

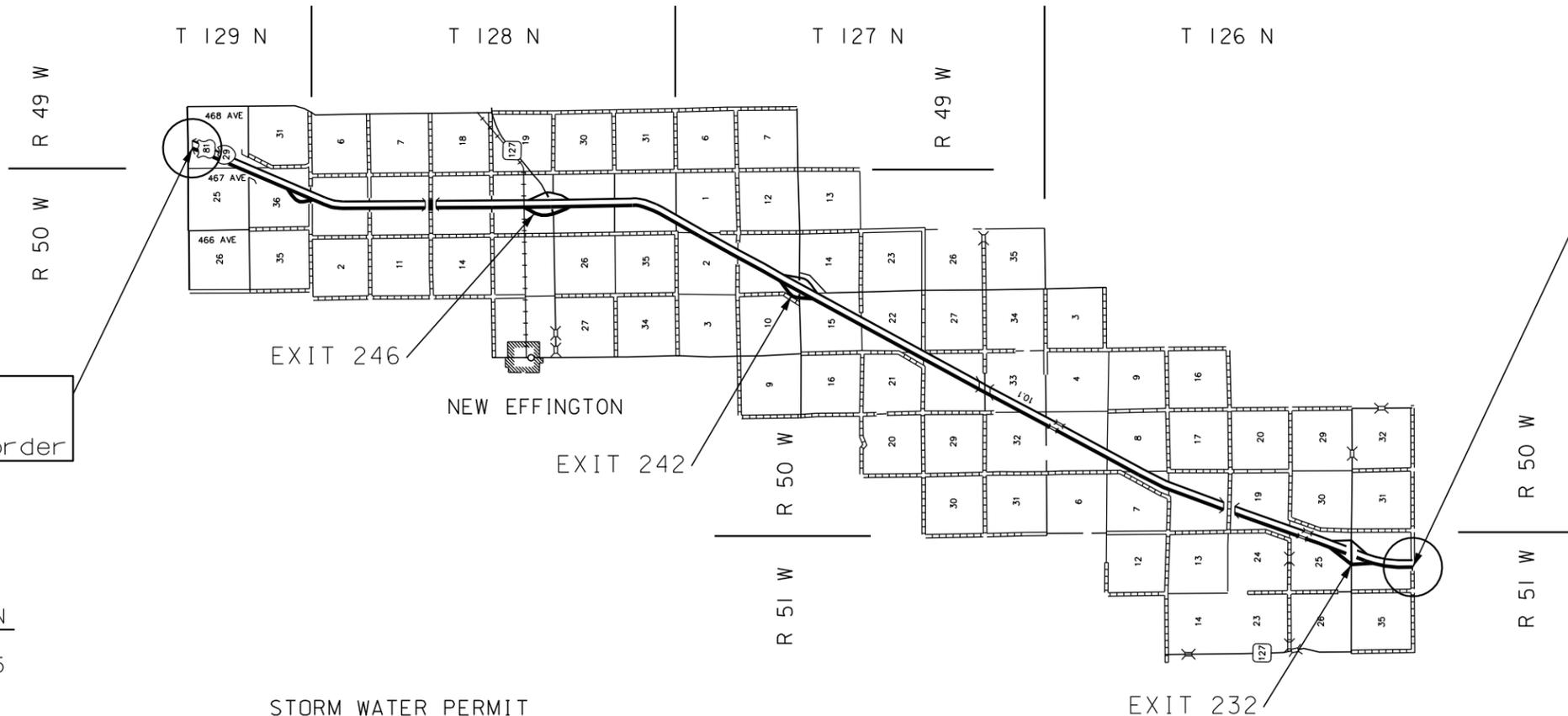
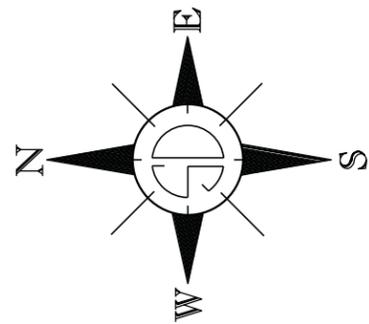
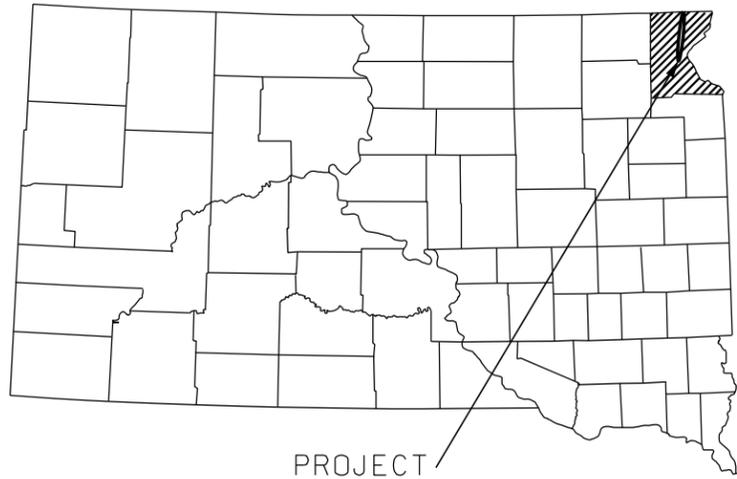
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0299(67)232	1	13
Plotting Date: 06/03/2016			

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED  
**PROJECT IM 0299(67)232**  
**INTERSTATE 29 SBL**  
**ROBERTS COUNTY**

INTERSTATE FENCE REPLACEMENT  
PCN 040F

INDEX SHEETS

Sheet 1	Layout Map
Sheet 2	Estimate of Quantities
Sheet 2	Environmental Commitments
Sheet 3	Table of Fence Quantities
Sheet 4-5	Plan Notes
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Sheet 8-13	Standard Plates



End Project  
MRM: 252.00 + 0.650  
SBL, North Dakota Border

Begin Project  
MRM: 232.00 + 0.070  
SBL, EXIT 232

DESIGN DESIGNATION

MRM 232.07- 252.65  
2012: 2757  
2032: 3515  
DHV: 428.9  
d: 51.0%  
T DHV: 10.9%  
T ADT: 24.0%

STORM WATER PERMIT

(None Required)

PROJECT LENGTH  
20.58 MILES

7

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**ESTIMATE OF QUANTITIES**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	105,283	Ft
620E0030	Type 3 Right-of-Way Fence	99,158	Ft
620E0230	Modified Type 3 Right-of-Way Fence	6,125	Ft
620E1020	2 Post Panel	225	Each
620E1030	3 Post Panel	104	Each
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

**SPECIFICATIONS**

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and 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 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.

Any slope area or ditch that is rutted or otherwise unduly disturbed during fencing operations shall be restored and seeded by the Contractor, at no expense to the State and to satisfaction of Engineer.

**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:

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 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.

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.

**TABLE OF FENCE QUANTITIES**  
(For Information Only)

SOUTH BOUND INTERSTATE 29 MRM		REMOVE FENCE (FT)	MODIFIED TYPE 3 ROW FENCE (FT)	MODIFIED TYPE 3 ROW POST (NABI)	TYPE 3 ROW FENCE (FT)	2 POST PANEL (EACH)	3 POST PANEL (EACH)	24' WIRE GATE (NABI)
MRM	MRM							
232.07	232.67	3168			3168	2	5	
232.81	235.00	11563			11563	25	7	3
235.50	252.65	90552	6125	371	84427	198	92	15
I-29S TOTAL		105283	6125	371	99158	225	104	18

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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### GENERAL MAINTENANCE OF TRAFFIC

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

Cost for traffic control, including signing required for the project as indicated on Standard Plate 634.01, shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

Work activities shall be conducted during daylight hours only. During nights, weekends and other non-working hours, all traffic control signs, materials and equipment shall be removed from the ditch and shall be stored a minimum of 30 feet from the traveled lanes.

Contractor shall not use median emergency crossovers; instead Contractor shall only enter and exit at interstate interchanges.

### 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.

### REMOVE FENCE

The Contractor shall remove the existing right-of-way fence that is to be replaced as designated in the plans and/or as ordered by the Engineer. This includes all fencing, posts, brace panels, tubular gates or anything pertaining to the existing fence. Upon removal all items shall become property of Contractor.

Limited Access Security - All fence removed during any one working day is to be replaced during the same day. Contractor is responsible for any and all livestock encountered anywhere along the fence being replaced. Control of livestock during the time that any fence is being replaced is the sole responsibility of the Contractor. All costs of this work and any temporary fencing shall be incidental to the contract unit price for the various fence items.

### CLEARING

Prior to installing right-of-way fence, the fence alignment shall be cleared of all trees, tree branches, tree stumps, brush, vegetation, and various debris. The fence alignment shall be bladed and leveled to the satisfaction of the Engineer. Sod cleared from the fence alignment may be disposed on the nearest interstate ditch back slope per Engineers approval. Lumps or clods over 3 inches in diameter shall be broken up.

The Contractor is responsible for visiting the project site and determining the amount of work involved with Clearing. There are areas along the project where brush and tree removal will require considerable effort for the Contractor. Clearing shall include disposal of all removed items for fence installation. Clearing will be paid for at the contract lump sum price. Payment shall be full compensation for labor and equipment necessary to clear the entire line for fence and smooth ground irregularities.

### FENCE ALIGNMENT

Where fence is being removed and replaced, fence shall be installed on the same alignment as existing. It shall be the Contractor's responsibility to preserve the fence alignment.

### TYPE 3 RIGHT-OF-WAY FENCE

Contractor shall furnish all new treated posts, steel posts and barbed wire in fencing construction. Install alternating wood and steel posts at 16'-6" spacing for Type 3 Right-of-Way Fence.

This project replaces portions of ROW fence along I-29. Segments of I-29 ROW fencing will remain in place. This will require the Contractor to adjoin in place fencing that may be from previous interstate fencing construction to new fence that is being installed under this contract.

The Contractor can expect to encounter the following situations where in place fencing adjoins new fence:

- In place barbed wire may need to be spliced to new barbed wire. For this situation, commercial splicing devices may be required due to the brittleness of the in place barbed wire. A minimum of 3 commercial crimp splicing devices for each splice will be required.
- In place barbed wire or in place woven wire may need to be wrapped around in place post panels. This situation will occur where an in place post panel is located near the beginning or ending location of a fence replacement area.
- In place barbed wire or in place woven wire may need to be wrapped around newly installed post panels. This situation will occur when there is no post panel in place near the beginning or ending location of a fence replacement area.

The Contractor shall include all costs associated with the aforementioned work in his various contract bid items.

Included in the Table of Fencing quantities between the various starting and stopping locations noted in the table is fencing in the median of I29 between the North Bound Lane bridges and the South Bound Lane bridges. For this short segment of fencing between the bridges abutment wing-walls all steel posts will be allowed. Contractor shall connect ROW fence to corners of drainage structures at stream crossings. Contractor shall replace any missing or broken eye bolts on drainage structures, see Standard Plate 620.18. All costs associated to eye bolt replacement will be incidental to the contract unit price per foot for Type 3 ROW Fence.

### MODIFIED TYPE 3 RIGHT-OF-WAY FENCE

An estimated 6125 feet of Modified Type 3 Right-of-Way Fence is included in the Estimate of Quantities. The Engineer will determine the actual quantity and locations of Modified Type 3 Right-of-Way Fence to be installed on construction.

Modified Type 3 Right-of-Way Fence shall be installed at wide depressions subject to flooding. See Standard Plate 620.10. At these locations the likelihood of vegetation buildup in the Modified Type 3 ROW Fence from water flow is unlikely such as at smaller pipe locations, the Engineer may order the end line post of the Modified Type 3 ROW Fence to be tied to the adjacent 2 or 3 Post Panel. The method of tie shall be No. 9 Galvanized Wire wrapped 3 times around the brace post and the end line post and stapled to the brace post panel.

The Contractor shall furnish new 5" x 8' treated wood posts. Install wood posts at 14' spacing for Modified Type 3 Right-of-Way Fence. Cost for furnishing and installing 5" x 8' treated wood posts shall be included in the contract unit price per foot for Modified Type 3 Right of Way Fence.

### NEW POST PANELS

Two Diagonal Brace Wires shall be installed on the 2 Post Panels and Four Diagonal Brace Wires on 3 Post Panels, even if the fence pull is only in one direction.

The number of 2 Post and 3 Post Panels will be the actual number installed and will be paid for at the contract unit price per each. Payment shall be full compensation for furnishing material, (including posts, brace post, diagonal brace wire, dowel(s), labor, equipment and incidentals necessary to construct the post panels.

Installation of post panels shall be properly spaced in accordance to specifications as per standard plate. Contractor shall provide a means of establishing/ measuring proper post panel location distance. Addition or removal of post panels will be at Engineer's discretion.

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**GATES**

Tubular frame with woven wire gates shall be replaced with a 24' wire gate. See Standard Plate 620.20. Metal stays shall be used in place of wood posts in the gate.

**COORDINATION OF WORK**

The following projects are known to be ongoing within the I-29 corridor during the 2016 and 2017 construction seasons:

- Project IM 0299(76)231, PCN 05AT, Construction of Ramp Detours.
- North Dakota DOT project involving reconstruction of pavement that extends into South Dakota at the state line.

The Contractors shall work together to coordinate work.

**ADDITIONAL RESPONSIBILITES**

Contractor will be responsible to contact all property owners along project providing the following information: overall start date, work being done, approximate date fence will be removed and replaced, overall completion date and contact information. Contractor should provide a letter 7-14 days prior to work beginning. Letter SHALL BE approved by Engineer. (SDDOT does not guarantee land ownership information listed.)

Property owners: (see attached lists)

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	IM 0299 (67)232	6	13

### South Bound Property Owners

(south to north)

Name	Address	Phone	Description
Sisseton Wahpeton Sioux Tribe	PO Box 509 Agency Villiage, SD 57262		Lot B in SE1/4 of Sec. 25-T126N-R51W
Teresa Mayou	11823 Nickel Rd Sisseton, SD 57262		S 1/2 of NE 1/4 of Sec. 25-T126N- R51W
Gary D. Hanson	45897 118th St. Sisseton, SD 57262		N 1/2 of NE 1/4 of Sec. 25-T126N-R51W
Alan, Douglas, Rusell Veflin	46082 117th St. Sisseton, SD 57262		E 1/2 of SE 1/4 of Sec. 24-T126N- R51W
Dean & Hilma J Thompson	11691 463rd Ave. Sisseton, SD 57262		Lot A in SE 1/4 of Sec. 19-T126N-R50W
Arlin Thompson	46123 117th St. Sisseton, SD 57262		NW 1/4 W of I-29 Sec 19-T126N-R50W
Jerry or Darrin William Trower	46118 117th St. Sisseton, SD 57262		SE 1/4 of SW 1/4 of Sec 18-T126 N-R50W
Leslie S Heinecke	308 E 8th Ave. Sisseton, SD 57262		NW 1/4 of SE 1/4 of Sec 18-T126N-R50W
Dean & Hilma J Thompson	11691 463rd Ave. Sisseton, SD 57262		W 1/2 of NE 1/4 of Sec 18-T126N-R50W
Patricia Quist	2237 Mt Isle Harbor Dr. Charlotte, NC 28214		SE 1/4 of Sec 8-T126-R50W
Patricia Quist	2237 Mt Isle Harbor Dr. Charlotte, NC 28214		W 1/2 of Sec 8-T126N-R50W
Ruth Elizabeth Stadler	11737 468th Ave. Sisseton, SD 57262		S 1/2 of SW 1/4 of Sec 5-T126N-R50W
USA Trust	PO Box 509 Agency Village, SD 57262		N 1/2 of SW 1/4 of Sec 5-T126N-R50W
Jeffrey L Pistorius	412 S 4th St Suite 1150E Minneapolis, MN 55415		N 1/2 of SE 1/4 of Sec 5-T126N-R50W
Jeffrey L Pistorius	46693 113th St. Browns Valley, MN 56219		S 1/2 of NE 1/4 of Sec 5-T126N-R50W
Sather Agriculture L P	412 S 4th St Suite 1150E Minneapolis, MN 55415		Lot 1 W of I-29 Sec. 5-T126N-R50W
Sather Agriculture L P	412 S 4th St Suite 1150E Minneapolis, MN 55415		S 1/2 of SE 1/4 of Sec 32-T127N-R50W
Stanley & Carol Schade	46291 113th St Sisseton, SD 57262		NE 1/4 of SE 1/4 of Sec 32-T127N-R50W
Doris & Verne Wolfe	PO Box 204 Claire City, SD 57224		NW 1/4 of Sec 33-T127N-R50W

### South Bound Property Owners (continued)

(south to north)

Name	Address	Phone	Description
Dorothy Bredvik	46468 111th New Effington, SD 57255		NE 1/4 of SW 1/4 of Sec 28-T127N-R50W
Leslie Heinecke	308 E 8th Ave. Sisseton, SD 57262		NE 1/4 of Sec 28-T127N-R50W
Clarence & Donna Pistorius	46686 113th St. Browns Valley, SD 57219		SE 1/4 of Sec 21-T127N-R50W
Stanley & Carol Schade	46291 113th St. Sisseton, SD 57262		NW 1/4 of Sec 22 -T127N-R50W
Lynn and Debra Bredvik	46491 111th St. New Effington., SD 57255		S 1/2 of Sec 15-T127N-R50W
Norman & Jean Grob	8309 S. 39th St. Bellevue, NE		NE 1/4 of Sec 15-T127N-R50W
James or Thomas Fritz	10946 465th Ave New Effington, SD 57255		SW 1/4 W of I-29 Sec 11-T127N-R50W
James or Thomas Fritz	10946 465th Ave New Effington, SD 57255		NW 1/4 of Sec 11-T127N-R50W
Mary O'Brien	46610 110th St. New Effington, SD 57255		N 1/2 of N 1/2 of NE1/4 Sec 11-T127N-R50W
James or Thomas Fritz	10946 465th Ave New Effington, SD 57255		SE 1/4 W of I-29 Sec 2-T127N-R50W
Camille Baer	28415 40th Ave South Lake Park, MN 56554		NE 1/4 W of I-29 Sec 2-T127N-R50W
Daniel and Stacy Fritz	46610 109th St. New Effington, SD 57255		W 1/2 of NW 1/4 of Sec 1-T127N-R50W
Camille Baer	28415 40th Ave South Lake Park, MN 56554		W 1/2 of the SW 1/4 Sec 36-T128N-R50W
Thorvald Bredvik Trust	46468 111th St. New Effington, SD 57255		E 1/2 of SW 1/4 of Sec 36-T128N-R50W
Thorvald Bredvik Trust	46468 111th St. New Effington, SD 57255		NW 1/4 of Sec 36-T128N-R50W
D & D Miller, LLLP	18132 Co Rd 16 Wahpeton, ND 58075		SW 1/4 of Sec 25-T128N-R50W
Gertrude Blue	PO Box 18 Rosholt, SD 57260		NW 1/4 of Sec 25-T128N-R50W
John & Mary Christopherson	10584 466th Ave. New Effington, SD 57255		SW 1/4 of Sec 24-T128N-R50W
Wayne Braaten	46621 105th St. New Effington, SD 57255		NW 1/4 of Sec 24-T128N-R50W

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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South Bound Property Owners (continued)			
(south to north)			
Name	Address	Phone	Description
Betty Kuklish Trust	2846 27th St SW Fargo, ND 58103		SW 1/4 of Sec 13-T128N-R50W
Kathleen Hoeft	PO Box 594 Battle Lake, MN 56516		NW 1/4 of Sec 13-T128N-R50W
Allen & Margeret Eggers	46637 103rd St. New Effington, SD 57255		W 1/2 of Sec 12-T128N-R50W
Harvey & Kathleen Youngberg	307 E 23rd St. Yankton, SD 57078		SW 1/4 of Sec 1-T128N-R50W
Keith Pohl	10120 170th Ave. SE Hankinson, ND 58041		NE 1/4 W of I-29 Sec 1-T128N-R50W
(SDDOT Watertown Area Office)	5000 9th Ave SE Watertown, SD 57201		SE 1/4 W of I-29 Sec 36-T129N-R50W
Kenneth & Ramona Anderson	46670 101st St. Rosholt, SD 57260		NE 1/4 Sec 36-T129N-R50W
Kenneth & Ramona Anderson	46670 101st St. Rosholt, SD 57260		SE 1/4 Sec 25-T129N-R50W
Teresa Schiltz trust	10172 469th Ave. Rosholt, SD 57260		W of I-29 Sec 30-T129N-R49W

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

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

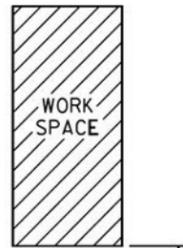
The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

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

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

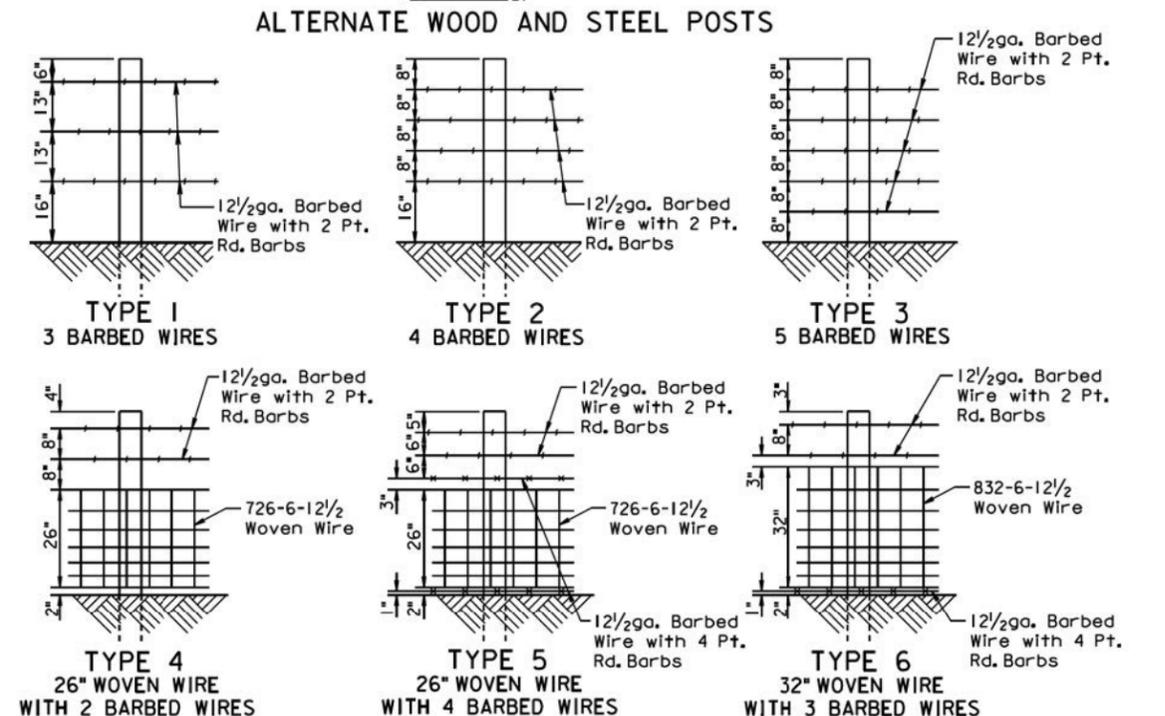
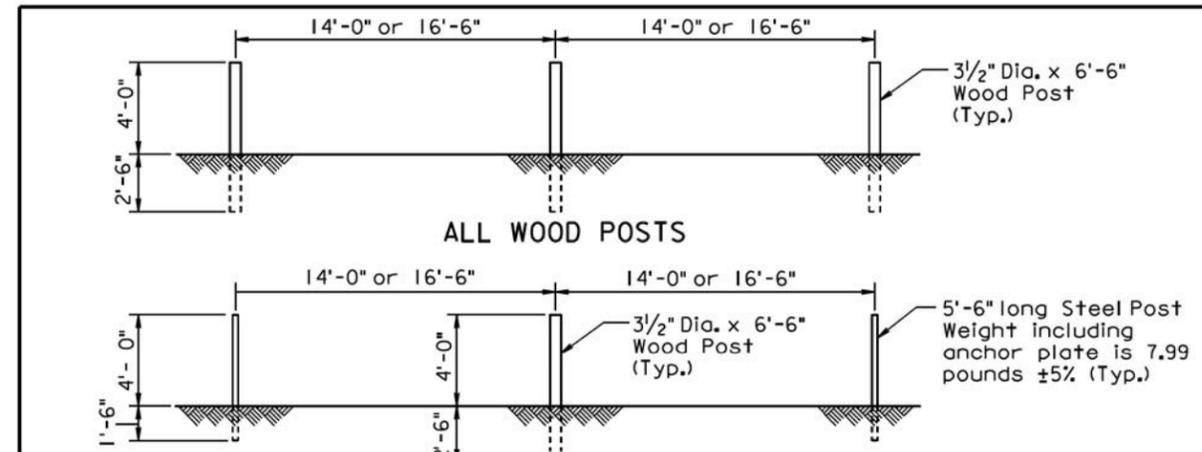


Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000



April 15, 2015

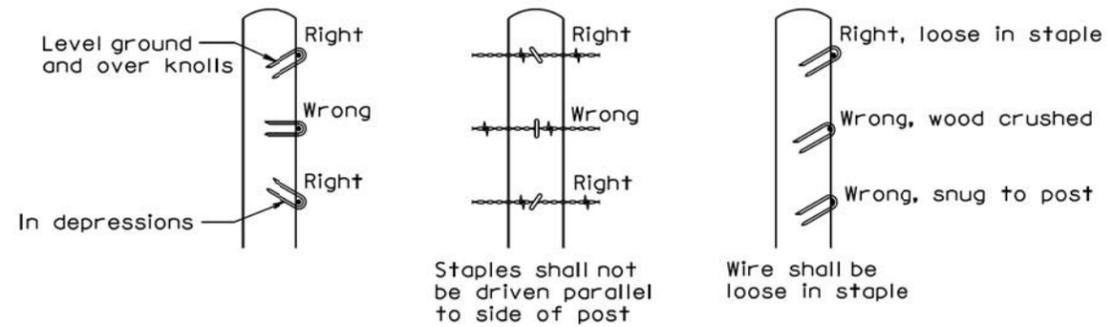
<b>S D D O T</b>	<b>GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER</b>	PLATE NUMBER <b>634.01</b>
	Published Date: 2nd Qtr. 2016	Sheet 1 Of 1



TYPE	DESCRIPTION	LINE POST SPACING	WIRE GAGE	BARBED WIRE		WOVEN WIRE
				NUMBER AND SHAPE OF BARBS	STYLE OR DESIGN NO.	
1	3 Barbed Wires	16'-6"	12/2	2 Point Round	—	—
2	4 Barbed Wires	16'-6"	12/2	2 Point Round	—	—
3	5 Barbed Wires	16'-6"	12/2	2 Point Round	—	—
4	26" Woven Wire with 2 Barbed Wires	14'-0"	12/2	2 Point Round	726-6-12/2	726-6-12/2
5	26" Woven Wire with 4 Barbed Wires	14'-0"	12/2	2 wires with 2 Pt. Rd., 2 wires with 4 Pt. Rd.	726-6-12/2	726-6-12/2
6	32" Woven Wire with 3 Barbed Wires	14'-0"	12/2	2 wires with 2 Pt. Rd., 1 wire with 4 Pt. Rd.	832-6-12/2	832-6-12/2

**GENERAL NOTES:**  
 Fence types designated on the plans that are followed by the letter S shall have smooth (barbless) wires.  
 When type 5S or 6S is designated the bottom wire may be barbed, smooth, or left off.  
 All degrees of curvature stated for fence are at centerline of roadway.  
 September 14, 2009

<b>S D D O T</b>	<b>RIGHT-OF-WAY FENCE</b>	PLATE NUMBER <b>620.01</b>
	Published Date: 2nd Qtr. 2016	Sheet 1 of 1



### STAPLE INSTALLATION

#### GENERAL NOTES:

The Right-of-Way fence shall consist of barbed wire or a combination of woven wire and barbed wire. The barbed wire and/or woven wire shall be fastened to all wood posts or fastened to alternating wood and steel posts. Only wood posts shall be used for brace panels. Gates shall be of the type designated in the plans or as otherwise directed by the Engineer. Fence shall be constructed conforming to the details on the standard plates and in the plans unless otherwise directed by the Engineer.

Right-of-Way fence on Interstate Projects shall be constructed one foot within the Interstate Right-of-Way lines except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

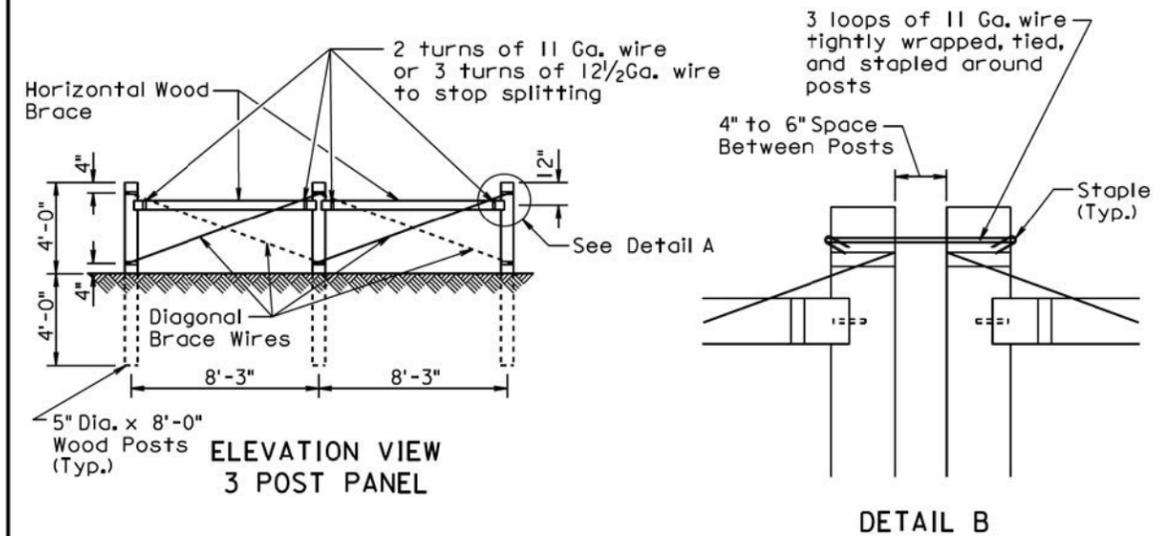
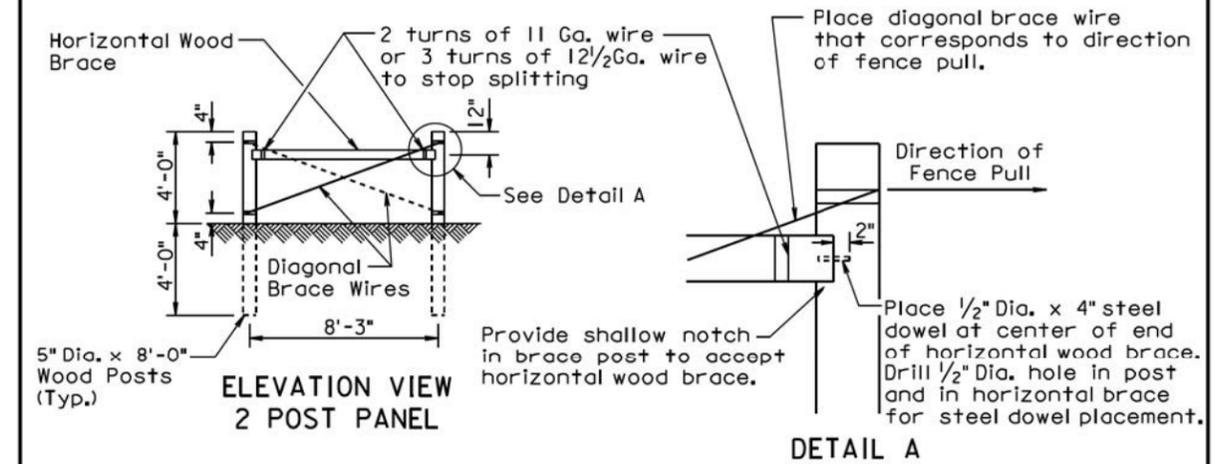
Right-of-Way fence other than on Interstate Projects shall be constructed within one foot of the Right-of-Way on the Landowner's side except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

Barbs shall be fabricated from zinc coated 14 ga. wire. Two point barbs shall be wrapped twice around one main strand at 4" spacings and the four point barbs shall be interlocked and wrapped around both main strands at 5" spacings.

The gages of wire and wood post lengths and sizes are the minimum acceptable unless otherwise specified in the plans. The tolerances for steel posts shall be as stated in AASHTO M281. Woven wire shall conform to design and specifications of ASTM A116 and barbed wire shall conform to ASTM A121.

December 23, 2004

Published Date: 2nd Qtr. 2016	S D D O T	STAPLE INSTALLATION AND GENERAL RIGHT-OF-WAY FENCE NOTES	PLATE NUMBER 620.02
			Sheet 1 of 1



#### GENERAL NOTES:

Two Post Panels shall be installed at least every 1320' between corners.

Two Post Panels shall be installed at any sharp vertical angle crest points and as directed by the Engineer.

Horizontal wood braces shall consist of 4" dia. x 8' wood posts or rough 4" x 4" x 8' timbers.

Diagonal brace wires shall be fabricated with 4 strands of 9 Ga. galvanized wire twisted tight. The diagonal brace wires shall be installed in accordance with the direction of the fence pull. Two diagonal brace wires are required if fence pull is in both directions.

December 23, 2004

Published Date: 2nd Qtr. 2016	S D D O T	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 1 of 3

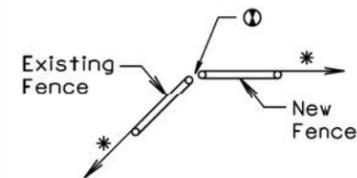
SPACING OF 2 POST PANELS WITHIN CURVES	
DEGREE OF CURVE	SPACING OF 2 POST PANEL
less than 3°15'	** 1320'
3°15' and greater	**At P.C., P.T., and at every 1320' between P.C. and P.T.

**GENERAL NOTE:**

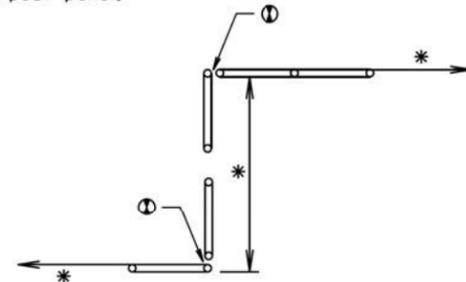
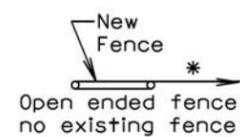
All degrees of curvature stated for fence are at centerline of roadway.

- \* If fence length is less than 600' to next corner use a 2 post panel.
- \* If fence length is greater than 600' to next corner use a 3 post panel.
- \*\* Fence lengths greater than 1320' and less than 2640' place 2 Post Panel approximately at midpoint.

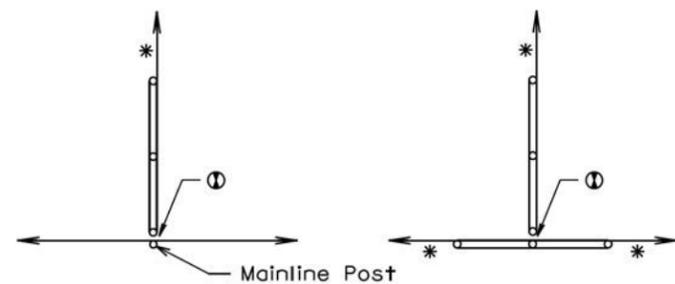
① See Detail B on Sheet 1 of 3.



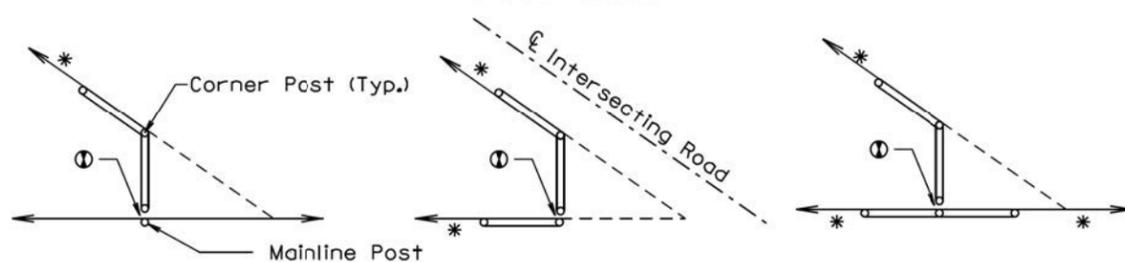
**BEGIN OR END FENCE**  
(where new fence ties into existing fence)



**SHORT JOGS IN FENCE**



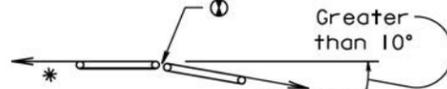
**CROSS FENCE**



**SHARP ANGLES IN CROSS FENCE**



Additional fence panel is NOT required when an angle in the mainline fence is 10° and less.



Additional fence panel is required when an angle in the mainline fence is greater than 10°.

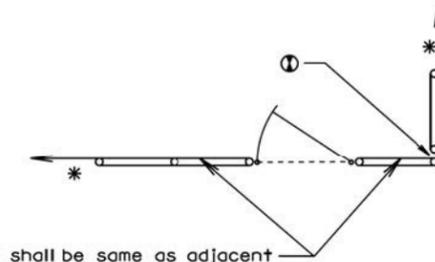
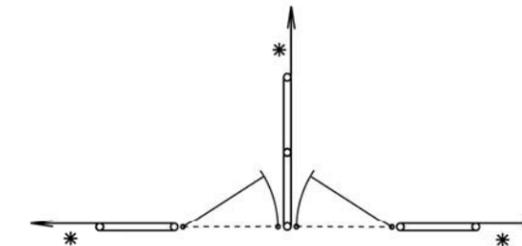
**ANGLES IN MAINLINE FENCE**

December 23, 2004

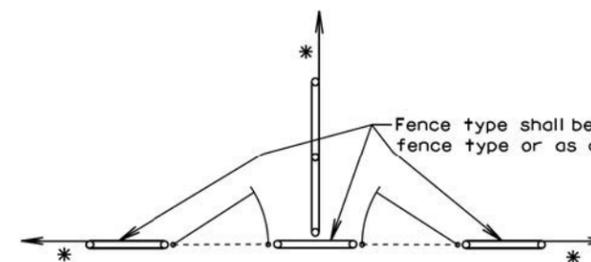
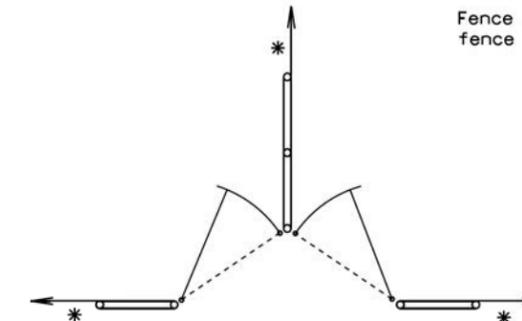
<b>SD DOT</b>	<b>BRACE PANELS AND APPLICATIONS OF BRACE PANELS</b>	PLATE NUMBER <b>620.03</b>
	Published Date: 2nd Qtr. 2016	Sheet 2 of 3



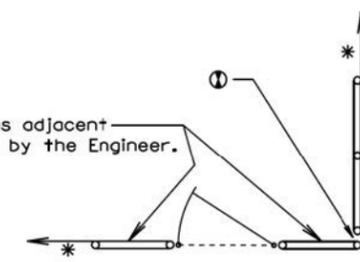
**ENTRANCE  
(NOT ON CORNER)**



Fence type shall be same as adjacent fence type or as directed by the Engineer.



**DOUBLE ENTRANCES**



**ENTRANCES AT CORNERS**

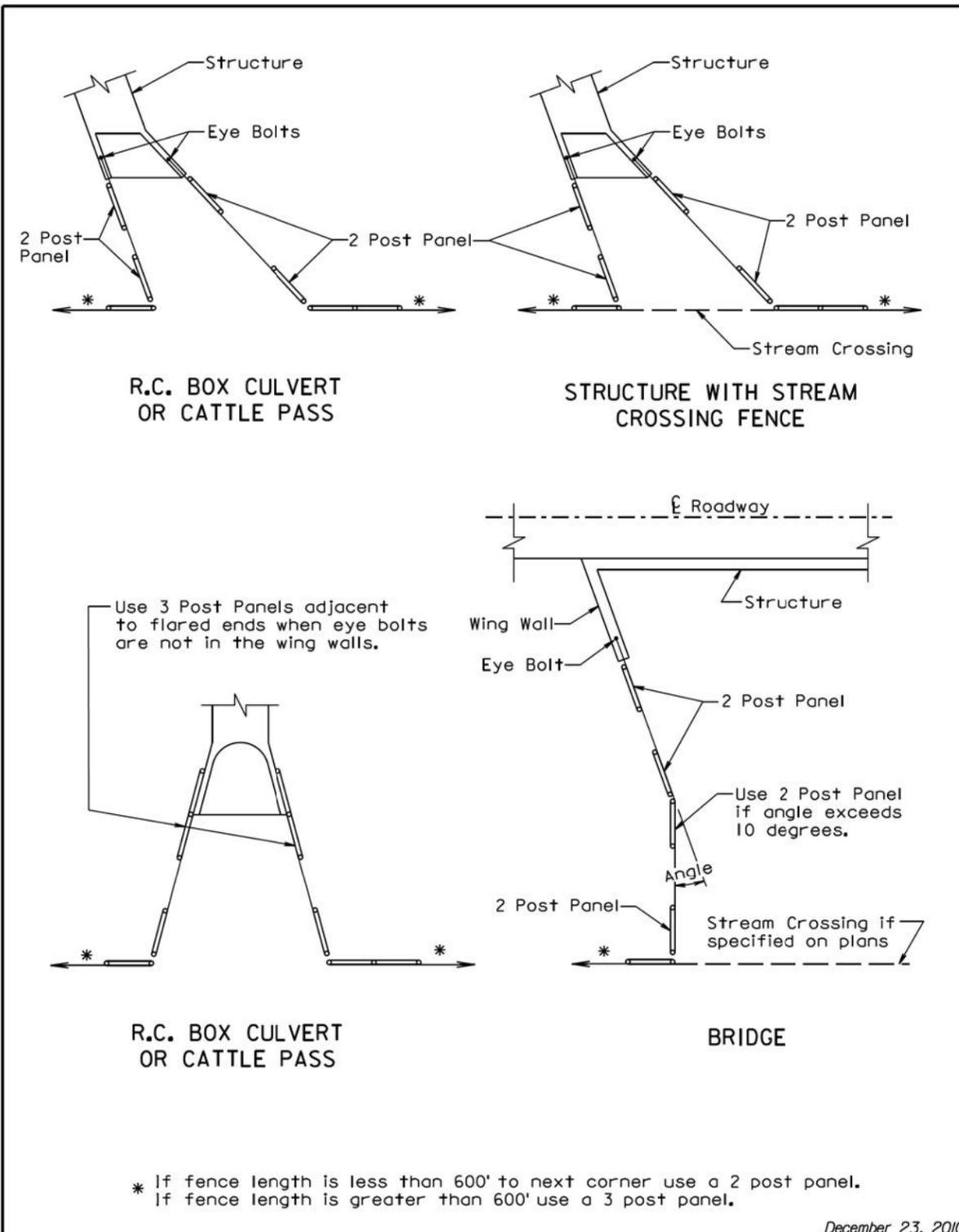
**GATES**

- \* If fence length is less than 600' to next corner use a 2 post panel.
- \* If fence length is greater than 600' to next corner use a 3 post panel.

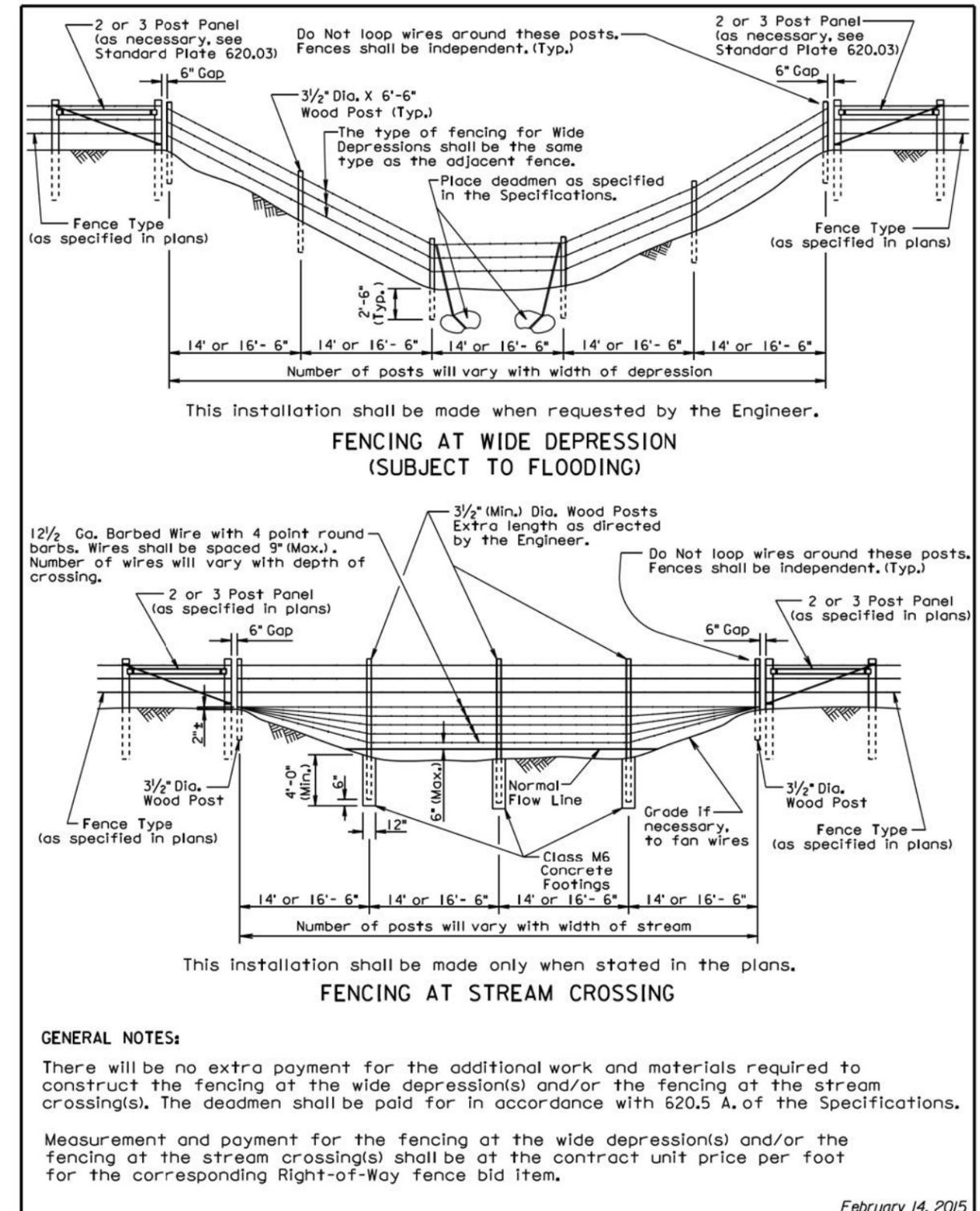
① See Detail B on Sheet 1 of 3.

December 23, 2004

<b>SD DOT</b>	<b>BRACE PANELS AND APPLICATIONS OF BRACE PANELS</b>	PLATE NUMBER <b>620.03</b>
	Published Date: 2nd Qtr. 2016	Sheet 3 of 3



Published Date: 2nd Qtr. 2016	S D D O T	BRACE PANEL APPLICATIONS AT STRUCTURES	PLATE NUMBER 620.04
			Sheet 1 of 1



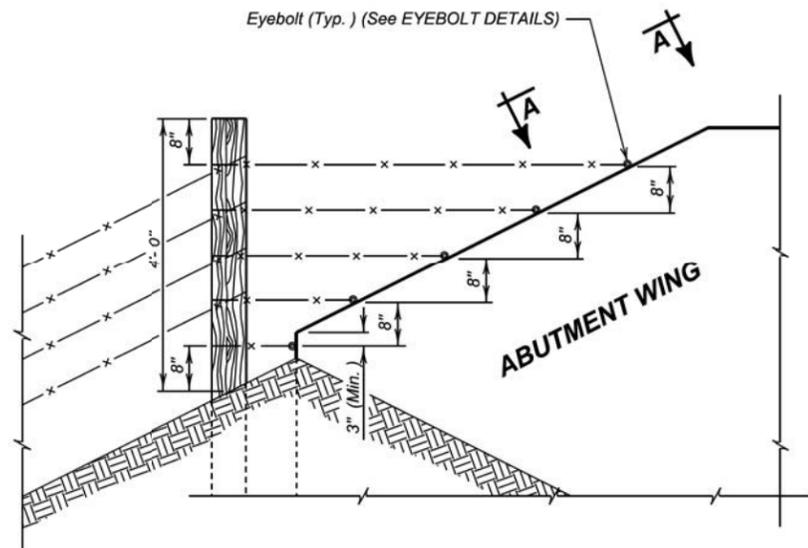
Published Date: 2nd Qtr. 2016	S D D O T	FENCING AT WIDE DEPRESSION(S) AND STREAM CROSSING(S)	PLATE NUMBER 620.10
			Sheet 1 of 1

PLOT SCALE - 1:200

PLOTTED FROM - TRAB17882

PLOT NAME - 5

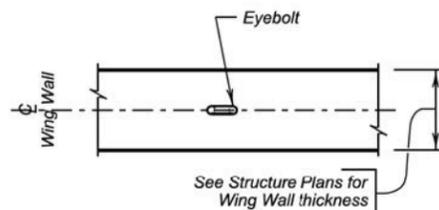
FILE - ... \S62004\_S62010.DGN



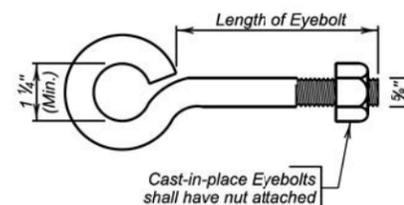
DETAIL FOR FENCE ANCHORS

**GENERAL NOTES:**

- The fence and post details shown are for illustrative purpose only. The fence shall be as specified elsewhere in the plans.
- Eyebolts shall be placed on all of the bridge abutment wings.
- Eyebolts shall be  $\frac{5}{8}$  inch diameter and shall conform to ASTM A307.
- Eyebolts, nuts, and concrete inserts shall be galvanized in accordance with AASHTO M232 (ASTM A153). Concrete inserts of corrosion resistant material need not be galvanized.
- Cast-in-place eyebolts shall have a nut attached, be  $4\frac{1}{2}$  inches (Min.) in length and shall be embedded such that the eye of the bolt is flush with the concrete surface. (See Eyebolt Details) As an alternate, cast-in-place concrete inserts, capable of developing the full strength of the  $\frac{5}{8}$  inch diameter threaded eyebolt, may be used and shall be set in the concrete in accordance with the manufacturer's recommendations. The eyebolt shall be of sufficient length to develop its full strength. The eye of the eyebolt shall be flush with the concrete surface.
- The cost for furnishing and installing eyebolts and/or concrete inserts shall be incidental to various contract items.



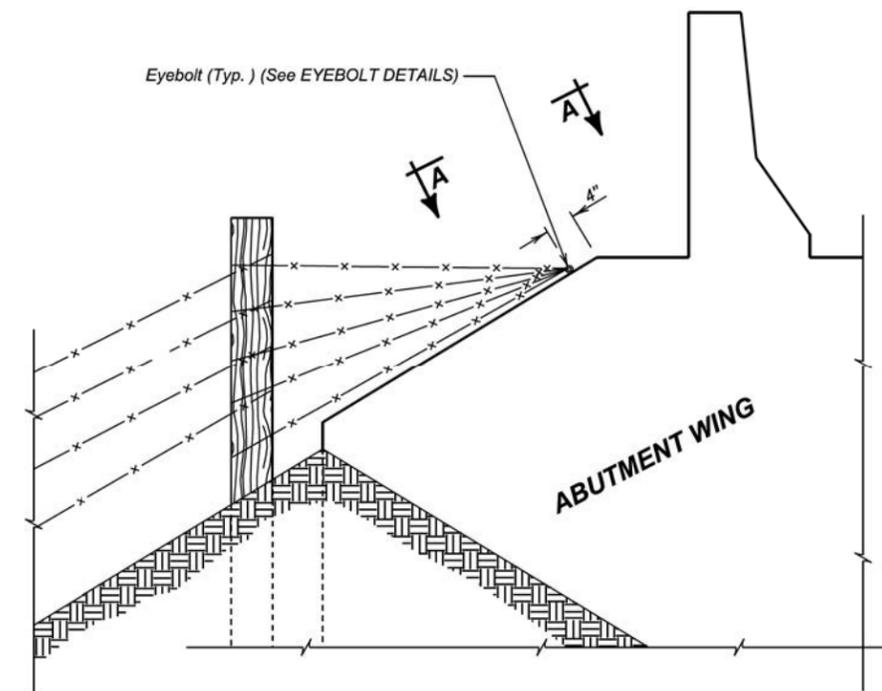
VIEW A - A



EYEBOLT DETAILS

December 23, 2012

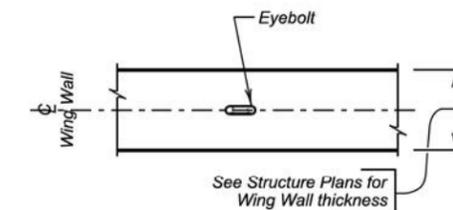
Published Date: 2nd Qtr. 2016	S D D O T	FENCE ANCHORS FOR BRIDGE ABUTMENT WINGS (WINGS LONGER THAN 6')	PLATE NUMBER 620.17
			Sheet 1 of 1



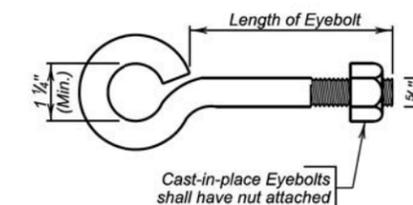
DETAIL FOR FENCE ANCHORS

**GENERAL NOTES:**

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- Eyebolts shall be placed on all of the bridge abutment wings.
- Eyebolts shall be  $\frac{5}{8}$  inch diameter and shall conform to ASTM A307.
- Eyebolts, nuts, and concrete inserts shall be galvanized in accordance with AASHTO M232 (ASTM A153). Concrete inserts of corrosion resistant material need not be galvanized.
- Cast-in-place eyebolts shall have a nut attached, be  $4\frac{1}{2}$  inches (Min.) in length and shall be embedded such that the eye of the bolt is flush with the concrete surface. (See Eyebolt Details) As an alternate, cast-in-place concrete inserts, capable of developing the full strength of the  $\frac{5}{8}$  inch diameter threaded eyebolt, may be used and shall be set in the concrete in accordance with the manufacturer's recommendations. The eyebolt shall be of sufficient length to develop its full strength. The eye of the eyebolt shall be flush with the concrete surface.
- The cost for furnishing and installing eyebolts and/or concrete inserts shall be incidental to various contract items.



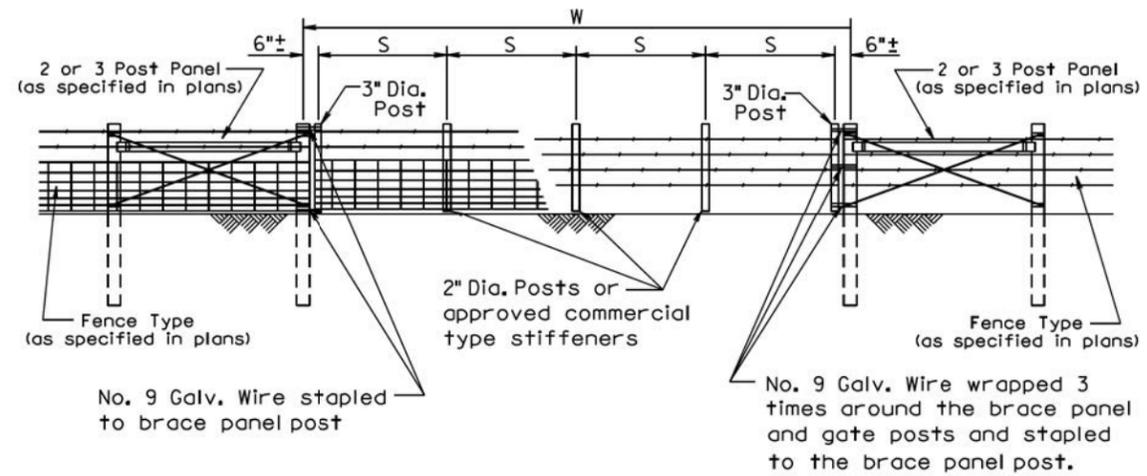
VIEW A - A



EYEBOLT DETAILS

December 23, 2012

Published Date: 2nd Qtr. 2016	S D D O T	FENCE ANCHORS FOR BRIDGE ABUTMENT WINGS (WINGS 6' AND SHORTER)	PLATE NUMBER 620.18
			Sheet 1 of 1



W Gate Width (ft.)	S Post Spacing
16	3 @ 5'-0" ±
20	4 @ 4'-9" ±
24	4 @ 5'-9" ±
30	5 @ 5'-10" ±
40	6 @ 6'-6" ±

**GENERAL NOTES:**

Creosote treatment of the gate posts will not be accepted.

The type of fencing in the gate shall be of the same type as specified for the adjacent Right-of-Way fence.

All costs for furnishing and constructing the wire gate(s) shall be incidental to the contract unit price per Ft for the respective Right-of-Way fence bid item.

March 31, 2000

<i>Published Date: 2nd Qtr. 2016</i>	<b>S D D O T</b>	<b>WIRE GATES</b>	PLATE NUMBER 620.20
			Sheet 1 of 1