

Plot Scale - 1:200

Plotted From - trc11640

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED

PROJECT 000P-452  
SD HWY 44  
PENNINGTON COUNTY

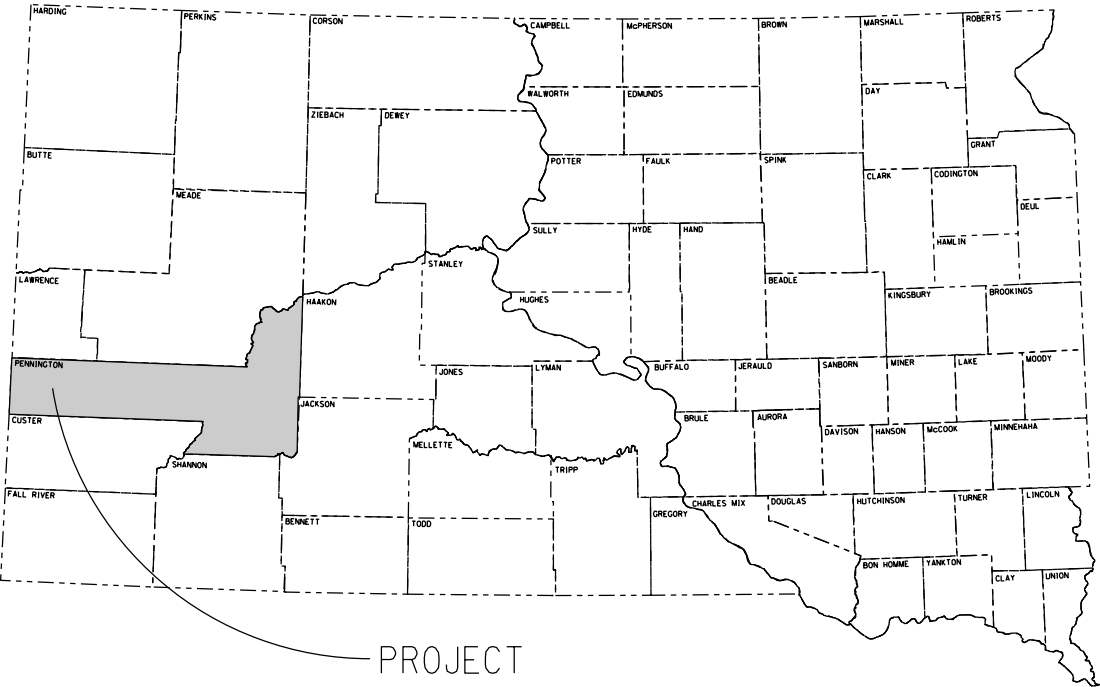
TREE CLEARING  
PCN 12U4

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P-452	1	6

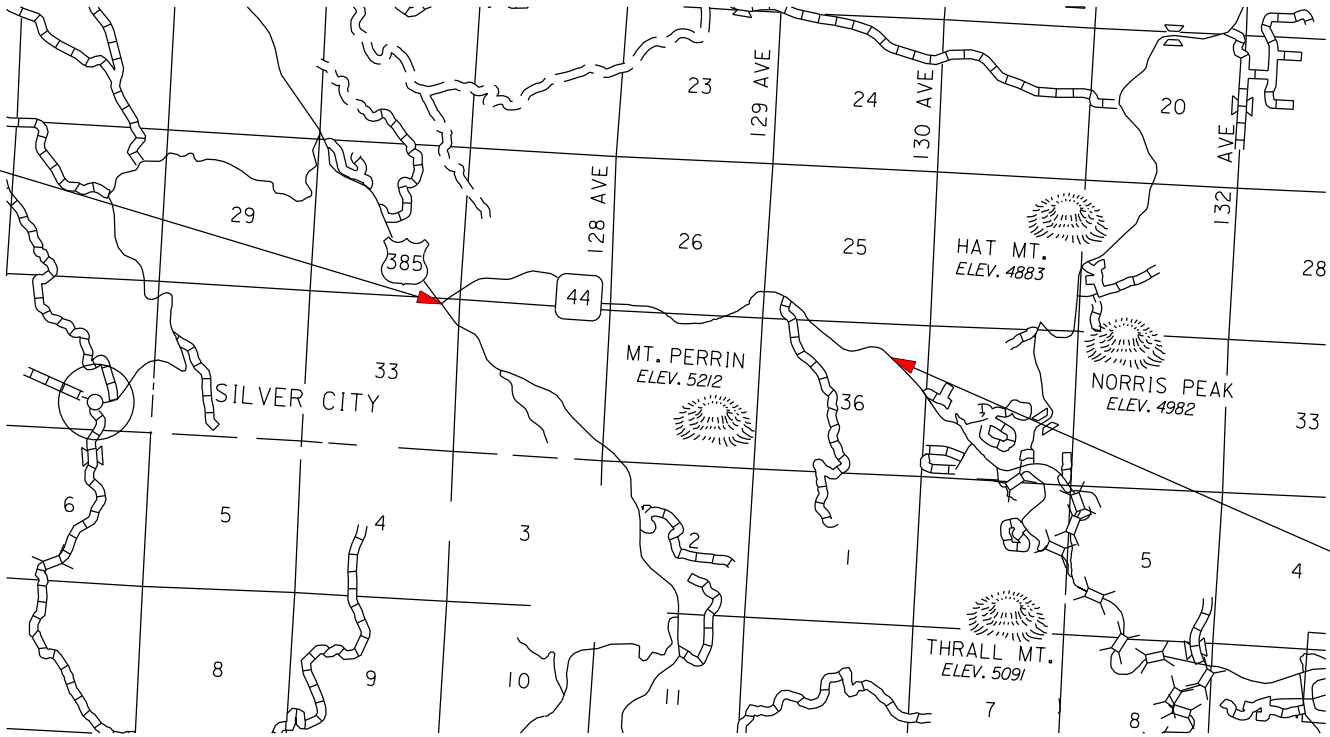
Plotting Date: 05/13/2013

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BEGIN PROJECT  
APPROX. MRM 26.9



END PROJECT  
APPROX. MRM 30.2

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E7802	Remove Fence for Reset	700	Ft
620E4100	Reset Fence	700	Ft
634E0010	Flagging	500	Hour
634E0100	Traffic Control	204	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
730E1200	Hydroseeding	4,840	SqYd
731E0100	Fertilizing	1,500	Lb
732E0250	Fiber Mulching	2,000	Lb

SPECIFICATIONS

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

WORK DESCRIPTION

Work on this project will consist of the following:

- Clearing and disposal of all merchantable and non-merchantable trees, brush, and woody vegetation within designated areas along SD Hwy 44.
- The overall completion date for this project is March 28, 2014.

TRAFFIC CONTROL – GENERAL NOTES

1. Storage of vehicles and equipment shall be as near the right-of-way as possible. 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 of 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.
2. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State. Any damage to existing pipe or guardrail shall be repaired or replaced by the Contractor at no cost to the State.
3. The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.
4. Vehicles working in traffic or alongside traffic shall be equipped with a flashing amber light visible from all directions. The amber light shall be mounted on the uppermost part of the contractor's vehicle. Lights must have peak intensity within the range of 40 to 400 candelas and must flash at 75 ± 15 flashes per minute. Vehicle flasher/hazard lights are not acceptable.

TRAFFIC CONTROL – GENERAL NOTES (CONTINUED)

5. Work activities shall be conducted during daylight hours only. Traffic shall be returned to the normal driving lanes during non-working hours. Storage of vehicles and equipment shall be outside the clear zone (30’ from white edgeline) and as near to the right-of-way as possible.
6. Only one set of signs according to Standard Plate Number 634.30 is included in the estimate of quantities. The Contractor shall only work at one site unless the Engineer approves additional work sites.
7. Certified flaggers with appropriate advance warning signs for both directions of travel will be required for any work that occupies the traveled lanes. The road shall be kept open to traffic with not more than 5 minutes delay time. The 15-20 minute closure shown on Standard Plate Number 634.30 shall be changed to not exceeding **5 minutes**.

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”.
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.

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WASTE DISPOSAL SITE (CONTINUED)

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.

CLEARING

**Note: The Contractor is highly encouraged to visit the project locations prior to bidding.**

All clearing work is to be completed within the existing highway right-of-way that is adjacent to private property. There will be no clearing work done within the right-of-way that is adjacent to National Forest Land. Exact clearing limits will be marked by the Engineer.

Clearing areas on the south side of the roadway shall be cleared to the right-of-way line (up to 100’ from centerline of roadway).

The clearing areas on the south side of the roadway consists of cutting all vegetative material over ½” diameter, including; brush, plants, limbs, residual slash, hazard or unstable trees, down timber, non-merchantable timber, and merchantable timber.

Two of the clearing areas will require fence to be removed and reset to get the clearing work completed.

Clearing areas on the north side of the roadway shall be cleared to 40’ from the white painted edgeline.

The clearing areas on the north side of the roadway consists of cutting all vegetative material over ½” diameter, including; brush, plants, limbs, residual slash, hazard or unstable trees, down timber, non-merchantable timber, and merchantable timber. The exception to this shall be behind guardrail. Only pine trees and cottonwood trees shall be taken from behind guardrail. Areas behind guardrail are steep and narrow. Extra care shall be taken not to damage other nearby trees during the clearing process.

All timber within the clearing area shall become the property of the Contractor and removed.

All species and sizes will be removed from the clearing area except as noted. Additionally, no material will be piled within this area. Decking will not be allowed in the clearing area.

All felled trees, limbs, and brush as well as other previously downed material shall be removed from the clearing areas and disposed of properly by the Contractor.

CLEARING (CONTINUED)

Material may be chipped into bark mulch size pieces at the location it is felled when possible. Chips shall be broadcast spread to a depth not to exceed 4 inches. Any material exceeding 4” in depth, will have to be disposed of by the Contractor.

The Contractor is responsible for keeping the roadway clear of debris. No separate payment will be made for this work.

The Contractor shall restore and grade areas disturbed by clearing activities including ruts. No separate payment will be made for this work.

Brush and trees shall be cut to a maximum height of 3” above the ground.

All costs for clearing, disposal, and other work as described in this section, “CLEARING”, shall be included in the contract unit price Lump Sum, for “Clearing”.

HYDROSEEDING

Only disturbed areas, as determined by the Engineer, will be Hydroseeded with Type E Permanent Seed Mixture.

Type E Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Canada Wildrye	Mandan	2
Wildflowers		
Dotted Gayfeather ( <i>Liatris punctata</i> )		0.5
Black-eyed Susan ( <i>Rudbeckia hirta</i> )		0.5
Blue Flax ( <i>Linum lewisii</i> )		0.5
Pale Purple Coneflower ( <i>Echinacea angustifolia</i> )		0.5
Total:		20

Hydroseeding shall be done by applying a mixture of water and seed at locations determined by the Engineer during construction.

The equipment used for hydroseeding shall be a mechanical agitation hydroseeding machine.

All costs for hydroseeding including equipment, labor, and materials which include the water and seed shall be incidental to the contract unit price per square yard for “Hydroseeding”

FERTILIZING

Only disturbed areas, as determined by the Engineer, will be Fertilized.

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The all-natural slow release fertilizer shall be applied according to the manufacturer’s application recommendations.

The application rate is 1,500 pounds per acre.

The all-natural slow release fertilizer shall be from the list below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 <a href="http://www.sustane.com/">http://www.sustane.com/</a>

FIBER MULCHING

Only disturbed areas, as determined by the Engineer, will be Fiber Mulched.

Fiber mulch shall be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier shall be added to the fiber mulch product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier shall be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier shall be synthetic.

Fiber mulch shall be applied at the rate of 2000 pounds per acre.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials shall be incidental to the contract unit price per pound for “Fiber Mulching”.

The fiber mulch provided shall be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

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	000P-452	3	6

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
W3-4	48" x 48"	BE PREPARED TO STOP	2	34	68
W20-1	48" x 48"	ROAD WORK AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
TOTAL UNITS					204

Plot Scale - 1:200

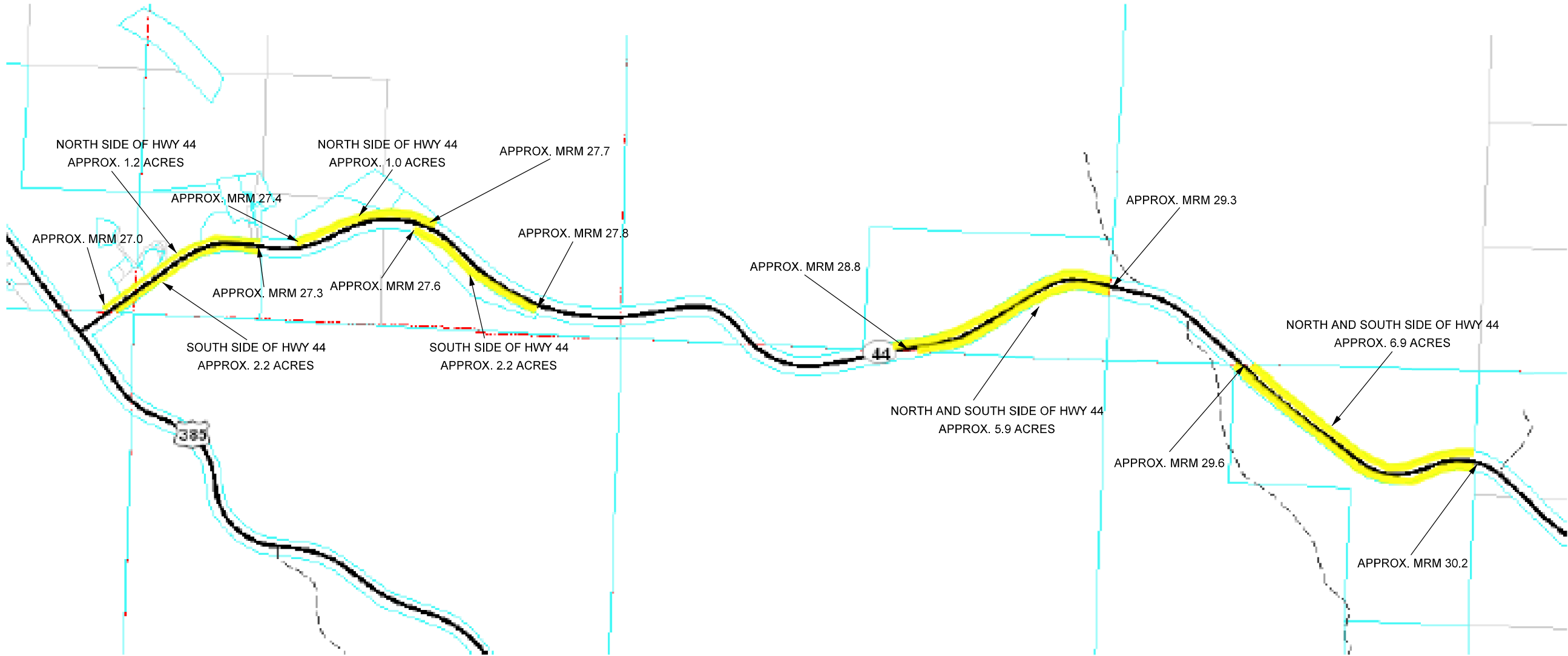
Plotted From - jrc11640

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P-452	4	6

Plotting Date: 05/23/2013

# CLEARING AREAS

NOTE: SOUTH SIDE OF ROADWAY SHALL BE CLEARED TO THE RIGHT-OF-WAY LINE  
NORTH SIDE OF ROADWAY SHALL BE CLEARED 40' FROM THE PAINTED EDGELINE



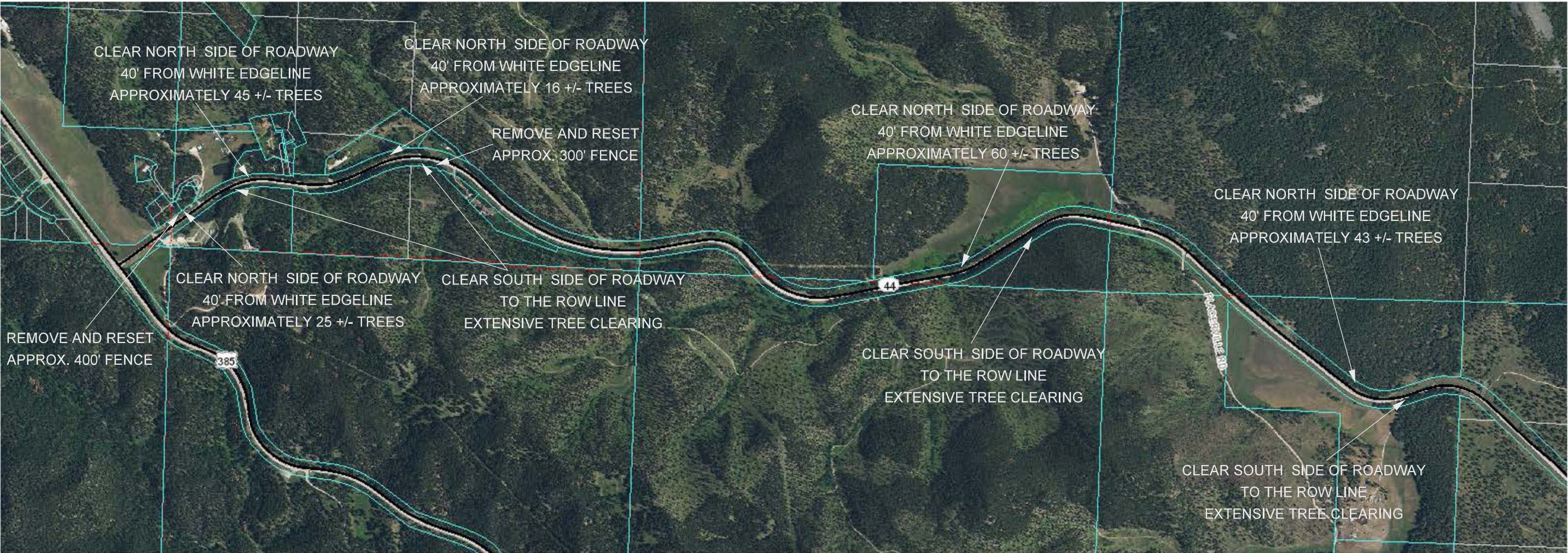


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	000P-452	5	6

Plotting Date: 05/23/2013

# CLEARING AREAS

NOTE:  
AREAS ON THE NORTH SIDE OF THE ROADWAY  
THAT ARE BEHIND GUARDRAIL - CLEAR ONLY  
PINE TREES AND COTTONWOOD TREES -  
EXTRA CARE SHALL BE TAKEN TO NOT DAMAGE  
OTHER NEARBY TREES DURING CLEARING PROCESS





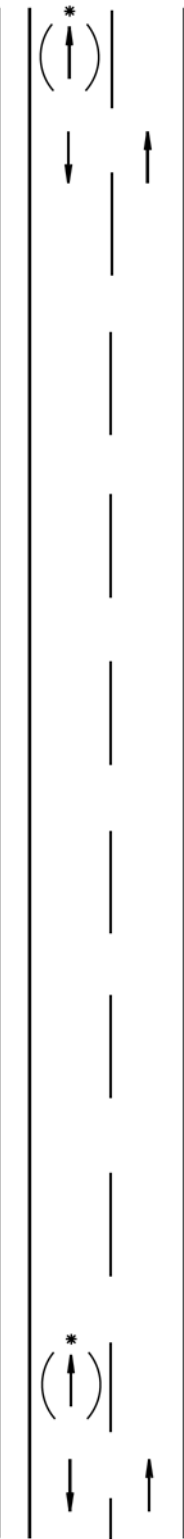
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

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 - 75	1000

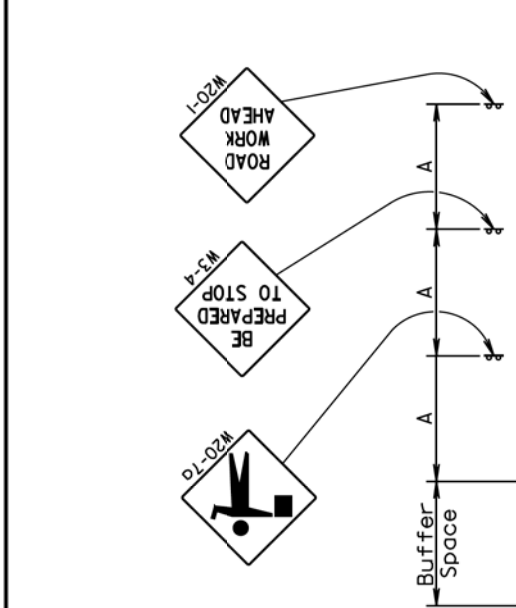


A



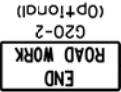
July 1, 2005

Published Date: 2nd Qtr. 2013	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
			Sheet 1 of 1



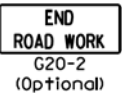
Conditions represented are for work that requires closings during daytime hours only.

This application is intended for a planned temporary closing not to exceed 15-20 minutes.



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 - 65	1000

Flagger

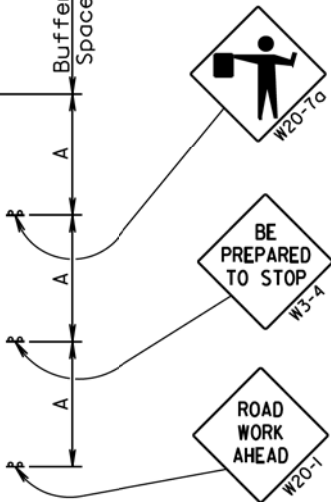


Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	35
25	55
30	85
35	120
40	170
45	220
50	280
55	335
60	415
65	485

Buffer space dependent on work site limitations.



Buffer Space



February 14, 2011

Published Date: 2nd Qtr. 2013	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES TEMPORARY ROAD WORK	PLATE NUMBER 634.30
			Sheet 1 of 1