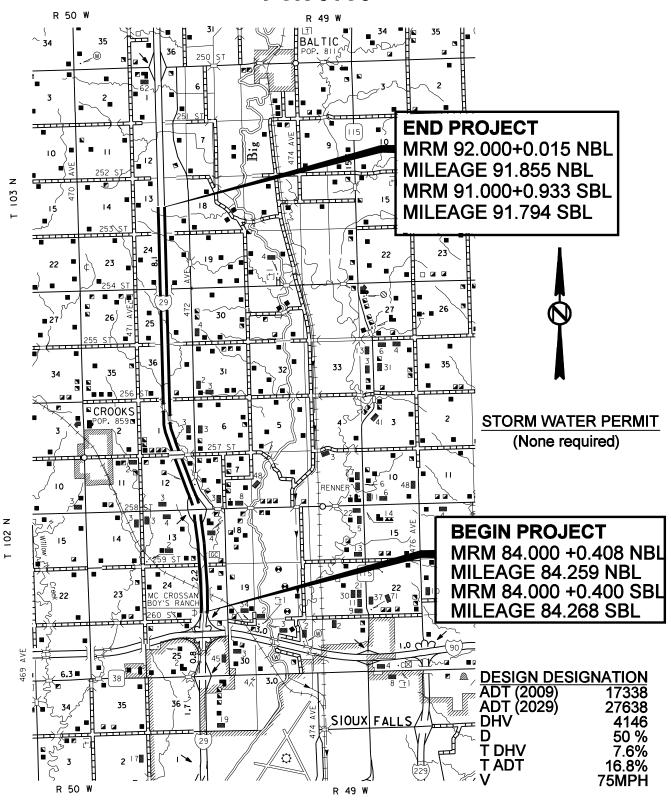
IM 0291(106)59 MINNEHAHA COUNTY FENCE REPLACEMENT

NB LENGTH: 7.607 MILES SB LENGTH: 7.533 MILES

PCN 01C3



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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 | 77,368 | Ft |
| 620E0030 | Type 3 Right-of-Way Fence | 58,898 | Ft |
| 620E0230 | Modified Type 3 Right-of-Way Fence | 5,997 | Ft |
| 620E0260 | Modified Type 6 Right-of-Way Fence | 12,473 | Ft |
| 620E1020 | 2 Post Panel | 240 | Each |
| 620E1030 | 3 Post Panel | 69 | Each |
| 620E1110 | Wood Fence Post | 449 | Each |
| 634E0120 | Traffic Control, Miscellaneous | Lump Sum | LS |

TABLE OF FENCING QUANTITIES

| | | | | | MODIFIED | MODIFIED | _ | _ | l |
|------|---------------|---------|--------|--------|----------|-------------|---------------|---------------|-------|
| | INITEDAT | NTE 00 | DEMOVE | TYPE 3 | TYPE 3 | TYPE 6 | 2 | 3 | WOOD |
| | INTERST | | REMOVE | R/W | R/W | R/W | POST | POST | FENCE |
| LANE | MRM TO | MRM | FENCE | FENCE | FENCE | FENCE FT | PANEL EACH | PANEL EACH | POST |
| NID. | 0.4.400.4 | 0.4.704 | FT | FT | FT | ГІ | | | EACH |
| NB | 84.408 to | 84.781 | 1972 | 1972 | 050 | | 2 | 3 | 4-7 |
| NB | 84.781 to | 84.905 | 653 | | 653 | 0.400 | 2 | 4 | 47 |
| NB | 84.920 to | 85.376 | 2408 | | 400 | 2408 | 6 | 1 | |
| NB | 85.376 to | 85.396 | 106 | 500 | 106 | | 1 | | 8 |
| NB | 85.396 to | 85.508 | 592 | 592 | 400 | | 1 | 2 | 00 |
| NB | 85.508 to | 85.600 | 486 | 0000 | 486 | | 1 | 0 | 36 |
| NB | 85.600 to | 86.166 | 2989 | 2989 | | | 6 | 3 | |
| NB | 86.253 to | 86.400 | 777 | 777 | | | 3 | | |
| NB | Renner Exit S | | 685 | 685 | | 4750 | 2 | | |
| NB | 86.664 to | 86.959 | 1750 | 4.405 | | 1750 | 9 | 3 | |
| NB | 86.959 to | 87.183 | 1495 | 1495 | | | 7 | | |
| NB | 87.183 to | 87.197 | 74 | | 74 | 4000 | 2 | | 6 |
| NB | 87.197 to | 87.402 | 1082 | 400 | | 1082 | 2 | 4 | |
| NB | 87.402 to | 87.422 | 106 | 106 | | | 1 | 1 | |
| NB | 87.422 to | 87.847 | 1885 | 1885 | | | 7 | 1 | _ |
| NB | 87.847 to | 87.863 | 85 | | 85 | | 1 | | 7 |
| NB | 87.863 to | 87.959 | 787 | 787 | | | 2 | | |
| NB | 87.959 to | 88.093 | 708 | | | 708 | 2 | | |
| NB | 88.093 to | 88.238 | 766 | | 766 | | 5 | | 56 |
| NB | 88.238 to | 88.706 | 2471 | 2471 | | | 4 | 2 | |
| NB | 88.706 to | 88.728 | 116 | | | 116 | 2 | | |
| NB | 88.728 to | 88.763 | 185 | | 185 | | | | 14 |
| NB | 88.763 to | 88.957 | 1024 | | | 1024 | 2 | | |
| NB | 88.957 to | 89.082 | 660 | 660 | | | 2 | | |
| NB | 89.082 to | 89.124 | 222 | | 222 | | 2 | | 17 |
| NB | 89.124 to | 89.677 | 2920 | 2920 | | | 11 | 1 | |
| NB | 89.677 to | 89.788 | 586 | | | 586 | 2 | | |
| NB | 89.788 to | 89.903 | 607 | | 607 | | 3 | | 44 |
| NB | 89.903 to | 89.953 | 264 | | | 264 | 1 | | |
| NB | 89.953 to | 90.450 | 2700 | 2700 | | | 11 | 3 | |
| NB | 90.450 to | 90.882 | 2360 | 2300 | 60 | | 6 | 1 | 5 |
| NB | 90.882 to | 90.896 | 74 | | 74 | | 2 | | 6 |
| NB | 90.896 to | 90.976 | | 422 | | | 1 | | ļ |
| NB | 90.976 to | 91.040 | 338 | | | 338 | 2 | | |
| NB | 91.040 to | 91.223 | 966 | 892 | 74 | | 7 | | 6 |
| NB | 91.223 to | 91.478 | 1347 | | 196 | 1151 | 8 | | 14 |
| NB | 91.478 to | 91.764 | | 1511 | | | 7 | 2 | |
| NB | 91.764 to | 91.784 | 106 | | | 106 | 1 | | |
| NB | 91.784 to | 91.802 | 95 | | 95 | | 2 | | 8 |
| NB | 91.802 to | 92.015 | 1125 | 1125 | <u> </u> | | 1 | 1 | |
| | I29 NBL | TOTALS: | 39505 | 26289 | 3683 | 9533 | 139 | 24 | 274 |

| | | | | TYPE 3 | MODIFIED TYPE 3 | MODIFIED TYPE 6 | 2 | 3 | WOOD |
|------|------------------|---------|--------|--------|--------------------|--------------------|-------|-------|-------|
| | INTERST <i>A</i> | TE 29 | REMOVE | R/W | R/W | R/W | POST | POST | FENCE |
| LANE | MRM TO | MRM | FENCE | FENCE | FENCE | FENCE | PANEL | PANEL | POST |
| | | | FT | FT | FT | FT | EACH | EACH | EACH |
| SB | 91.933 to | 91.846 | 460 | 460 | | | 2 | | |
| SB | 91.846 to | 91.797 | 260 | | 260 | | 1 | | 19 |
| SB | 91.797 to | 91.711 | 454 | 454 | | | 2 | | |
| SB | 91.711 to | 91.469 | 1278 | | | 1278 | 5 | | |
| SB | 91.469 to | 91.444 | 132 | | 132 | | | 1 | 10 |
| SB | 91.444 to | 91.329 | 607 | 607 | | | 4 | | |
| SB | 91.329 to | 91.256 | 385 | | 385 | | 2 | 1 | 28 |
| SB | 91.256 to | 90.925 | 1748 | 1748 | | | 6 | 3 | |
| SB | 90.925 to | 90.886 | 206 | | 206 | | 1 | | 15 |
| SB | 90.886 to | 90.479 | 2230 | 2230 | | | 8 | 3 | |
| SB | 90.458 to | 90.036 | 2308 | 2308 | | | 6 | 3 | |
| SB | 90.036 to | 89.960 | 401 | | | 401 | 1 | 2 | |
| SB | 89.960 to | 89.919 | 216 | | | 216 | | | |
| SB | 89.919 to | 89.879 | 211 | | 211 | | 1 | 1 | 16 |
| SB | 89.879 to | 88.964 | 4831 | 4831 | | | 6 | 5 | |
| SB | 88.964 to | 88.766 | 1045 | | | 1045 | 1 | 2 | |
| SB | 88.766 to | 88.715 | 269 | | 269 | | 1 | 1 | 20 |
| SB | 88.715 to | 88.541 | 919 | 919 | | | 2 | | |
| SB | 88.541 to | 88.507 | 180 | | 180 | | 1 | | 14 |
| SB | 88.507 to | 87.490 | 5592 | 5592 | | | 12 | 6 | |
| SB | 87.480 to | 87.461 | 100 | 100 | | | 2 | 1 | |
| SB | 87.461 to | 87.437 | 127 | | 127 | | 1 | | 10 |
| SB | 87.437 to | 87.258 | 945 | 945 | | | 4 | 2 | |
| SB | 87.258 to | 87.221 | 195 | | 195 | | | | 15 |
| SB | 87.221 to | 87.185 | 190 | 190 | | | 1 | | |
| SB | 87.185 to | 87.167 | 95 | | 95 | | 2 | | 8 |
| SB | 87.167 to | 87.126 | 217 | 217 | | | 1 | | |
| SB | Exception | | | | | | | | |
| SB | 86.969 to | 86.935 | 180 | 180 | | | 2 | | |
| SB | 86.935 to | 86.918 | 90 | | 90 | | | 1 | 7 |
| SB | 86.918 to | 86.679 | 1262 | 1262 | | | 2 | 3 | |
| SB | Exception | | | | | | | | |
| SB | 86.606 to | 86.423 | 966 | 966 | | | 4 | 1 | |
| SB | Renner\Crook | | | | | | | | |
| SB | 86.268 to | 85.631 | 3364 | 3364 | | | 6 | 3 | |
| SB | 85.631 to | 85.600 | 164 | | 164 | | 1 | | 13 |
| SB | 85.600 to | 84.973 | 3311 | 3311 | | | 7 | 3 | |
| SB | 84.954 to | 84.400 | 2925 | 2925 | | | 6 | 3 | |
| | I29 SBL | TOTALS: | 37863 | 32609 | 2314 | 2940 | 101 | 45 | 175 |
| | | TOTALS: | 77368 | 58898 | 5997 | 12473 | 240 | 69 | 449 |

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

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.

HISTORICAL PRESERVATION OFFICE CLEARANCES

To obtain State Historical Preservation Office (SHPO) clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. In lieu of a cultural resources survey, the Contractor could request a records search from Jim Donohue, State Archaeological Research Center (SARC). Provide SARC 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 no artifacts have been found on the site. The Contractor shall arrange and pay for the cultural resource survey and/or records search.

If any earth disturbing activities occur within the current geographical or historic boundaries of any South Dakota reservation, the Contractor shall obtain Tribal Historical Preservation Office (THPO) clearance. If no THPO exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO or THPO responses, the Contractor should submit a records search or cultural resources survey report to Tom Lehmkuhl, DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3721). Allow 30 days from the date this information is submitted to the Environmental Engineer for SHPO/THPO approval. The Contractor is responsible for obtaining all required permits and clearances for staging areas, borrow sites, waste disposal sites, and all material processing sites. The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project Number IM 0020(100) - PCN 01ZE has been awarded to Iowa Erosion Control, Telephone Number (319) 647-3561 for CRC Terminal Replacement, CRC/PCC Pavement Repair and Shoulder Strengthening with asphalt concrete on I29 from Exit 84 north to Exit 121.

The Contractor shall schedule his work so as not to interfere with or hinder the progress of the work performed by other Contractors on the CRC Terminal Replacement, CRC/PCC Pavement Repair and Shoulder Strengthening with asphalt concrete project.

WASTE DISPOSAL SITE

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

Construction/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 Highway, Road, and Railway 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 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/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/demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating No Dumping Allowed.
- Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not
 to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of
 the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

Cost 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.

RESTORATION OF INSLOPES AND DITCHES

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. Cost for this work shall be incidental to the contract unit prices for the various items.

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.

Limited Access Security - All fence removed during any one working day is to be replaced during the same day if livestock are being restrained.

CLEARING

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

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

The Contractor shall furnish new posts. Install alternate wood and steel posts at 16'-6" spacing for Type 3 Right-of-Way Fence.

MODIFIED TYPE 3 RIGHT-OF-WAY FENCE

Modified Type 3 Right-of-Way Fence shall be installed at wide depressions subject to flooding.

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

MODIFIED TYPE 6 RIGHT-OF-WAY FENCE

The Contractor shall furnish new posts. Install alternate wood and steel posts at 14' spacing for Modified Type 6 Right-of-Way Fence.

Note specification change for Modified Type 6 Woven Wire Fence to Design No. 832-6-11.

NEW POST PANELS

Existing post panels shall be replaced. Existing 5 Post and 4 Post Panels shall be replaced with a combination of 2 Post and 3 Post Panels as determined by the Engineer.

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.

GENERAL MAINTENANCE OF TRAFFIC

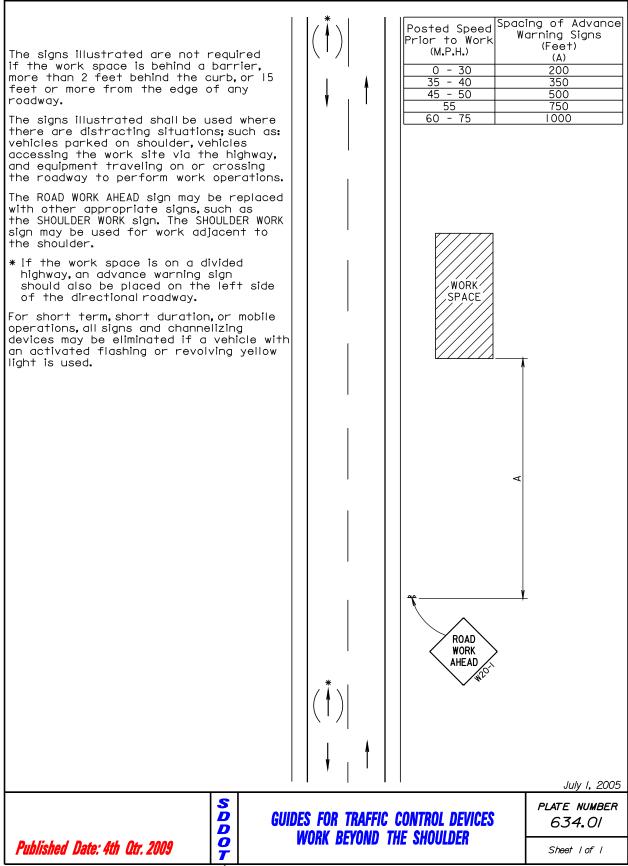
Removing, relocating, covering, salvaging and resetting of permanent traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators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

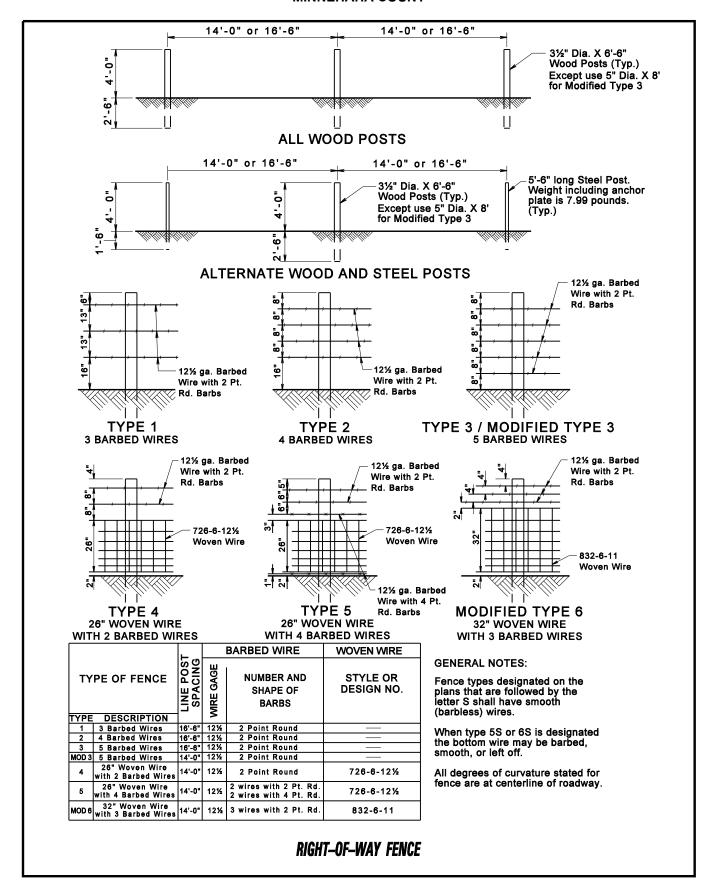
Storage of vehicles and equipment shall be outside the clear zone and as near as possible to the right-of-way line. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work.

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

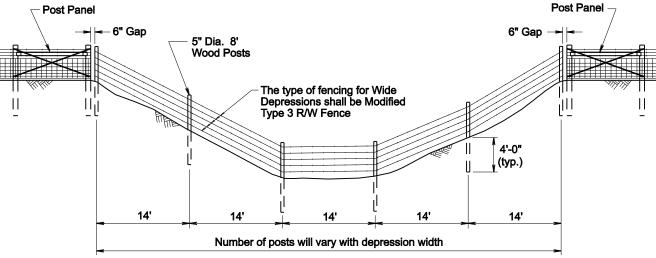
The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

Cost for traffic control, including signs, shall be included in the contract lump sum price for Traffic Control, Miscellaneous.







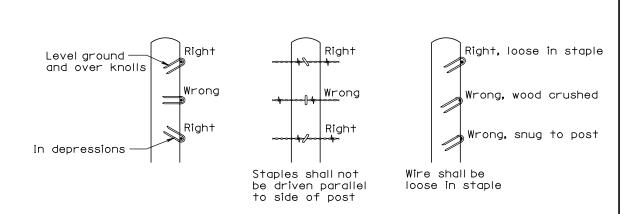


GENERAL NOTES:

Cost for fencing through stream crossing(s) and/or wide depression(s) shall be included in the contract unit price per foot for Modified Type 3 Right-of-Way Fence.

The Wood Fence Posts used in stream crossing(s) and/or wide depression(s) shall be 5" x 8' Wood Fence Posts. The designated fencing location(s) for the stream crossing(s) and/or wide depression(s) will be directed by the Engineer.

Cost for furnishing and installing the 5" x 8' Wood Fence Posts in stream crossing(s) and/or wide depression(s) shall be included in the contract unit price per each for Wood Fence Post.



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 Al16 and barbed wire shall conform to ASTM Al21.

December 23, 2004

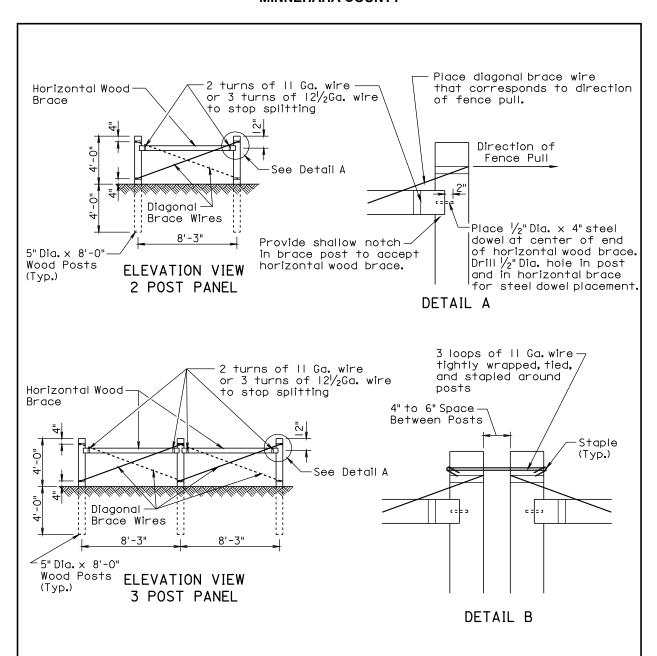
SDDOT

STAPLE INSTALLATION AND GENERAL RIGHT-OF-WAY FENCE NOTES

PLATE NUMBER 620.02

Sheet I of I

Published Date: 4th Qtr. 2009



GENERAL NOTES:

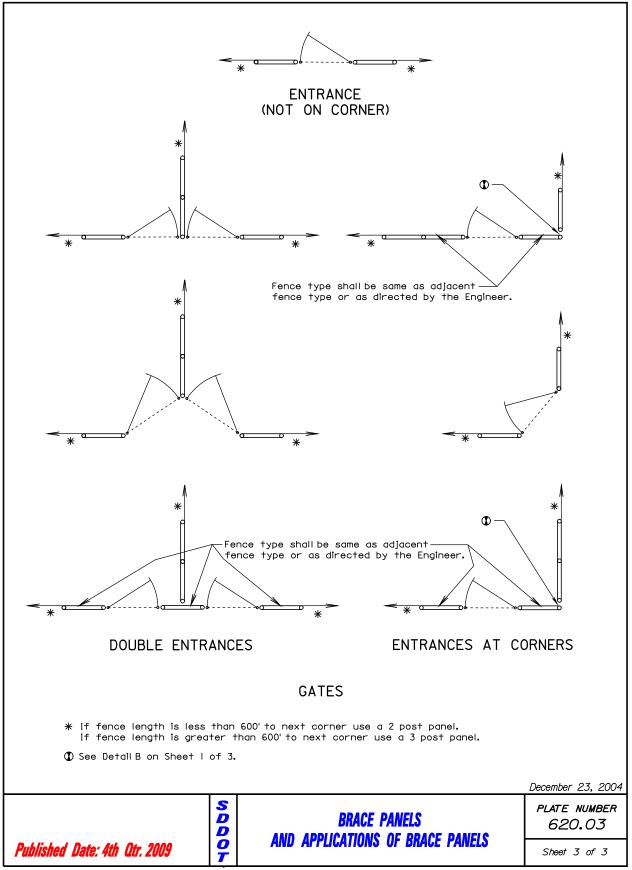
Two Post Panels shall be installed at least every 1320' between corners.

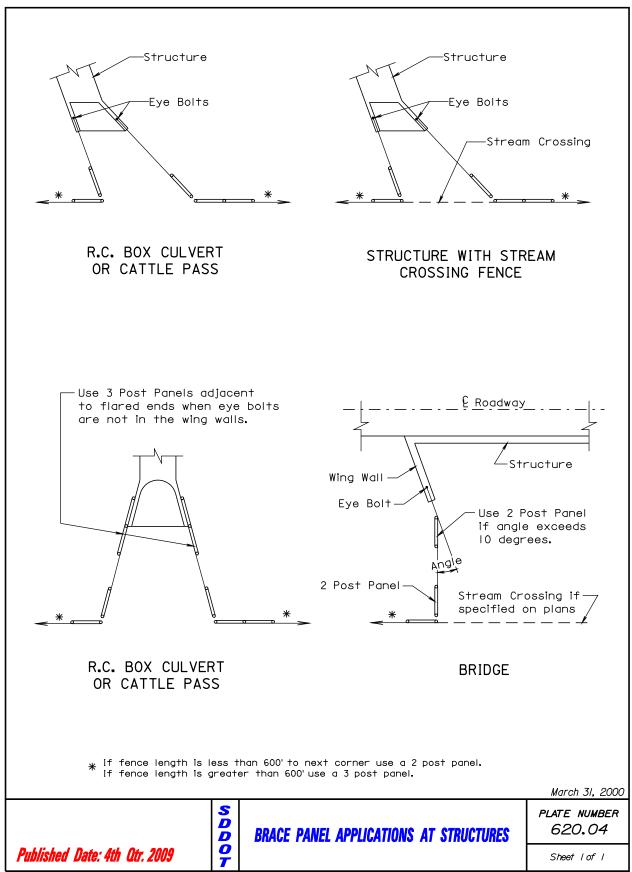
Two Post Panels shall be installed at any sharp vertical angle crest points and as directed by the Engineer.

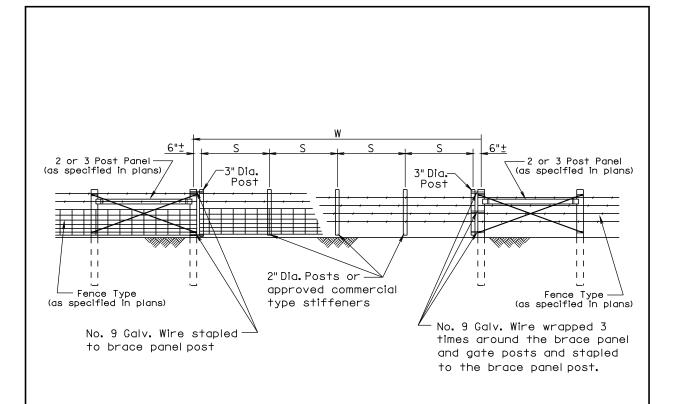
Horizontal wood braces shall consist of 4" dia. \times 8' wood posts or rough 4" \times 4" \times 8' timbers.

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.

GENERAL NOTE: SPACING OF 2 POST PANELS WITHIN CURVES All degrees of curvature stated for fence are DEGREE OF CURVE SPACING OF 2 POST PANEL at centerline of roadway. less than 3°15' ** 1320' *At P.C., P.T., and at every 1320' between P.C. and P.T. 3°15' and greater 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 I of 3. New Fence Existing Fence Open ended fence no existing fence Fence SHORT JOGS IN FENCE BEGIN OR END FENCE (where new fence ties into existing fence) Mainline Post CROSS FENCE Corner Post (Typ.) **(** Mainline Post SHARP ANGLES IN CROSS FENCE Greater 10° and less than 10° Additional fence panel is NOT required when Additional fence panel is required when an angle in the mainline fence is 10° and less. an angle in the mainline fence is greater than 10°. ANGLES IN MAINLINE FENCE December 23, 2004 PLATE NUMBER D **BRACE PANELS** 620.03 D AND APPLICATIONS OF BRACE PANELS 0 Published Date: 4th Qtr. 2009 Sheet 2 of 3







| 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

Published Date: 4th Qtr. 2009

WIRE GATES

Published Date: 4th Qtr. 2009

Plate Number 620. 20

Sheet 1 of 1