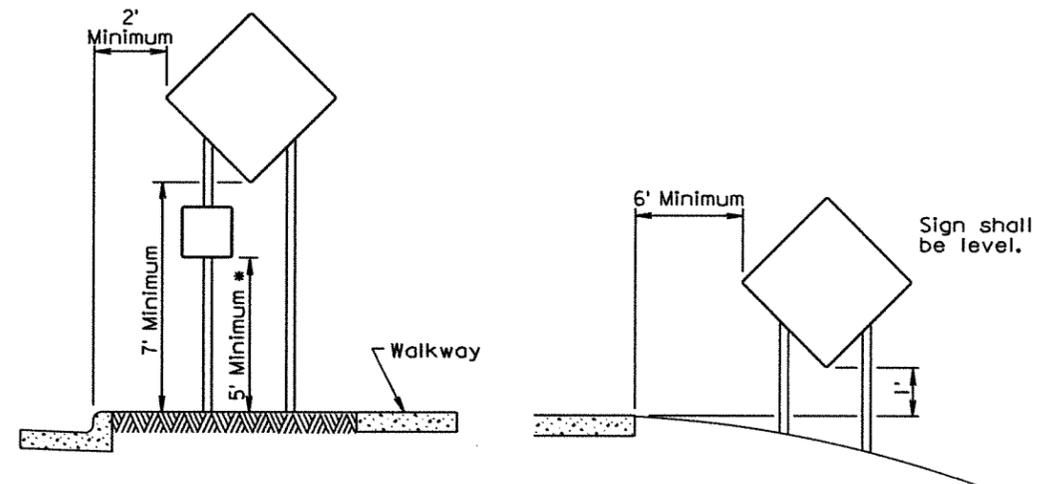
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT		SHEET NO.	TOTAL SHEETS
	P 6109(04) P 8611(02)	P 8212(02) P 6575(01)	11	11
Plotting Date: 12/01/15 Revised Date: mm/dd/yy Initials: JHE				



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

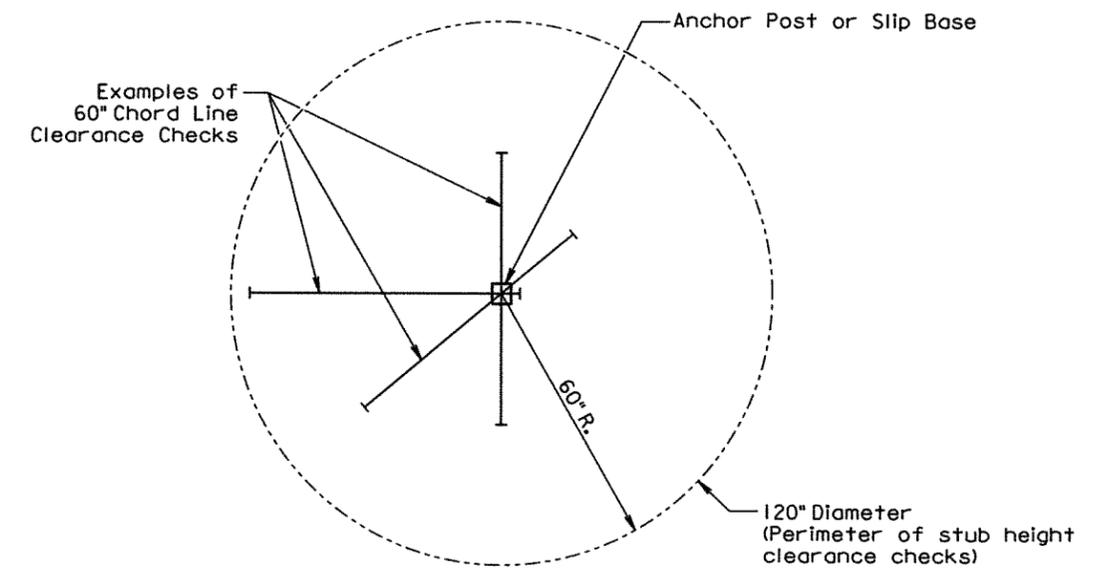
RURAL DISTRICT 3 DAY MAXIMUM

* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

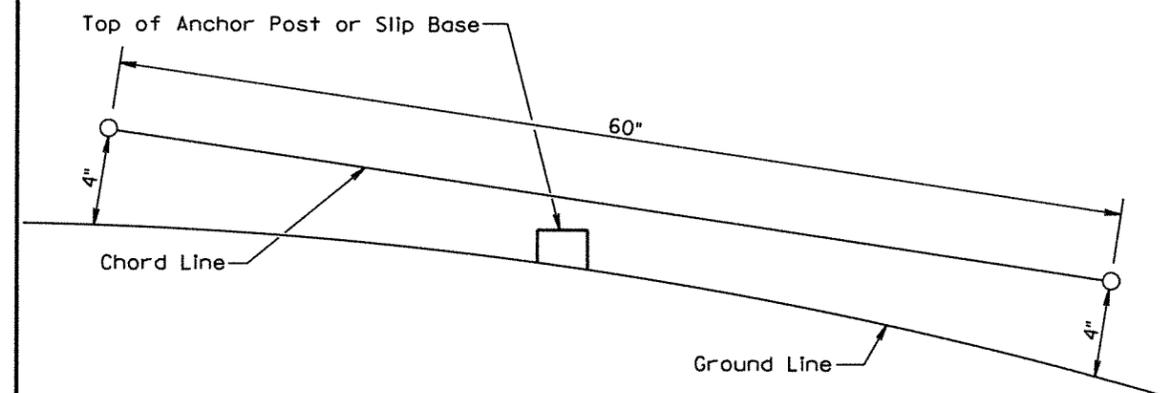
(Not applicable to regulatory signs)

September 22, 2014

Published Date: 4th Qtr. 2015	S D D O T	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.

July 1, 2005

Published Date: 4th Qtr. 2015	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1