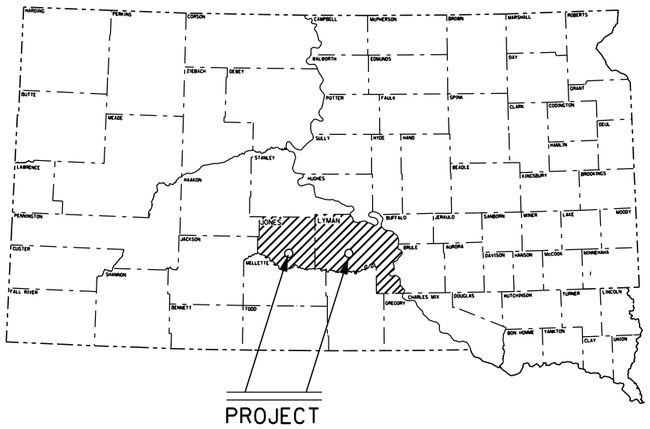
PLOT SCALE - 1:25616.3

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-391 & 090W-391	1	10

Plotting Date: 03/24/2020



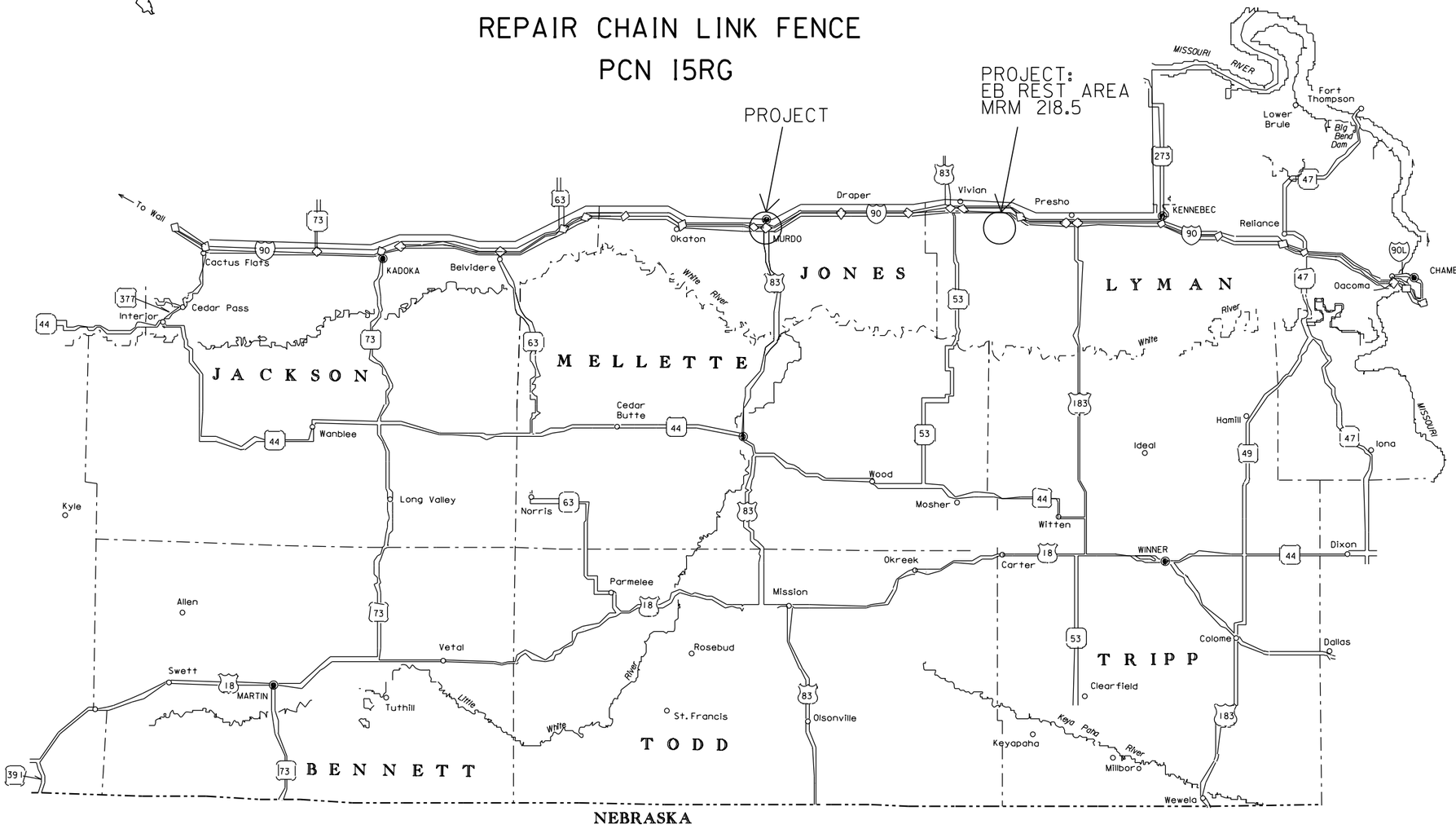
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT 090E–391 & 090W–391
INTERSTATE 90 EBL & WBL
REST AREA 90 EBL MRM 218.5
JONES & LYMAN COUNTIES

REPAIR CHAIN LINK FENCE

PCN 15RG

INDEX OF SHEETS



DESIGN DESIGNATION
INTERSTATE 90 EB

ADT (2018)	3429
ADT (2038)	4059
DHV	672
D	51%
T DHV	14.3%
T ADT	31.5%
V	80 MPH

DESIGN DESIGNATION
INTERSTATE 90 EB & WB

ADT (2018)	3070
ADT (2038)	3595
DHV	697
D	50%
T DHV	11.6%
T ADT	25.4%
V	80 MPH

STORM WATER PERMIT
NO PERMIT REQUIRED

PLOTTED FROM - TRWINT29
PLOT NAME - 1
FILE - ...\WORKING\TITLE15RG.DGN

Estimate of Quantities

	BID ITEM NUMBER	ITEM	QUANTITY	UNIT
*	009E0010	Mobilization	Lump Sum	LS
*	110E0605	Remove Chain Link Fence	204	Ft
*	621E0060	6' Chain Link Fence with Top Rail	120	Ft
*	621E0160	6' Chain Link Fence with Tension Wired Top	60	Ft
*	621E0410	Pedestrian Swing Gate	1	Each
*	621E0430	Double Vehicular Swing Gate	1	Each
*	634E0120	Traffic Control, Miscellaneous	Lump Sum	LS

* - Denotes Non-Participating

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

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

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf

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

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

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 pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately 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 will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

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

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

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

COMMITMENT H: WASTE DISPOSAL SITE - CONTINUED

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

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

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

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

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

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

Action Taken/Required:

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

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

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

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

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

GENERAL NOTES

Contractor will furnish and install chain link fence system where shown on the drawings, and as needed for a complete and proper installation.

The concrete used on the project shall conform to the requirements of Class M6 concrete.

The Engineer will approve all fencing materials prior to their installation.

The Contractor will be required to install extension arms and barbed wire according to Standard Plate 621.04 on sections designated in the table of chain link fence.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will 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 will contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

GENERAL MAINTENANCE OF TRAFFIC

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

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

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

RESTORATION OF INSLOPES AND DITCHES

Any slope area or ditch that is rutted or otherwise unduly disturbed during fencing operations will be restored and seeded by the Contractor, at no expense to the State. Cost for this work will be incidental to the contract unit prices for the various items.

REMOVE FENCE

The Contractor will remove the existing chain link fence that is to be replaced as designated in the plans and/or as ordered by the Engineer. Fence removed will become the property of the Contractor. Salvaged material may be temporarily stored near the right of way line provided it is out of the clear zone of I90. Stockpiled material will be removed from the project on a weekly basis.

The Contractor will be responsible to contact all landowners along the project route prior to removing fence.

CONTROL OF ACCESS

This highway is a "Control of Access" highway as adopted by the South Dakota Transportation Commission. Access points to be limited to those shown on the construction plans except any additional that are required as a result of Right of Way acquisition.

The Contractor is responsible to control access throughout the project. If the contractor elects to use temporary fence to control access or to accommodate livestock, the cost of the temporary fence will be incidental to the contract unit prices for the various items.

DOUBLE VEHICULAR SWING GATE

A new 20' Double Vehicular Swing Gate with barbed wire top (7' Height) will be installed along the North fence line directly North of the existing vehicular gate at the EB Rest Area Lagoon.

The Contractor will refer to the additional requirements of this contract listed below:

Gate Hardware: Provide the following for each gate:

A. Hinges:

1. Pressed steel, forged steel, or malleable iron to suit the gate size; non-lift-off type, offset to permit 180 degree opening.

B. Latches:

1. Provide forked type or plunger-bar type to permit operation from either side of the gate.

2. Provide padlock eye as integral part of latch.

C. Keeper: Provide keeper for hinged vehicle gates, which automatically engages the gate leaf and holds it in the open position until manually released.

D. Double hinged gates:

1. Provide gate stops for double hinged gates consisting of mushroom or flush plate, with anchors.

2. Set in concrete to engage the center drop rod or plunger bar.

   a. Provide locking device and padlock eyes as an integral part of the latch, requiring one padlock for locking both gates leaves.

PEDESTRIAN SWING GATE

A new 4’ Pedestrian Swing Gate with barbed wire top (7’ Height) will be installed in the NE corner of the EB Rest Area Lagoon.

The Contractor will refer to the requirements of Standard Plate 621.10.

CHAIN LINK FENCE

New fence will be installed along the same alignment as the removed fence unless otherwise directed by the Engineer. It will be the responsibility of the Contractor to mark the existing alignment.

The Contractor will refer to Section 621 of the Standard Specifications.

The Contractor will refer to the additional requirements of this contract listed below:

Installing Chain Link Fence:

A. Concrete Strength:

1. Allow concrete to attain at least 75% of its minimum 28-day strength before rails, tension wire, and/or fabric is installed.

2. Do not, in any case, install such items in less than seven days after placement of concrete.

3. Do not stretch and tension fabric and wire or hang gates, until concrete has attained its full design strength.

B. Rails and bracing:

1. Provide expansion couplings as recommended by the fencing manufacturer.

2. Provide bracing to the midpoint of the nearest line post or posts at all end, corner, slope, pull, and gate posts.

Table of Fence Quantities

Fence Site	Remove Fence (Ft)	6’ Chain Link Fence with Top Rail (Barbed Wire Top) (Ft)	6’ Chain Link Fence with Tension Wired Top (Ft)	Comments/Fence type changes
WB I90	60	60		Interstate 90 North side approximately MRM 191.21. Remove 60’ of damaged existing chain link fence with top rail and barbed wire top and install 60’ of new 6’ chain link fence with top rail and barbed wire top.
WB I90	60	60		Interstate 90 North side approximately MRM 191.55. Remove 60’ of damaged existing chain link fence with top rail and barbed wire top and install 60’ of new 6’ chain link fence with top rail and barbed wire top.
EB I90	60		60	Interstate 90 South Side approximately MRM 191.30. Remove 60’ of damaged existing chain link fence with tension wired top and install 60’ of new 6’ chain link fence with tension wired top.
TOTAL	**180**	**120**	**60**	

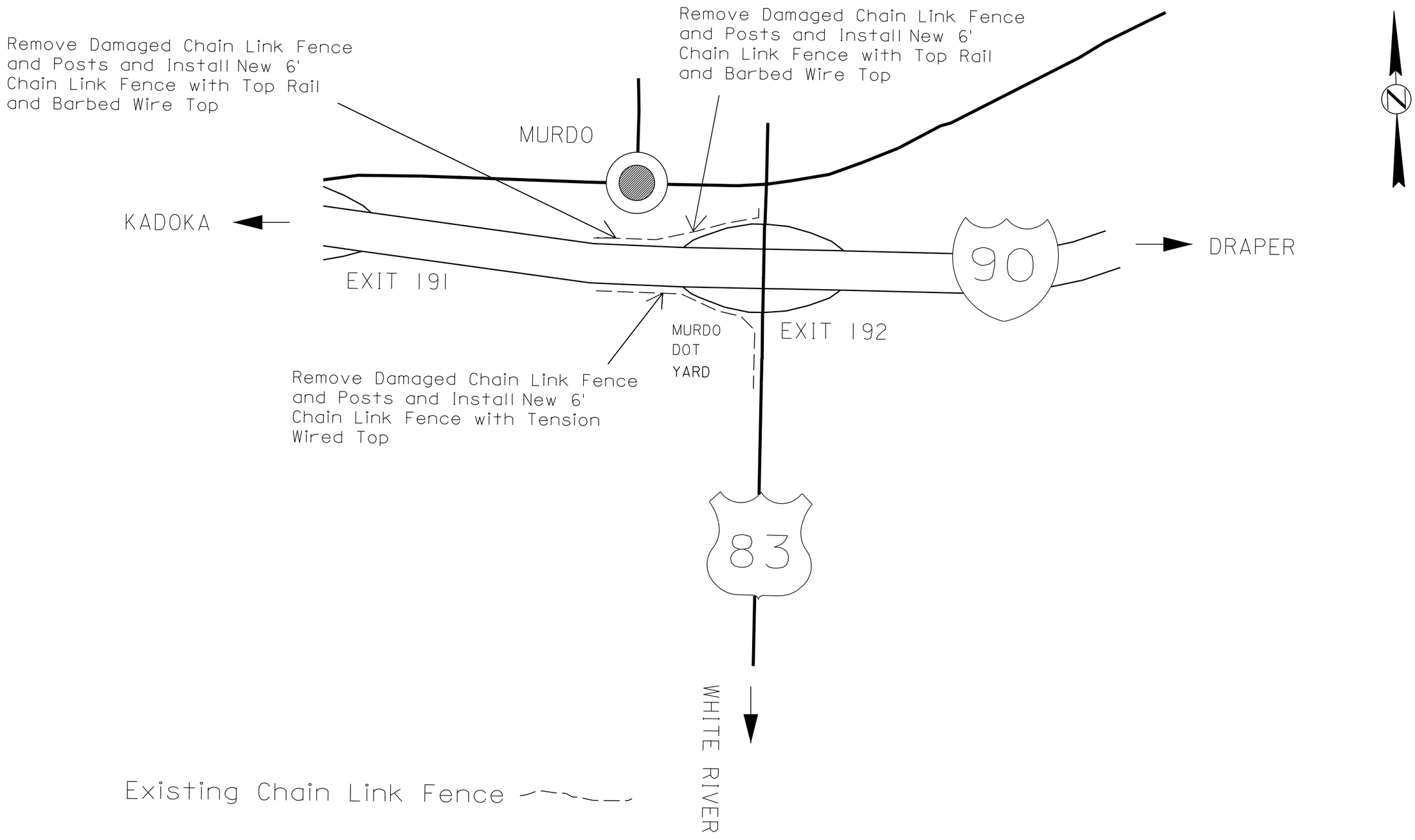
Table of Fence Quantities

Fence Site	Remove Fence (Ft)	Comments/Fence type changes
EB I90 Rest Area MRM 198.5	20	Interstate 90 EB Rest Area South side approximately MRM 198.5. Remove 20’ of the existing 7’ chain link fence with barbed wire top along the North fence line at the Lagoon Area. Install a 20’ Double Vehicular Swing Gate (7’ Height) with barbed wire top directly North of the existing vehicular gate located along the South fence line at this site.
EB I90 Rest Area MRM 198.5	4	Interstate 90 EB Rest Area South Side approximately MRM 198.5. Remove 4’ of the existing 7’ chain link fence with barbed wire top in the NE corner of the Lagoon area. Install a 4’ Pedestrian Swing Gate (7’ Height) with barbed wire top in the NE corner near the existing manhole.
TOTAL	**24**	

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-391 & 090W-391	6	10

Plotting Date: 03/24/2020

CHAIN LINK FENCE LAYOUT



PLOT SCALE - 1:25616.3

PLOTTED FROM - TRWJINT29

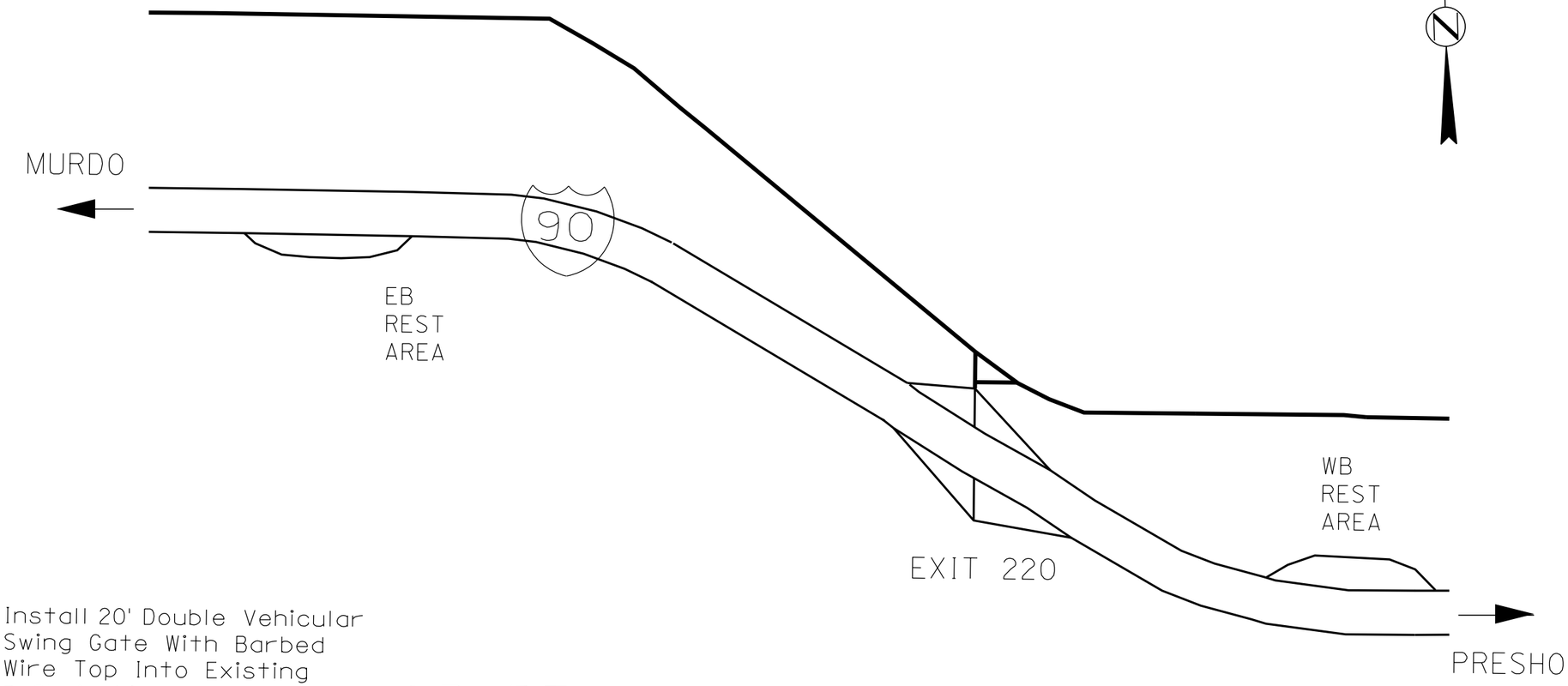
PLOT NAME - 1

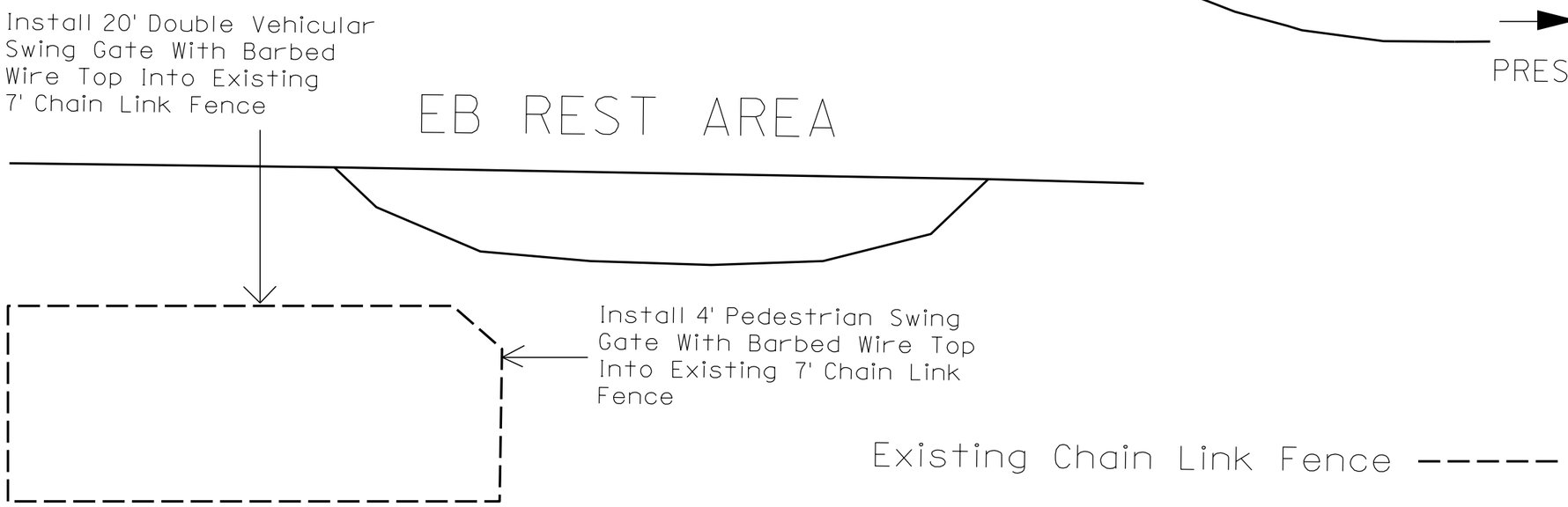
FILE -...\WORKING\LAYOUT.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-391 & 090W-391	7	10

Plotting Date: 03/24/2020

I90 EAST BOUND REST AREA
CHAIN LINK FENCE LAYOUT





PLOT SCALE - 1:25616.3

PLOT NAME - 1

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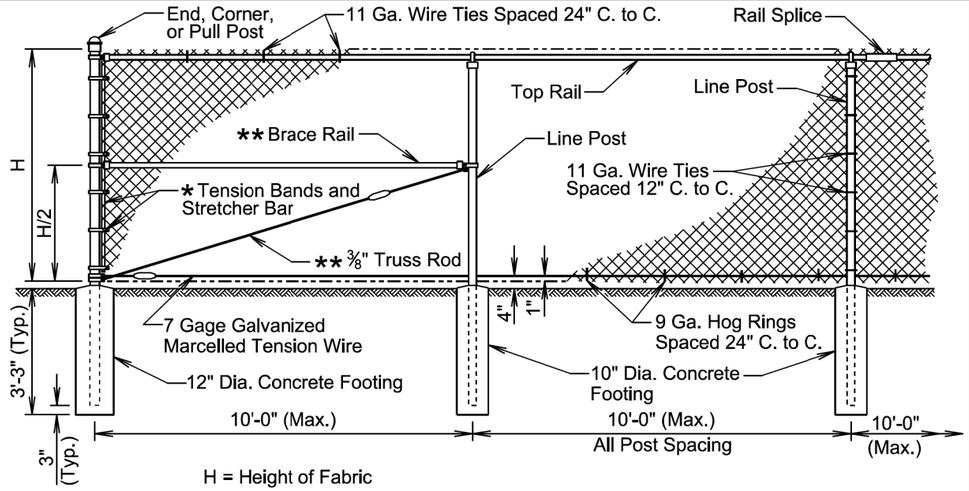
PLOTTED FROM - TRW1INT29



H = Height of Fabric

* Tension bands will be spaced 12" c. to c.

** Are not required for 3' through 5' height fences.

⬭ Tightening device such as shown on standard plate 621.03

COMPONENT	END, CORNER, and PULL POST		LINE POST			TOP and BRACE RAIL	
Type of Fabrication	Round Pipe Nominal	Roll Formed Steel	Round Pipe Nominal	"C" Section	H Beam Steel	Round Pipe Nominal	Roll Formed Steel
Size	3.00" O. D.	3.5"x3.5"	2.50" O. D.	1.875"x1.625"	2.25"x1.70"	1.625" O. D.	1.625"x1.25"
Weight (lb. / Ft.)	5.79 or 4.64	5.14	3.65 or 3.12	2.34	3.43	2.27 or 1.84	1.35

GENERAL NOTES:

Specific details of the component parts of the fence will be approved by the Engineer. Commercially available items produced specifically for the use intended will be used wherever possible in the construction of the fence.

Height of the fabric will be as shown in the plans. Fabric is available at the following heights: 36", 42", 48", 60", 72", 84", 96", 108", 120", and 144". Fabric heights 60 inches and less will be knuckled at both selvages. Fabric heights 72 inches and higher will be knuckled at one selvage and twisted at the other selvage.

Chain link fabric will be 2-inch mesh, No. 9 gage galvanized wire securely fastened to tension wire, line post, rails, braces, and stretcher bars.

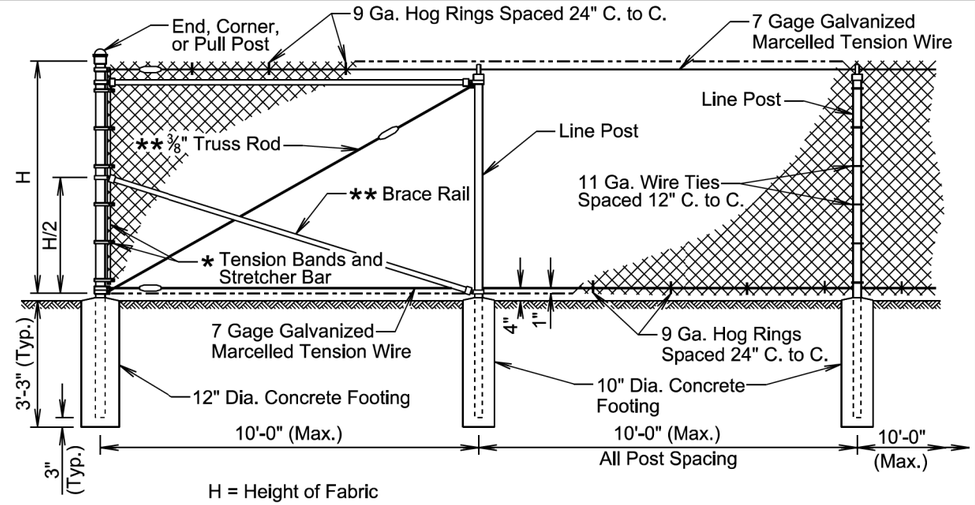
Fence may be constructed with either round pipe, "C" section, "H" beam, or roll formed steel components as shown in the table above. Line posts may be round pipe, "C" section, or "H" beam. The corner post and rails will be either round pipe or roll formed steel. The type of components used must be approved by the Engineer prior to installation.

Where fence must cross small bodies of water such as drainage areas or ponds that could freeze during the winter, use 11 gage hog rings. Provide only two ties per tension wire and top rail between line posts.

A suitable method of rail splicing will be used to allow for expansion and contraction while maintaining proper position of the top rail.

June 26, 2019

Published Date: 1st Qtr. 2020	SDDOT	CHAIN LINK FENCE WITH TOP RAIL	PLATE NUMBER 621.01
			Sheet 1 of 1



H = Height of Fabric

* Tension bands will be spaced 12" c. to c.

** Are not required for 3' through 5' height fences.

⬭ Tightening device such as shown on standard plate 621.03

COMPONENT	END, CORNER, and PULL POST		LINE POST			BRACE RAIL	
Type of Fabrication	Round Pipe Nominal	Roll Formed Steel	Round Pipe Nominal	"C" Section	H Beam Steel	Round Pipe Nominal	Roll Formed Steel
Size	3.00" O. D.	3.5"x3.5"	2.50" O. D.	1.875"x1.625"	2.25"x1.70"	1.625" O. D.	1.625"x1.25"
Weight (lb. / Ft.)	5.79 or 4.64	5.14	3.65 or 3.12	2.34	3.43	2.27 or 1.84	1.35

GENERAL NOTES:

Specific details of the component parts of the fence will be approved by the Engineer. Commercially available items produced specifically for the use intended will be used wherever possible in the construction of the fence.

Height of the fabric will be as shown in the plans. Fabric is available at the following heights: 36", 42", 48", 60", 72", 84", 96", 108", 120", and 144". Fabric heights 60 inches and less will be knuckled at both selvages. Fabric heights 72 inches and higher will be knuckled at one selvage and twisted at the other selvage.

Chain link fabric will be 2-inch mesh, No. 9 gage galvanized wire securely fastened to tension wire, line post, rails, braces, and stretcher bars.

Fence may be constructed with either round pipe, "C" section, "H" beam, or roll formed steel components as shown in the table above. Line posts may be round pipe, "C" section, or "H" beam. The corner post and rails will be either round pipe or roll formed steel. The type of components used must be approved by the Engineer prior to installation.

All posts will have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top tension wire.

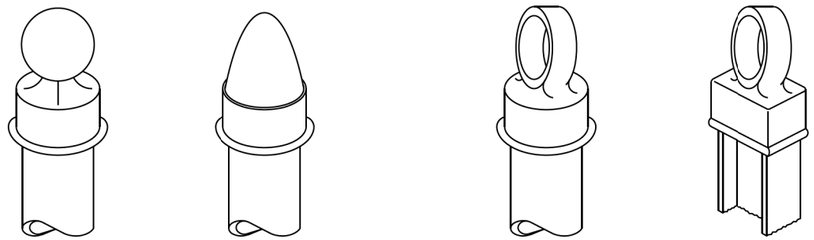
Where fence must cross small bodies of water such as drainage areas or ponds that could freeze during the winter, use 11 gage hog rings. Provide only two ties per tension wire between line posts.

June 26, 2019

Published Date: 1st Qtr. 2020	SDDOT	CHAIN LINK FENCE WITH TENSION WIRED TOP	PLATE NUMBER 621.02
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-391 & 090W-391	9	10

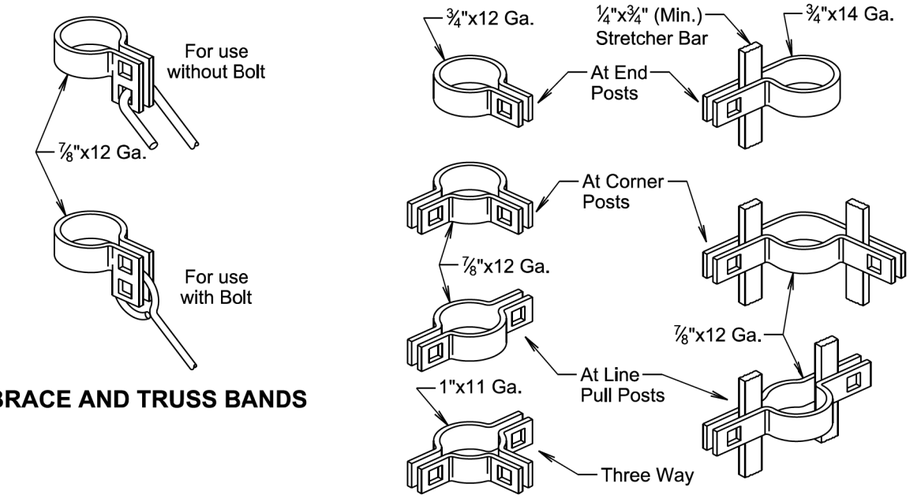
Plotting Date: 02/12/2020



For End, Corner, and Pull Posts

For Line Posts

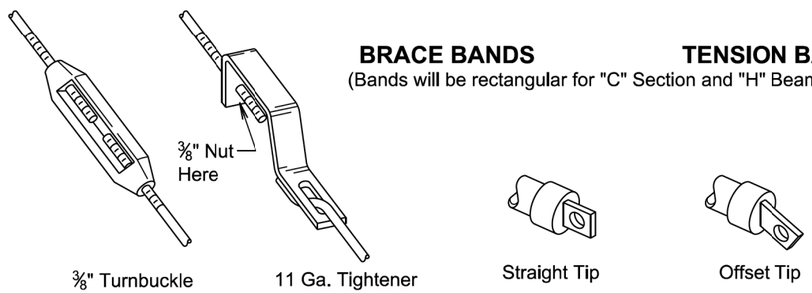
TYPICAL POST TOPS
(Shown for example only)



BRACE AND TRUSS BANDS

BRACE BANDS **TENSION BANDS**

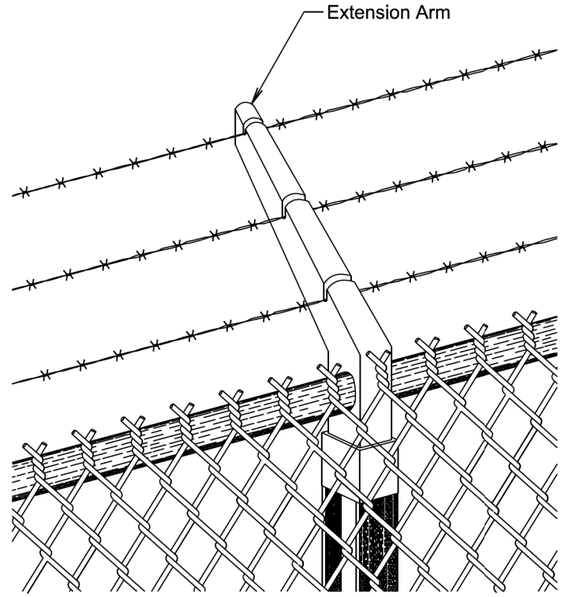
(Bands will be rectangular for "C" Section and "H" Beam Posts.)



TIGHTENING DEVICES **RAIL ENDS**

June 26, 2019

Published Date: 1st Qtr. 2020	SDDOT	HARDWARE FOR CHAIN LINK FENCE	PLATE NUMBER 621.03
			Sheet 1 of 1



GENERAL NOTES:

Extension arms will be hot dipped galvanized. End and corner arms will be malleable iron. Intermediate arms may be pressed steel. Arms will have sealed caps and three slots to accommodate the barbed wires. The top wire will be 12 inches above the fabric and 12 inches out from the fence line at an angle of approximately 45°. Adjustable arms may be used. Barbed wire will be two strand 12½ gauge wire with four point round barbs spaced on 5 inch centers.

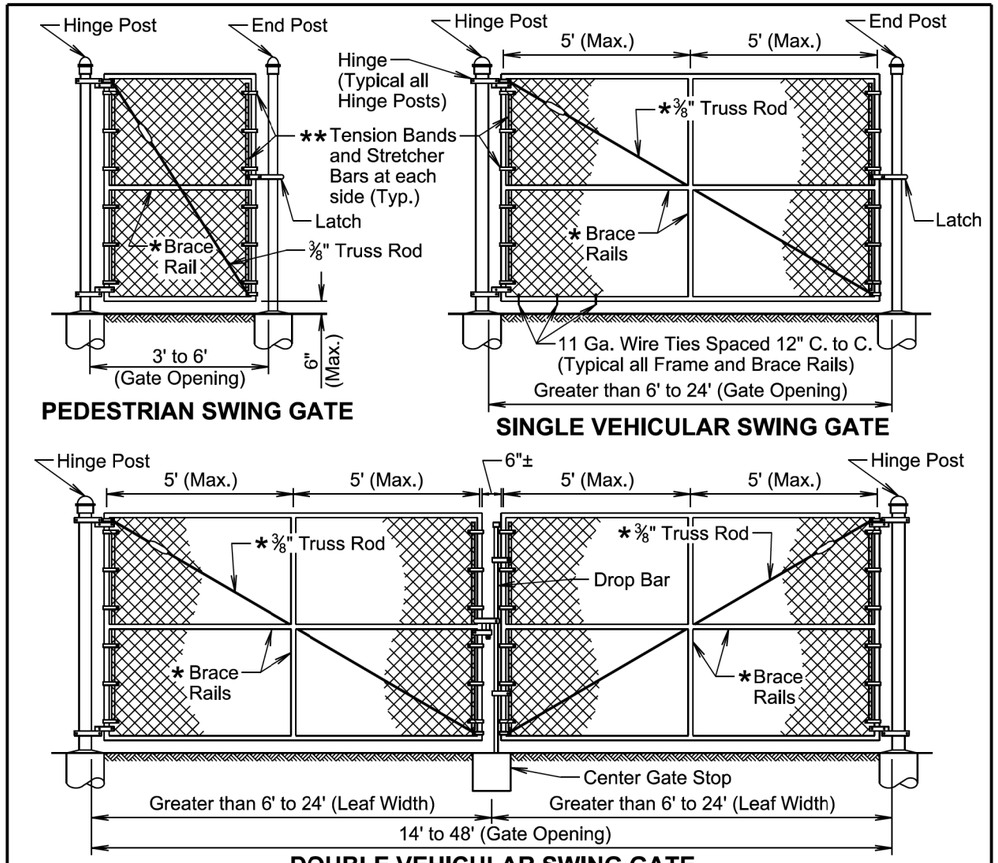
Extra payment will not be made for extension arms with barbed wire. Extension arms with barbed wire will be incidental to the respective "Chain Link Fence" contract item. When extension arms with barbed wire are attached to gates, the payment for the extension arms with barbed wire will be incidental to the respective "Gate" contract item.

June 26, 2019

Published Date: 1st Qtr. 2020	SDDOT	BARBED WIRE TOP FOR CHAIN LINK FENCE	PLATE NUMBER 621.04
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090E-391 & 090W-391	10	10

Plotting Date: 02/12/2020



PEDESTRIAN SWING GATE

SINGLE VEHICULAR SWING GATE

DOUBLE VEHICULAR SWING GATE

[1] Gate Opening Width	Hinge Post		Concrete Footing	
	Round Pipe Nominal	Roll Formed Steel	Depth	Diameter
3' to 6'	3.00"	3.50"x3.50"	36"	12"
> 6' to 13'	4.00"	—	42"	12"
> 13' to 18'	6.625"	—	48"	18"
> 18' to 23'	8.625"	—	48"	24"

Gate Opening		Frame Pipe Nominal	Brace Rail Pipe Nominal
[1] Width	[2] Height		
3' to 8'	3' to 6'	1.50"	1.50"
>8' to 23'	6'	1.90"	1.50"
>8' to 23'	>6' to 12'	1.90"	1.90"

* Are not required for gates 3' to 5' height or 5' or less in width.

** Tension Bands willl be spaced 12" center to center.

⬭ Tightening Device such as shown on standard plate 621.03

1 Leaf width for Double Vehicular Swing Gate

2 Will coincide with fence height

GENERAL NOTES:

Gate frames may be constructed of bent or welded steel tubing, must be approved by the Engineer prior to installation, and installed in accordance with the Manufacturer's installation instructions.

Center gate stops must be approved by the Engineer prior to installation and will be installed in accordance with the Manufacturer's installation instructions.

June 26, 2019

Published Date: 1st Qtr. 2020	SDDOT	SWING GATES FOR CHAIN LINK FENCE	PLATE NUMBER 621.10
			Sheet 1 of 1

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.

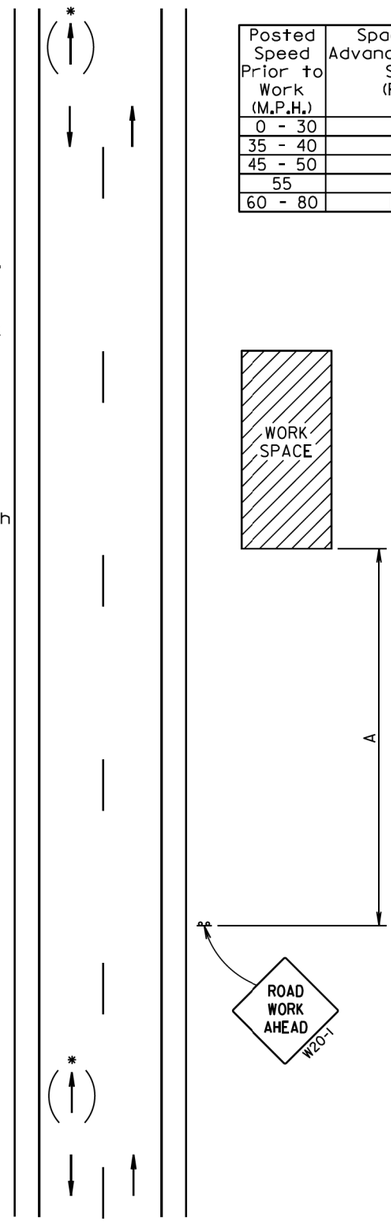
The signs illustrated shall be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

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



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