

000I-391

JONES & LYMAN COUNTIES

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0001-391

JONES & LYMAN COUNTIES

ESTIMATE OF QUANITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
620E1100	Steel Fence Post	50	Each
620E1110	Wood Fence Post	100	Each
620E4000	Repair Fence	265979	Ft
620E1020	2 Post Panel	31	Each
620E1030	3 Post Panel	23	Each
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

- All bid items are Non-participating

TABLE OF FENCE QUANTITIES

	Repair	2 Post	3 Post
Interstate 90	Fence	Panels	Panels
MRM to MRM	FT	Each	Each
201.418 to 251.60 EB	102067	16	9
201.418 to 251.60 WB	163912	15	14
Total	265979	31	23

ESTIMATE OF QUANTITIES

SPECIFICATIONS

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

SCOPE OF WORK

The work required for this project includes, but is not limited to, the following items, not listed in order of execution.

- 1. Set Up Traffic Control
- 2. Repair Fence on I-90 MRM 201.418 to 251.6
- 3. Restore and Seed any Disturbed Ground
- 4. Dispose of Debris
- 5. Remove Traffic Control

The Contractor is encouraged to inspect the project site prior to bidding to evaluate the extent of work that will be required for construction.

Quantities for this project may be reduced at the discretion of the Department. Reduction in project quantities may occur if the Department is required to repair fence on pastureland prior to the start of this project to ensure livestock cannot get out onto Interstate 90.

WASTE DISPOSAL SITE

The Contractor will be required to furnish a site for the disposal of construction/demolition debris generated by this project in accordance with the Standard Specifications for Work Activities Outside the Plan Work Limits. Construction/demolition debris may not be disposed within the State ROW.

RESTORATION OF INSLOPES AND DITCHES

Any slope area or ditch that is rutted or otherwise unduly disturbed by the Contractors equipment during fencing operations, will be restored and seeded by the Contractor at his expense and approved by the Engineer. Cost for this work will be incidental to other contract items. The permanent seed mixture as stated elsewhere in this proposal will be used.

UTILITIES

The Contractor will contact the utility companies that may be involved prior to starting work. It will be the responsibility of the Contractor to coordinate his work with the utility company to avoid damage to existing facilities.

MAINTENANCE OF TRAFFIC

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All construction operations will be conducted in the general direction of traffic movement. Traffic will be maintained on the proper directional set of lanes throughout the project during construction operations. Lane closures will not be allowed on this project. The Contractor will arrange the details of their operation as to cause a minimum of inconvenience and delay to the traveling public.

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

Unless otherwise stated in these plans, work will not be allowed during hours of darkness. During nights, weekends and other non-working hours, all non-applicable traffic control signs, materials and equipment will be removed from the roadway or ditch will be stored a minimum of 30 feet from the traveled lanes.

All costs for traffic control, including signs, will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

WOOD AND STEEL FENCE POSTS

As determined by the Engineer, some line posts may need to be removed and replaced with new posts in the fence repair areas. The Engineer will determine if a post is suitable to be used or if a new post is to be installed. New wood and steel fence posts will be measured and paid for at the contract unit bid price per post for each item. Payment will be full compensation for labor, equipment and all incidentals to remove and replace the line post.

Care will be taken to maximize the use of existing wood and steel line posts.

NEW BRACE PANELS

The Engineer will determine the locations for replacing and/or installing of the 2-Post Brace Panels and 3-Post Brace Panels. Payment will be made on the actual amount installed and will be paid for at the contract unit price per panel. Such payment will be full compensation for labor, horizontal brace posts, equipment and incidentals necessary to construct the brace panels. The Contractor will be responsible to provide all items necessary to complete the brace panel as shown on the standard plate. Cost for this work will be incidental to the unit bid price per each for "2-Post Panel" and "3-Post Panel".

It is anticipated that the quantities for "2-Post Panel" and "3-Post Panel" will increase on this project, due to the amount of fence buried by snow.

BRACE PANELS LEFT IN PLACE

Brace panels that are left in place through areas of repair fence areas, may need some repair work such as:

- 1. Replace dowels and reposition brace post.
- 2. Replace or tighten diagonal tension wire.
- 3. Align and re-tamp posts.
- 4. Other incidental work as necessary.

Cost to accomplish the repair work on brace panels will be incidental to other contract items.

REPAIR GATE

As determined by the Engineer, the Contractor will repair access gates in the existing ROW fence. The materials and installation of the brace panels for the wire gates will correspond to the "New Brace Panel" note and the standard plate. Brace panels necessary to complete the gate will be paid for on a per each basis under the corresponding bid item "2-Post Panel" or "3-Post Panel".

The Contractor will be responsible to furnish all other materials necessary to repair the wire gate. Cost for these materials will be included in the bid item "Repair Fence". Payment for the wire gates will be measured as "Repair Fence" and will be full compensation for furnishing all materials, constructing the wire gate as shown on the standard plate, attaching and stretching the existing wires to the brace post panel, labor, equipment and all other incidentals associated with the installation of the wire gate.

REPAIR FENCE

The Engineer will identify areas in need of repair and determine the amount repaired. The repair of R/W fence will consist of splicing and stretching the existing wire and attaching the wire to existing posts and brace panels. Some areas may require the removal and replacement of staples and fasteners to achieve the proper dimensions shown on the standard. The posts will be paid for under the bid item Wood Fence Posts or Steel Fence Posts, whichever is applicable. Cost for splicing, stretching and installing the new wire in the repair area, will be included in the unit bid price for "Repair Fence". All wire, staples, fasteners and miscellaneous items necessary to complete the repair will be furnished by the Contractor. Cost associated with these items will be included in the bid item "Repair Fence".

Existing wood and steel fence line posts that are not at the correct height, will be pulled and reset to the correct height as per the applicable standard plate in these plans. Costs for pulling and resetting these existing wood and steel will be incidental to the unit bid price for "Repair Fence".

Limited Access Security – All fence removed during any one working day is to be reset during the same day if livestock is being restrained. The Contractor will be responsible to coordinate with the adjacent landowners when livestock is present.

All removed fence material will become the property of the Contractor. Disposal of removed material will not be allowed within the R.O.W. and will be disposed of outside the limits of view of the project.

Fence will be repaired to match the fence adjacent to the repair area and according to the applicable Standard Plate included in these plans for this project as approved by the Engineer.

Fence removed will not be measured and paid for. All costs for removing fence will be incidental to other contract bid items.

The Repair Fence bid item will be measured and paid for according to the tables listed elsewhere in these plans, (inclusive of brace panels, number of wires repaired and gates) and will be paid for at the contract unit price per foot under the bid item "Repair Fence". This work will include the repair of all wires in the fence at that location. Such payment will be full compensation for incidental materials, labor and equipment necessary to repair the fence. Field measurement for the areas listed in the plans will not be made. Wood and steel fence posts replaced in these sections will be paid for as noted elsewhere in these plans.

Any fence repaired by the Department prior to the Contractor will be subtracted from the Contract. Any additional areas added by the Engineer will be measured and paid for. The minimum measurement will be 100' for each area regardless of actual measurements. Areas that are greater than 100' in length will be measured and paid for in 100' increments.

The Contractor will be required to repair the fence at locations where livestock will be placed prior to locations where livestock will not be placed. It will be the responsibility of the Contractor to contact the landowners along the project to determine sequencing of fence repair operations.

Permanent Seeding

For information only.

Special Permanent Seed Mixture 1 will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	16
Canada Wildrye	Mandan	2
Oats or Spring Wheat: April through May;		10
Winter Wheat: August through November		
	Total:	18

Hand seeding devices approved by the Engineer will be allowed. Following the seeding operations, the area will be raked to the satisfaction of the Engineer.

Mulching (Grass Hay or Straw)

For information only.

The Contractor will hand mulch all disturbed areas after the completion of hand seeding. Mulch will be free of noxious weed.

i77c REPAIR FENCE EB LANES

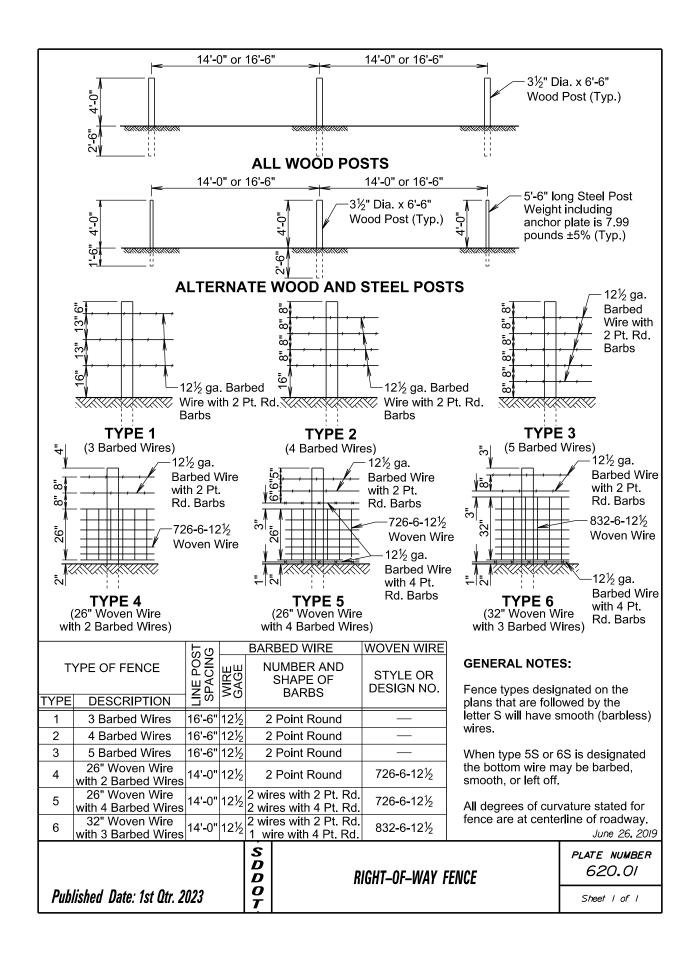
MRM	to	MRM	Lane	Length	# Broken Wires	Description	2PP	3PP	Notes
202.000		202.050	EB	264		Snow Covered			
202.196		202.217	EB	111		Snow Covered			
202.400		202.533	EB	702		Snow Covered			
203.070		203.165	EB	502	1	Snow Covered			
203.618		203.799	EB	956		Snow Covered			
203.886		204.000	EB	602		Snow Covered	1		
204.000		204.147	EB	776	1	Snow Covered	1		
204.450		204.606	EB	824		Snow Covered			
204.796		205.000	EB	1077		Snow Covered		2	
205.131		205.299	EB	887		Snow Covered			
205.410		205.445	EB	185		Snow Covered			
205.848		206.000	EB	803		Snow Covered			
206.474		206.670	EB	1035	4	Snow Covered		1	
207.000		207.300	EB	1584		Snow Covered			
207.415		207.495	EB	422		Snow Covered	2		
207.780		208.083	EB	1600		Snow Covered			
208.237		208.828	EB	3120		Snow Covered		1	
209.060		209.710	EB	3432		Snow Covered		1	1
209.916		211.000	EB	5724	4	Snow Covered	8	2	Woven Wire
211.000		211.754	EB	3981		Snow Covered			
212.132		212.627	EB	2614		Snow Covered			
213.270		213.840	EB	3010	2	Snow Covered			
214.264		214.609	EB	1822	1	Snow Covered			
214.995		215.215	EB	1162		Snow Covered			
215.420		215.501	EB	428		Snow Covered			
215.748		216.378	EB	3326	1	Snow Covered			
216.421		216.675	EB	1341		Snow Covered			
216.880		217.000	EB	634		Snow Covered			
217.040		217.529	EB	2582	6	Snow Covered			
218.130		218.190	EB	317		Snow Covered			
218.746		219.000	EB	1341	1	Snow Covered			
219.000		219.241	EB	1272		Snow Covered			
219.586		220.000	EB	2186	3	Snow Covered			
220.066		220,294	EB	1204		Snow Covered			
220.405		221.000	EB	3142		Snow Covered		1	
221.000		221.388	EB	2049		Snow Covered		1	1
221.558		221.678	EB	634		Snow Covered			
221.790		222.000	EB	1109		Snow Covered			
222.000		222.250	EB	1320	2	Snow Covered			
222.479		222.832	EB	1864		Snow Covered			
223.000		223.080	EB	422		Snow Covered		1	
223.211		223.395	EB	972		Snow Covered	1	1	1
224.237		224.280	EB	227		Snow Covered			
224.867		225.000	EB	702		Snow Covered			
225.535		225.626	EB	480		Snow Covered		1	
226.096		226.252	EB	824		Snow Covered		1	
226.672	H	226.759	EB	459		Snow Covered			1
227.118		227.122	EB	21		Snow Covered			
227.391		227.452	EB	322		Snow Covered			†

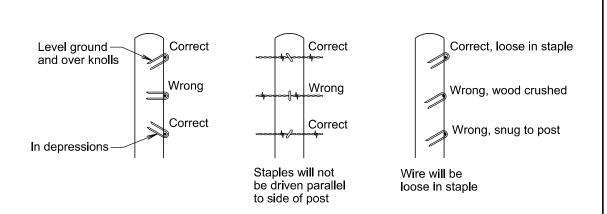
MRM	to	MRM	Lane	Length	# Broken Wires	Description	2PP	3PP	Notes
227.467		227.539	EB	380		Snow Covered			
227.976		227.981	EB	26		Snow Covered			
228.366		228.374	EB	42		Snow Covered			
228.394		228.403	EB	48		Snow Covered			
228.449		228.616	EB	882		Snow Covered			
229.429		229.472	EB	227		Snow Covered			
229.756		229.778	EB	116		Snow Covered			
230.371			EB	10	3	Snow Covered			
230.393		230.410	EB	90		Snow Covered			
230.452		230.653	EB	1061		Snow Covered			
230.881		231.000	EB	628	3	Snow Covered			
231.082		231.136	EB	285		Snow Covered			
232.059		232.363	EB	1605		Snow Covered			
232.389		232.420	EB	164		Snow Covered	1		
232.658		232.734	EB	401		Snow Covered	1		
233.397		233.731	EB	1764		Snow Covered			
234.614		234.648	EB	180	1	Snow Covered			
235.675		235.720	EB	238		Snow Covered		1	
235.817		236.051	EB	1236		Snow Covered			
236.319		236.348	EB	153		Snow Covered			
236.651		236.666	EB	79		Snow Covered			
236.863		236.864	EB	5		Snow Covered			
237.588		237.610	EB	116		Snow Covered			
237.796		238.000	EB	1077		Snow Covered			
238.095		238.136	EB	216		Snow Covered		1	
238.872		239.000	EB	676		Snow Covered			
239.178		239.630	EB	2387	2	Snow Covered			
239.655		240.000	EB	1822		Snow Covered			
240.000		241.000	EB	5280		Snow Covered		1	
241.000		241.330	EB	1742	1	Snow Covered			
241.330		241.650	EB	1690		Snow Covered			
241.915		242.000	EB	449		Snow Covered			
242.000		242.500	EB	2640		Snow Covered			Woven Wire
243.520		243.685	EB	871		Snow Covered			
244.535		244.712	EB	935		Snow Covered			Woven Wire
244.745		245.000	EB	1346		Snow Covered			
245.000		245.057	EB	301		Snow Covered			
245.838		246.000	EB	855		Snow Covered			
246.617	Ш	246.838	EB	1167		Snow Covered			
247.000	Ш	247.057	EB	301	4	Snow Covered			
247.287	Ш	247.506	EB	1156		Snow Covered	1		
248.159		248.358	EB	1051	3	Snow Covered			
	EE	TOTALS		102067			16	9	

177c REPAIR FENCE WB LANES

MRM	to	MRM	Lane	Length	# Broken Wires	Description	2PP	3PP	Notes
201.418		201.970	WB	2915		Snow Covered		1	
202.022		202.110	WB	465		Snow Covered			
202.180		202.558	WB	1996		Snow Covered			
203.160		204.171	WB	5338		Snow Covered			
204.310		204.405	WB	502		Snow Covered			
204.310		204.720	WB	2165		Snow Covered			
204.790		204.824	WB	180		Snow Covered			
204.917		205.220	WB	1600		Snow Covered			
205.400		205.515	WB	607		Snow Covered			
205.630		205.710	WB	422		Snow Covered			
205.846		205.924	WB	412		Snow Covered			
206.137		206.195	WB	306		Snow Covered			
206.308		206.509	WB	1061		Snow Covered			
206.665		206.763	WB	517		Snow Covered			
207.000		207.280	WB	1478		Snow Covered			
207.506		207.718	WB	1119	1	Snow Covered			
208.010		208.080	WB	370		Snow Covered			
208.225		208.982	WB	3997		Snow Covered			
209.025		209.127	WB	539		Snow Covered	1		Cattle Pass
209.227		209.398	WB	903		Snow Covered			
209.595		210.093	WB	2629		Snow Covered	3		
210.178		210.705	WB	2783		Snow Covered		1	
210.870		211.140	WB	1426		Snow Covered		_	
211.200		211.518	WB	1679		Snow Covered			
211.598		212.147	WB	2899		Snow Covered			Woven Wire
212.222		212.723	WB	2645		Snow Covered			Woven Wire
212.766		212.833	WB	354		Snow Covered			Troven vine
213.089		213.160	WB	375		Snow Covered			
213.224		213.276	WB	275		Snow Covered			
213.342		213.368	WB	137		Snow Covered			
213.420		213.807	WB	2043		Snow Covered			
213.951		214.440	WB	2582		Snow Covered			
214.578		215.310	WB	3865		Snow Covered			
215.584		215.758	WB	919		Snow Covered			
216.315		216.375	WB	317		Snow Covered			
216.633		216.928	WB	1558		Snow Covered			
217.100		217.325	WB	1188		Snow Covered			
217.552		217.744	WB	1014		Snow Covered			
218.000		218.278	WB	1468		Snow Covered			
218.585		219.209	WB	3295		Snow Covered			
220.380		221.160	WB	4118		Snow Covered	1		
221.542		223.360	WB	9599		Snow Covered			
223.583		224.050	WB	2466		Snow Covered			
224.158		224.474	WB	1668		Snow Covered			
224.138		225.495	WB	2841		Snow Covered			
225.730		225.904	WB	919		Snow Covered			
226.040		226.281	WB	1272		Snow Covered			
226.833		226.998	WB	871		Snow Covered		1	
220.033	Ш	227.973	WB	2714	1	Snow Covered		1	

MRM	to	MRM	Lane	Length	# Broken Wires	Description	2PP	3PP	Notes
228.000		228.193	WB	1019		Snow Covered			
228.370		228.530	WB	845		Snow Covered			
229.386		229.425	WB	206		Snow Covered			
229.531		229.610	WB	417		Snow Covered			
230.278		230.430	WB	803	1	Snow Covered			
230.510		230.720	WB	1109		Snow Covered			
231.000		231.164	WB	866		Snow Covered			
231.589		231.835	WB	1299		Snow Covered			
232.000		232.897	WB	4736		Snow Covered	2	2	
233.174		234.000	WB	4361		Snow Covered			
234.137		234.425	WB	1521		Snow Covered			
234.520		234.919	WB	2107		Snow Covered			
235.400		235.871	WB	2487	3	Snow Covered		1	
236.000		236.247	WB	1304		Snow Covered			
236.622		237.000	WB	1996		Snow Covered			
237.000		237.972	WB	5132		Snow Covered		1	
238.108		238.880	WB	4076	1	Snow Covered		2	
239.000		241.000	WB	10560		Snow Covered	3	1	
241.877		243.725	WB	9757		Snow Covered	2	2	
244.000		247.725	WB	19668		Snow Covered	3	2	Woven Wire
247.955		248.492	WB	2835		Snow Covered			
	W	B TOTALS		163912			15	14	





STAPLE INSTALLATION

GENERAL NOTES:

The Right-of-Way fence will consist of barbed wire or a combination of woven wire and barbed wire. The barbed wire and/or woven wire will be fastened to all wood posts or fastened to alternating wood and steel posts. Only wood posts will be used for brace panels. Gates will be of the type designated in the plans or as otherwise directed by the Engineer. Fence will 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 will 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 will 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 will be fabricated from zinc coated 14 ga. wire. Two point barbs will be wrapped twice around one main strand at four-inch spacings and the four point barbs will be interlocked and wrapped around both main strands at five-inch 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 will be as stated in AASHTO M281. Woven wire will conform to design and specifications of ASTM A116 and barbed wire will conform to ASTM A121.

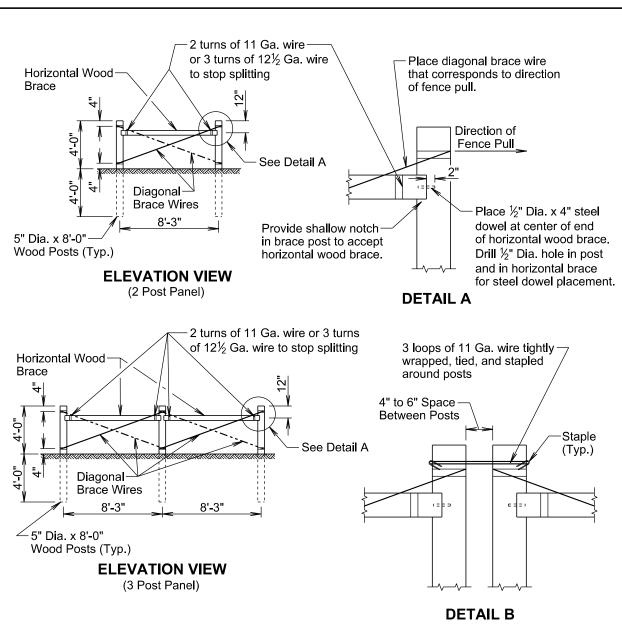
June 26, 2019

Published Date: 1st Qtr. 2023

STAPLE INSTALLATION AND GENERAL RIGHT-OF-WAY FENCE NOTES

PLATE NUMBER 620.02

Sheet 1 of 1



GENERAL NOTES:

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

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

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

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

June 26, 2019

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BRACE PANELS AND APPLICATIONS OF BRACE PANELS

Sheet 1 of 3

	ST 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.

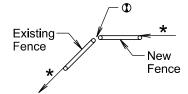
GENERAL NOTE:

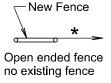
All degrees of curvature stated for fence are at centerline of roadway.

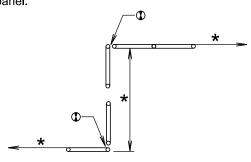
- * If fence length is less than 600' to next corner use a 2 post panel.

 * 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.



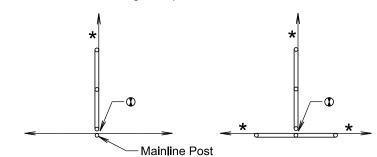




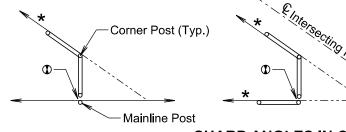
SHORT JOGS IN FENCE

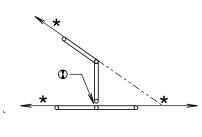
BEGIN OR END FENCE

(Where new fence ties into existing fence)



CROSS FENCE





Greater than 10°-

SHARP ANGLES IN CROSS FENCE



Additional fence panel is required when an

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

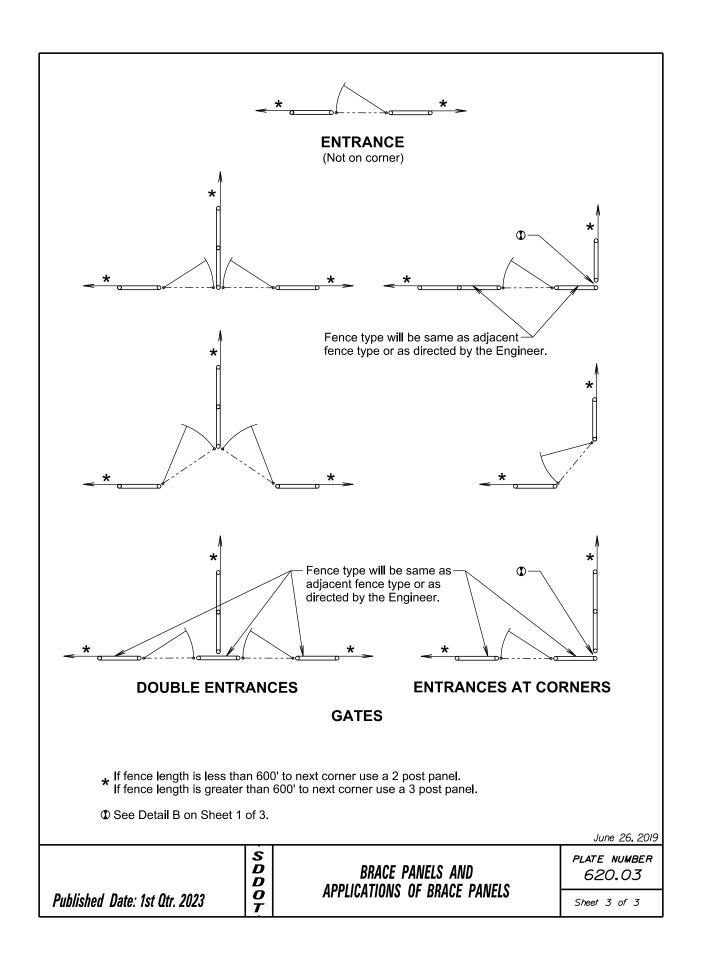
June 26, 2019

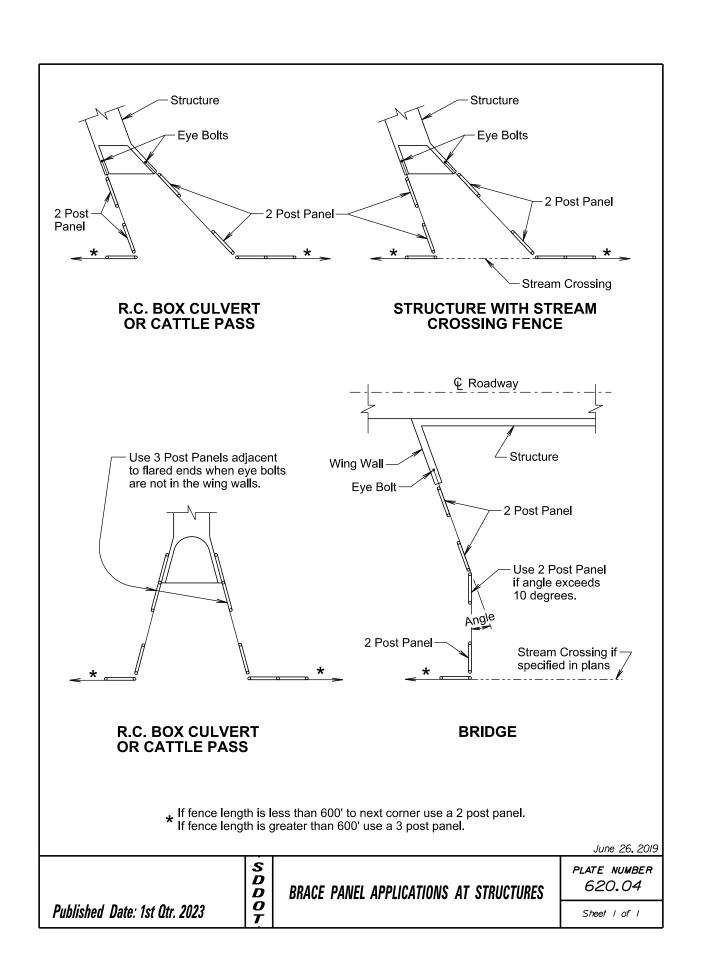
Published Date: 1st Qtr. 2023

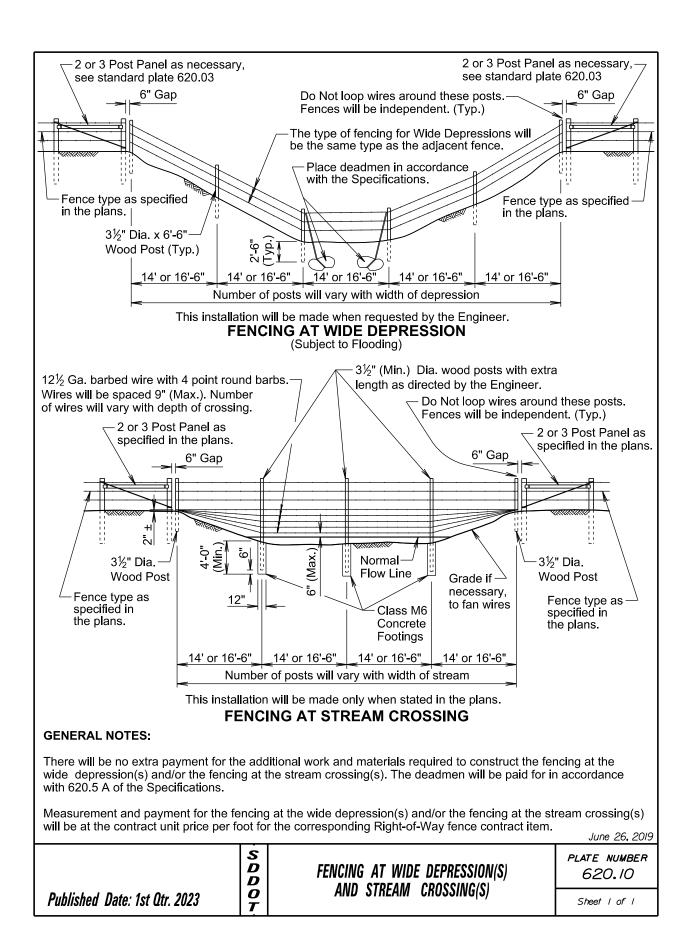
BRACE PANELS AND 620.03

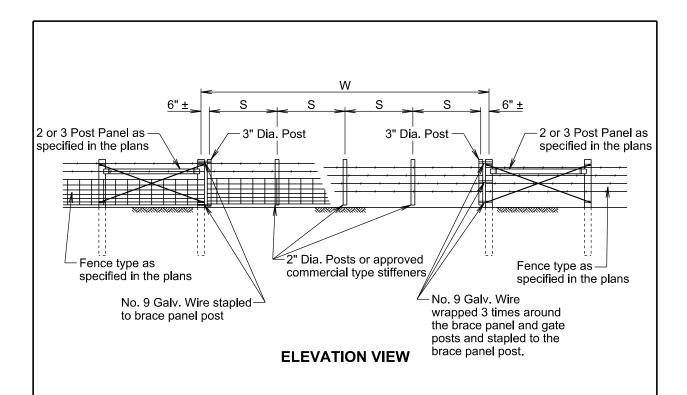
APPLICATIONS OF BRACE PANELS

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 will be of the same type as specified for the adjacent Right-of-Way fence.

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

June 26, 2019

	S D D	WIRE GATES	PLATE NUMBER 620.20
Published Date: 1st Qtr. 2023			Sheet I of I

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 will 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.	Speed Advance Prior to S Work (F (M.P.H.) S S S S S S S S S	cing of e Warning igns eet) (A) 200 350 300 50
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.	WORK	
ilgitt is used.	▼	
	ROAD WORK AHEAD	
S		January 22, 2021 PLATE NUMBER
Published Date: 1st Otr. 2023	WORK BEYOND THE SHOULDER	634.01
T ubilistica bate. 1st Qu. 2025		

