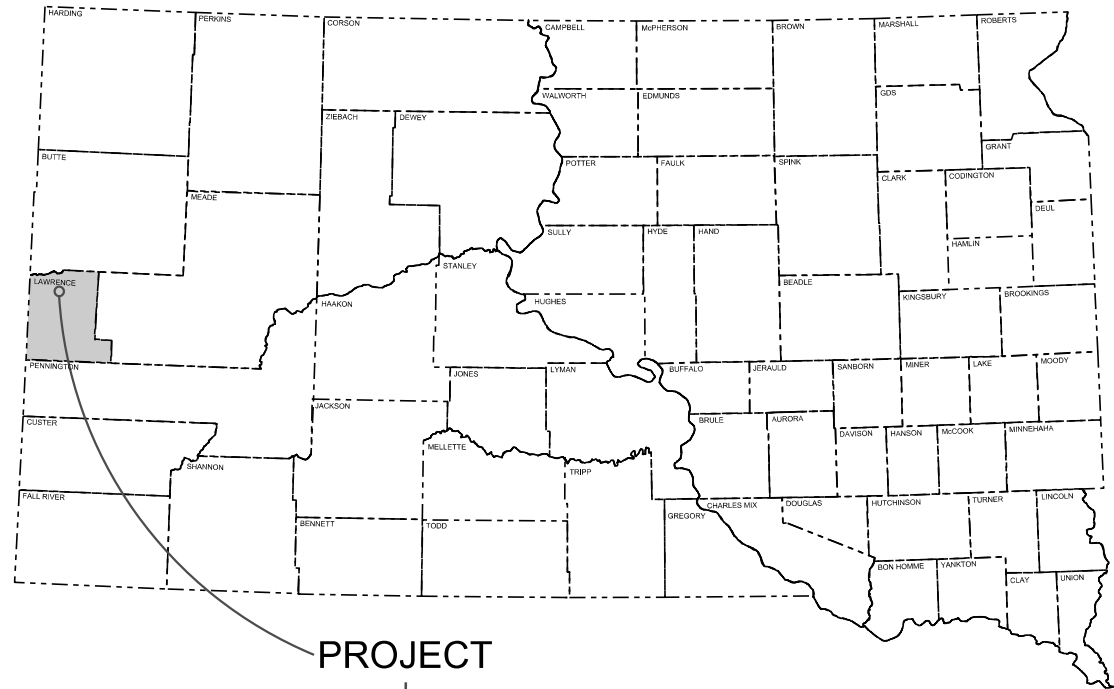


Plot Scale - 1:200

Plotted From - Irrc12608



STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT 090 E-451  
INTERSTATE 90  
LAWRENCE COUNTY

CREEK CLEANOUT  
PCN i2uk

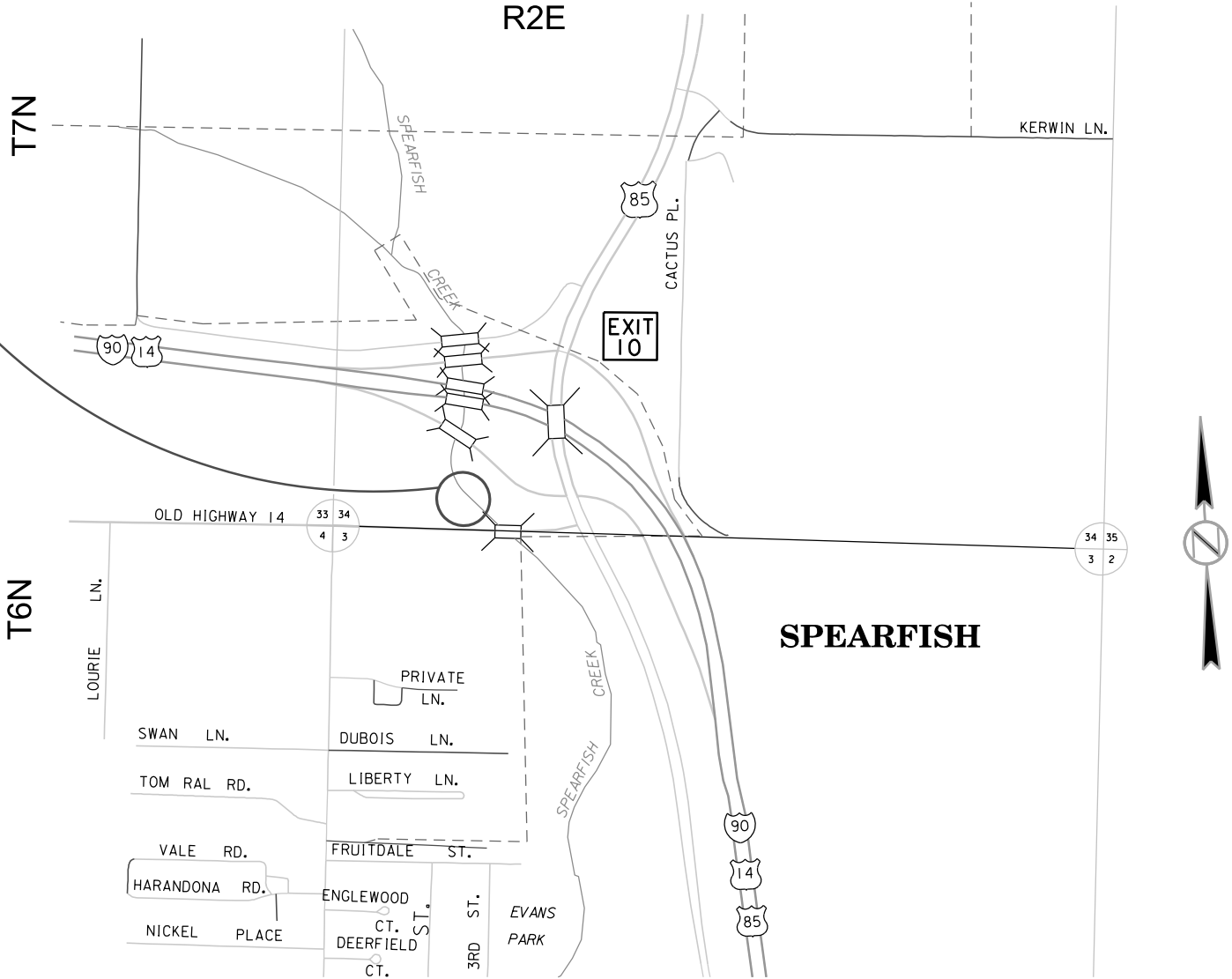
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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Plotting Date: 05/02/2013

INDEX OF SECTIONS

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PROJECT



STORM WATER PERMIT

Major Receiving  
Body of Water: Spearfish Creek  
Area Disturbed: 0.23 ac  
Total Project Area: 0.82 ac  
Approx. Begin Lat/Long  
44°31'06" N / 103°51'58" W

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E1690	Remove Sediment	0.2	CuYd
110E7802	Remove Fence for Reset	100	Ft
120E0010	Unclassified Excavation	542	CuYd
230E0020	Placing Contractor Furnished Topsoil	40	CuYd
620E4100	Reset Fence	100	Ft
634E0010	Flagging	10	Hour
634E0100	Traffic Control	238	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
734E0010	Erosion Control	Lump Sum	LS
734E0101	Type 1 Erosion Control Blanket	540	SqYd
734E0510	Shaping for Erosion Control Blanket	600	Ft
734E5005	Dewatering	Lump Sum	LS

SPECIFICATIONS

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

UTILITIES

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.

Any damage done to a utility will be the Contractor’s responsibility to repair.

Utilities, if identified within the limits of the proposed construction, shall be adjusted by the owner as addressed in SDCL 31-26-23 unless otherwise indicated in these plans.

COORDINATION WITH DOWNSTREAM IRRIGATORS

The Contractor shall coordinate with downstream landowners on Spearfish Creek between the beginning and end of the diversion channel.

The Contractor shall maintain flow in Spearfish Creek during irrigation season.

CLEARING

Before clearing activities begin, the Contractor shall contact the Engineer to determine the limits of clearing for the project. If the trees or shrubs that are supposed to remain within the limits of work are damaged or destroyed by the Contractor, the Contractor shall replace them with the same size and type at the Contractor’s expense.

Material generated by Clearing shall be disposed of in accordance with the Waste Disposal note.

WORK AFFECTING WATERWAYS

A. WATER QUALITY

Surface Water Quality

The Contractor is advised the South Dakota Surface Water Quality Standards, administered by the Department of Environment and Natural Resources (DENR), apply to this project.

The Spearfish Creek is classified as a cold water permanent fishery with a total suspended solids standard of 30 milligrams/liter.

Surface Water Discharge

If construction dewatering is required, the Contractor is required to obtain a Surface Water Discharge Permit from the DENR. Contact the DENR Surface Water Program at 605-773-3351 to apply for a permit.

The Spearfish Creek is classified as a cold water permanent fishery with a total suspended solids standard of 30 milligrams/liter.

Storm Water

The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the DENR General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by offsite activities, such as borrow and staging areas, which are the responsibility of the Contractor.

A major component of the storm water construction permit is development and implementation of a storm water pollution prevention plan (SWPPP). This plan is a joint effort and responsibility of the DOT and the Contractor. The SWPPP is a dynamic document and is to be available on-site at all times. Information on storm water requirements and SWPPP are available on the following websites:

DOT: [http://www.sddot.com/pe/projdev/environment\\_stormwater.asp](http://www.sddot.com/pe/projdev/environment_stormwater.asp)  
DENR: <http://www.denr.sd.gov/des/sw/stormwater.aspx>

B. SEASONAL WORK RESTRICTIONS

The State of South Dakota has a designated cold water fishery associated with this project. Placement of fill and/or in-stream work should not take place during the Seasonal Work Restriction to avoid conflicts with spawning fish. If flows during this time are nonexistent or extremely low, the seasonal use restriction may not be applicable. The Contractor shall not conduct in-stream work during the Seasonal Work Restriction without prior approval from the DOT Environmental Office, Ryan Huber at 605-773-3568.

TABLE OF COLD WATER FISHERY

Stream Name	Stream Classification	Seasonal Work Restriction
Spearfish Creek	Cold Water	October 1 to April 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all designated option borrow sites provided within the plans.

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

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

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

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.

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.

REMOVE AND RESET ROW FENCE

A quantity of 100 feet of fence removal and reset has been provided in the estimate to afford access to the project area. If necessary, this quantity may be increased or decreased by the Engineer.

UNCLASSIFIED EXCAVATION

The quantity of Unclassified Excavation provided in these plans is for the necessary removal of material to cleanout Spearfish Creek and the overflow structure.

Plans quantity shall be the basis of payment unless changes are ordered by the Engineer. Any water required for slope shaping shall be incidental to the contract unit price per cubic yard of Unclassified Excavation and placed as directed by the Engineer.

All excess material shall be properly disposed of as per the Waste Disposal Note.

Table of Unclassified Excavation	
Location	Unclassified Excavation (CuYd)
Spearfish Creek	301
Diversion Structure	241
Total	542

PLACING CONTRACTOR FURNISHED TOPSOIL

The estimated amount of Contractor Furnished Topsoil required for this project is 40 CuYd.

The Contractor will be required to furnish and place 4 inches of topsoil within the grading limits as determined by the Engineer during construction.

All costs to furnish and place the topsoil shall be incidental to the contract unit price per cubic yard for Placing Contractor Furnished Topsoil.

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STREAM ALIGNMENT DATA

Type	Station		Northing	Easting
POB	0+00.00		273841.862	960019.980
		TL= 33.50      S 51°09'10" E		
PC	0+33.50		273820.848	960046.072
PI	0+86.88	R = 125.00 Delta = 46°15'03" L	273787.365	960087.648
PT	1+34.41		273794.243	960140.585
		TL= 26.68      N 82°35'47" E		
PC	1+61.09		273797.682	960167.047
PI	1+85.90	R = 200.00 Delta = 14°08'31" R	273800.878	960191.648
PT	2+10.45		273797.968	960216.285
		TL= 203.91      S 83°15'42" E		
PC	4+14.37		273774.042	960418.789
PI	4+46.61	R = 100.00 Delta = 35°44'32" R	273770.259	960450.810
PT	4+76.75		273748.483	960474.589
		TL= 108.56      S 47°31'10" E		
POE	5+85.31		273675.168	960554.654

SEQUENCE OF OPERATIONS – GENERAL NOTES

- 1. Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. 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 shall be submitted for review a minimum of one week prior to potential implementation.
- 2. Unless otherwise stated in these plans, no work will be allowed during hours of darkness. Hours of darkness are defined, as ½ hour after sunset until ½ hour before sunrise.
- 3. 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.
- 4. Existing guide, route, informational logo, regulatory, and warning signs shall be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Non-applicable signing shall be covered or removed during periods of inactivity. Periods of inactivity shall be defined as no work taking place for a period of more than 36 hours. The cost of removing or covering non-applicable signs shall be incidental to the contract lump sum price for, Traffic Control, Miscellaneous.
- 5. Construction signing mounted on portable supports shall not be used for a duration of more than 3 days, unless approved by the Engineer. Construction signing that remains in the same location for more than 3 days shall be mounted on fixed location, ground mounted, breakaway supports.
- 6. If inappropriate/conflicting pavement markings exist, the markings shall be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict shall be placed at a spacing of ½ G. Pavement marking removals shall be paid for at the contract unit price for Remove Pavement Marking, 4" or equivalent. Temporary pavement marking shall be paid for at the contract unit bid price for Temporary Pavement Marking. The additional channelizing devices shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
- 7. The quantity of Signs paid for will be for the greatest number of installations per sign in place at any one time regardless of the number of set-ups on the project.
- 8. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.
- 9. All materials and equipment shall be stored a minimum distance of 30' from the traveled way during nonworking hours.

SEQUENCE OF OPERATIONS – GENERAL NOTES (CONTINUED)

- 10. 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.
- 11. The Contractor shall be required to have a person available 24 hour/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.
- 12. The Contractor or designated traffic control subcontractor shall make night inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
- 13. 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.
- 14. All construction operations shall be conducted in the general direction of traffic movement.
- 15. If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD – whichever is more stringent shall be used.
- 16. Temporary Road Markers shall be used for lane closure tapers or lane shift tapers. Temporary Road Markers used for tapers and shifts will not be measured for payment and will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.
- 17. Drums are required in all lane closure tapers.

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
W8-6	48" x 48"	TRUCK CROSSING	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			238		

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SEQUENCE OF OPERATIONS

- 1. Set up Traffic Control.
- 2. Remove fence for reset.
- 3. Divert stream to east side of the overflow channel.
- 4. Clean out Spearfish Creek and west side of the overflow channel.
- 5. Place Contractor Furnished Topsoil.
- 6. Place Erosion Control Measures.
- 7. Divert stream flow to completed channel of Spearfish Creek.
- 8. Clean out the remainder of the overflow channel.
- 9. Remove stream diversion.
- 10. Reset fence.
- 11. Remove Traffic Control.



DEWATERING

For work in the channel of Spearfish Creek downstream of the diversion structure, the stream shall be diverted into the overflow channel. Work upstream of and adjacent to the diversion structure shall be performed on half of the channel at a time.

The creek shall be diverted prior to any excavation. Permanent erosion control measures shall be installed prior to diverting the creek onto any completed section.

The Contractor will be required to remove and reset the creek diversion to complete half width at a time. All costs associated with this work shall be incidental to the various bid items on the project.

Dewatering the work area shall be the Contractors responsibility. All costs associated with dewatering the work area including equipment, labor and materials shall be incidental to the contract unit price per Lump Sum for “Dewatering”.

CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS

No excavation shall be made below the ordinary high water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting; and the natural streambed shall not be disturbed without permission from the Engineer.

All dredged or excavated materials shall be placed at a site above the ordinary high water elevation in a confined area (not classified as a wetland) to prevent return of such material to the waterway.

The construction of temporary work platforms, crossings, or berms below the ordinary high water elevation will be allowed provided that all material placed below the ordinary high water elevation consists of Class B or larger riprap.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, crossings, and berms shall be removed with minimal disturbance to the streambed. Proper construction practices shall be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, grading, etc. shall be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Temporary waterway crossings required for the Contractors construction operations shall be constructed with an adequate drainage structure size and minimum fill height to reduce the potential for upstream flooding. The Contractor will be responsible for sizing the temporary drainage structure for these crossings.

EROSION CONTROL

Areas disturbed shall be seeded and fertilized.

All permanent seed shall be planted in the topsoil at a depth of ¼” to ½”.

All seed broadcast must be raked or dragged in (incorporated) within the top ¼” to ½” of topsoil when possible. Hand raking may be required. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Western Wheatgrass	Flintlock, Rodan, Rosana	1.3
Green Needlegrass	Lodorm	0.8
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	0.6
Blue Grama	Bad River, Willis	0.4
Oats or Spring Wheat: April through July; Winter Wheat: August through November		1.9
Total:		5.0

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 fertilizer application rate is 34 pounds per 1,000 square feet.

Approximately 4860 SqFt will require permanent seeding. The Engineer may adjust this quantity up or down depending on damage to the area surrounding the project.

All costs associated with permanent seeding and fertilizing shall be incidental to the contract lump sum for price for Erosion Control.

TYPE 1 EROSION CONTROL BLANKET

Type 1 Erosion Control Blanket shall be installed 8 feet wide on disturbed areas along the creek, and at locations determined by the Engineer.

The erosion control blanket provided shall be from the approved product list. The approved product list for erosion control blanket may be viewed at the following internet site:

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

The Contractor shall install erosion control blanket according to the manufacturer’s installation instructions.

SHAPING FOR EROSION CONTROL BLANKET

All costs for shaping for erosion control blanket including labor and equipment shall be incidental to the contract unit price per foot for Shaping for Erosion Control Blanket.

STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

(The numbers right of the title headings are **reference numbers** to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES)

❖ **SITE DESCRIPTION (4.2 1)**

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - ☒ Clearing and grubbing
  - ☒ Excavation/borrow
  - ☐ Grading and shaping
  - ☐ Filling
  - ☐ Cutting and filling
  - ☐ Other (describe):
- **Total Project Area** 0.82 Acres **(4.2 1.b.)**
- **Total Area To Be Disturbed** 0.23 Acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 65
- **Soil Properties:** AASHTO Soil Classification: A-4, A-6, A-7
- **USDA Soil Texture:** Silt Loam, Loam, Fine Sandy Loam **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Spearfish Creek (cold water fishery) **(4.2 1.e.)**

❖ **ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)**

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Install perimeter protection where runoff sheets from the site.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Grading and earth disturbing activities.**
- **Stabilize disturbed areas with cover crop seeding, temporary mulch, ditch checks, etc. for temporary stabilization as work progresses.**
- **Install utilities, storm sewers, curb and gutter.**
- **Complete final grading.**
- **Place topsoil, permanent seed, mulch, install erosion control blanket, etc. to finish graded areas for final stabilization.**

❖ **CONSTRUCTION PHASING FOR EROSION AND SEDIMENT CONTROL**

Alternative sediment controls including silt traps, silt fence, erosion control wattles, flocculants, erosion control blanket, soil stabilizer and project phasing to limit the area disturbed at one time are being used on this project because it is impractical to install sediment basins for the very large drainages.

- **Perimeter controls, stabilized construction entrances, and diversion channels/dikes shall be in place before construction activities begin.**
- **Delineate work limits, vegetated buffers, and critical or sensitive areas.**
- **Construction activities shall be sequenced to minimize the amount of time soil remains disturbed. On this project for every 10 acres disturbed at one time, at least 5 acres must have been stabilized with seeding, mulch, velocity controls, channel stabilization, inlet protection, outlet protection, etc. to meet requirements of the General Permit for Storm Water Discharges Associated with Construction Activity.**
- **Final stabilize disturbed areas when disturbed areas have been finish graded.**

❖ **EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))**  
(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - ☐ Temporary Seeding (Cover Crop Seeding)
  - ☒ Permanent Seeding
  - ☐ Sodding
  - ☐ Planting (Woody Vegetation for Soil Stabilization)
  - ☐ Mulching (Grass Hay or Straw)
  - ☒ Hydraulic Mulch (Wood Fiber Mulch)
  - ☐ Soil Stabilizer
  - ☐ Bonded Fiber Matrix
  - ☐ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☐ Dust Control
  - ☐ Other 500 Gallon Treatment Flocculent Bags
- **Structural Temporary Erosion and Sediment Controls**
  - ☐ Silt Fence
  - ☐ Floating Silt Curtain
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☒ Straw Wattles or Rolls
  - ☐ Turf Reinforcement Mat
  - ☐ Rip Rap
  - ☐ Gabions
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☐ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection (Area Drain)
  - ☐ Curb Inlet Protection
  - ☐ Stabilized Construction Entrances
  - ☐ Entrance/Exit Equipment Tire Wash
  - ☐ Interceptor Ditch
  - ☐ Concrete Washout Area

- ☒ Temporary Diversion Channel
- ☐ Work Platform
- ☐ Temporary Water Barrier
- ☒ Temporary Water Crossing
- ☐ Other

➤ **Wetland Avoidance**

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☒ No ☐ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

➤ **Storm Water Management (4.2 2.b., (1) and (2))**

Storm water management will be handled by temporary controls outlined in “EROSION AND SEDIMENT CONTROLS” above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.

➤ **Other Storm Water Controls (4.2 2.c., (1) and (2))**

- **Waste Disposal**

All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.
- **Hazardous Waste**

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.
- **Sanitary Waste**

Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management contractor or as required by any local regulations.

❖ **Maintenance and Inspection (4.2 3. and 4.2 4.)**

- **Maintenance and Inspection Practices**
  - Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
  - All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
  - Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches  $\frac{1}{3}$  of the height of the silt fence.
  - Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.

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	090 E-451	7	24

❖ **Maintenance and Inspection (4.2 3. and 4.2 4.)**

- Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

❖ **Non-Storm Water Discharges (3.0)**

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

- ☐ Discharges from water line flushing.
- ☐ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☐ Uncontaminated ground water associated with dewatering activities.

❖ **Materials Inventory (4.2. 2.c.(2))**

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

- ☐ Concrete and Portland Cement
- ☐ Detergents
- ☐ Paints
- ☐ Metals
- ☐ Bituminous Materials
- ☐ Petroleum Based Products
- ☐ Cleaning Solvents
- ☒ Wood
- ☐ Cure
- ☐ Texture
- ☐ Chemical Fertilizers
- ☐ Other

❖ **Spill Prevention (4.2 2.c.(2))**

➤ **Material Management**

▪ **Housekeeping**

- Only needed products will be stored on-site by the contractor.
- Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.

- Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

▪ **Hazardous Materials**

- Products will be kept in original containers unless the container is not resealable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

➤ **Product Specific Practices (6.8)**

▪ **Petroleum Products**

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

▪ **Fertilizers**

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

▪ **Paints**

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

➤ **Product Specific Practices (6.8) (continued)**

▪ **Concrete Trucks**

Contractors will provide designated truck washout areas on the site. These areas must be self-contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

➤ **Spill Control Practices (4.2 2 c.(2))**

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill clean-up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean-up purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➤ **Spill Response (4.2 2 c.(2))**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source



- **Spill Response (4.2 2 c.(2)) (continued)**
- of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
  - If a spill occurs the superintendent or the superintendent’s designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
  - Personnel with primary responsibility for spill response and clean-up will receive training by the contractor’s site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
  - Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **Spill Notification**

- In the event of a spill, the contractor’s site superintendent will make the appropriate notification(s), consistent with the following procedures:
- A reportable spill is a quantity of 25 gallons or more or any spill of oil which: 1) violates water quality standards, 2) produces a "sheen" on a surface water, or 3) causes a sludge or emulsion must be reported immediately to the National Response Center .
- Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to the SD DENR.

❖ **Construction Changes (4.4)**

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

❖ **CERTIFICATIONS**

➤ **Certification of Compliance with Federal, State, and Local Regulations**

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➤ **South Dakota Department of Transportation**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Authorized Signature (See the General Permit, Section 6.7.1.C.)

➤ **Prime Contractor**

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Signature

❖ **CONTACT INFORMATION**

➤ **Contractor Information:**

- Prime Contractor Name:
- Contractor Contact Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **Erosion Control Supervisor**

- Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **SDDOT Project Engineer**

- Name:
- Business Address:
- Job Office Location:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **SD DENR Contact Spill Reporting**

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

➤ **SD DENR Contact for Hazardous Materials.**

- (605) 773-3153

➤ **National Response Center Hotline**

- (800) 424-8802.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	090 E-451	10	24

Plotting Date: 05/02/2013



Creek Alignment

PI 4+46.61  
N 273770.259  
E 960450.810  
Del 35°44'32"R  
Dc 57'17'45"  
T 32.24  
L 62.38  
R 100.00

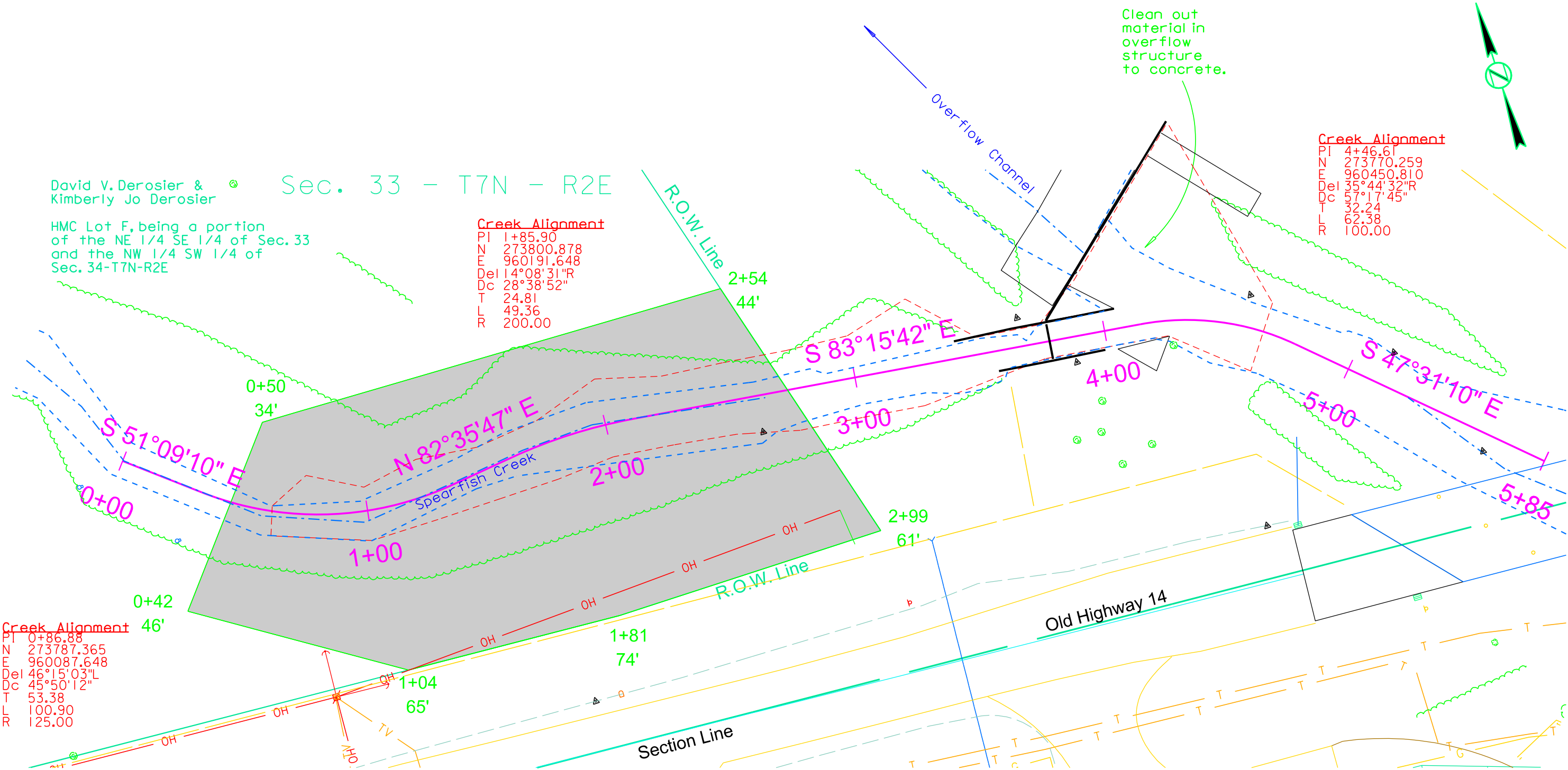
Creek Alignment

PI 1+85.90  
N 273800.878  
E 960191.648  
Del 14°08'31"R  
Dc 28°38'52"  
T 24.81  
L 49.36  
R 200.00

David V. Derosier &  
Kimberly Jo Derosier

Sec. 33 - T7N - R2E

HMC Lot F, being a portion  
of the NE 1/4 SE 1/4 of Sec. 33  
and the NW 1/4 SW 1/4 of  
Sec. 34-T7N-R2E



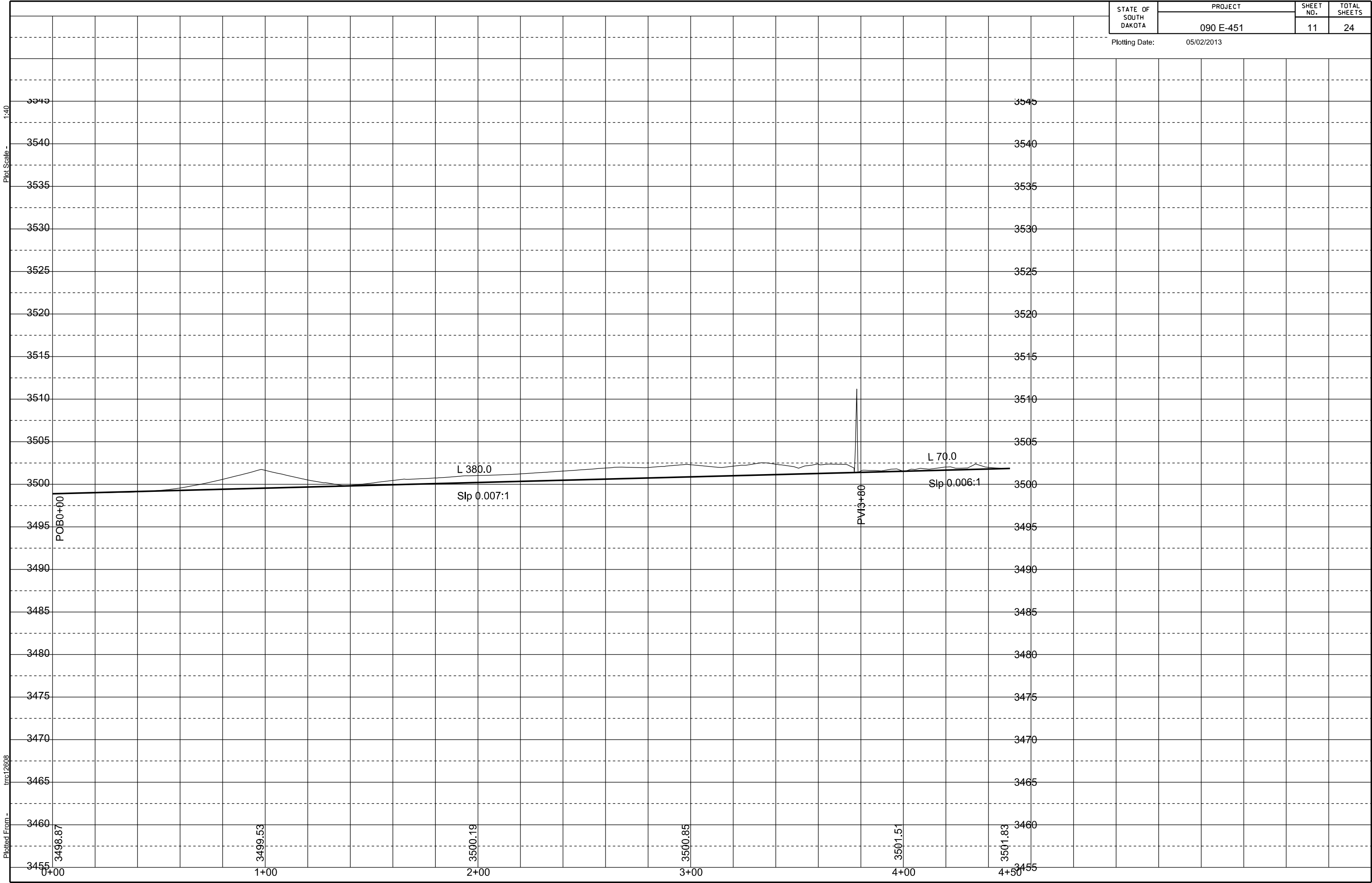
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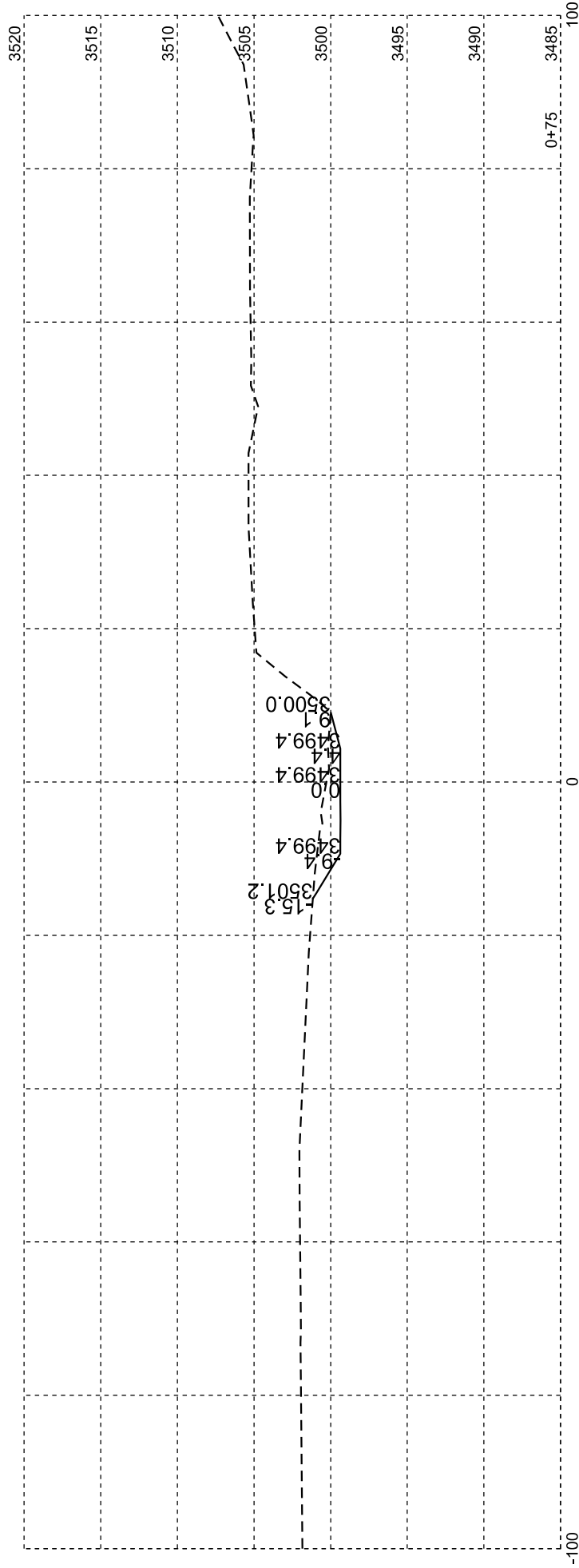
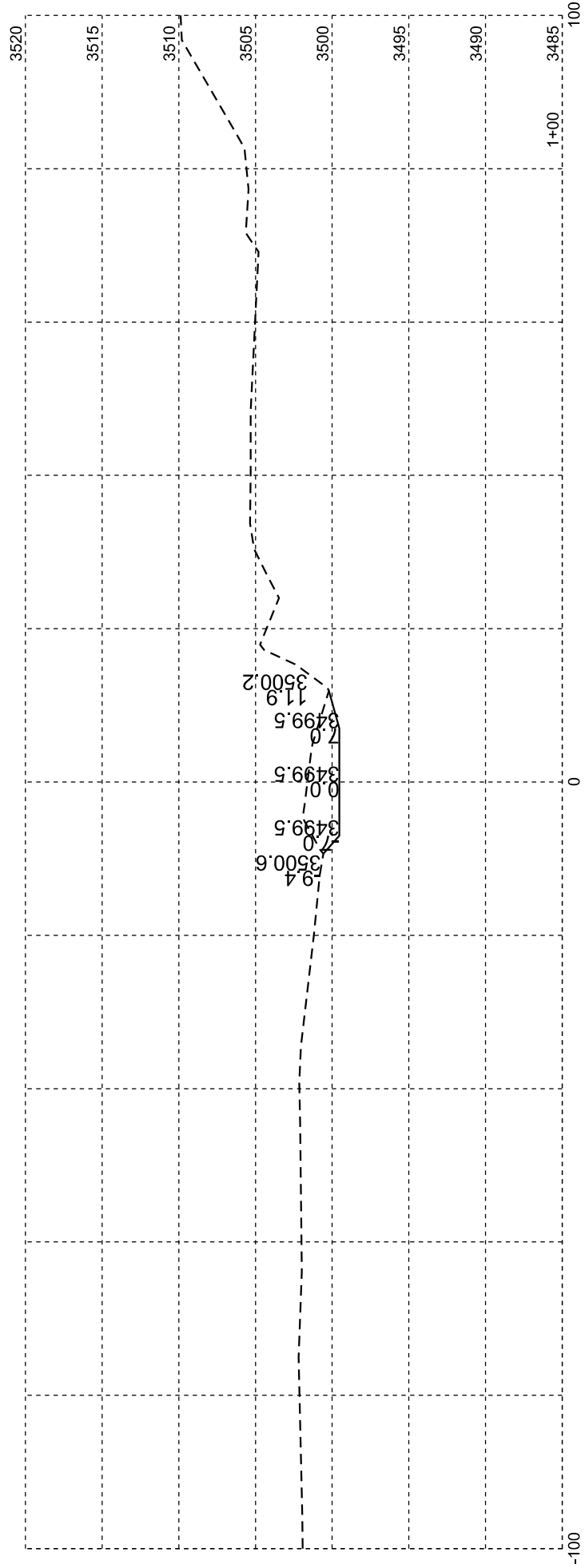
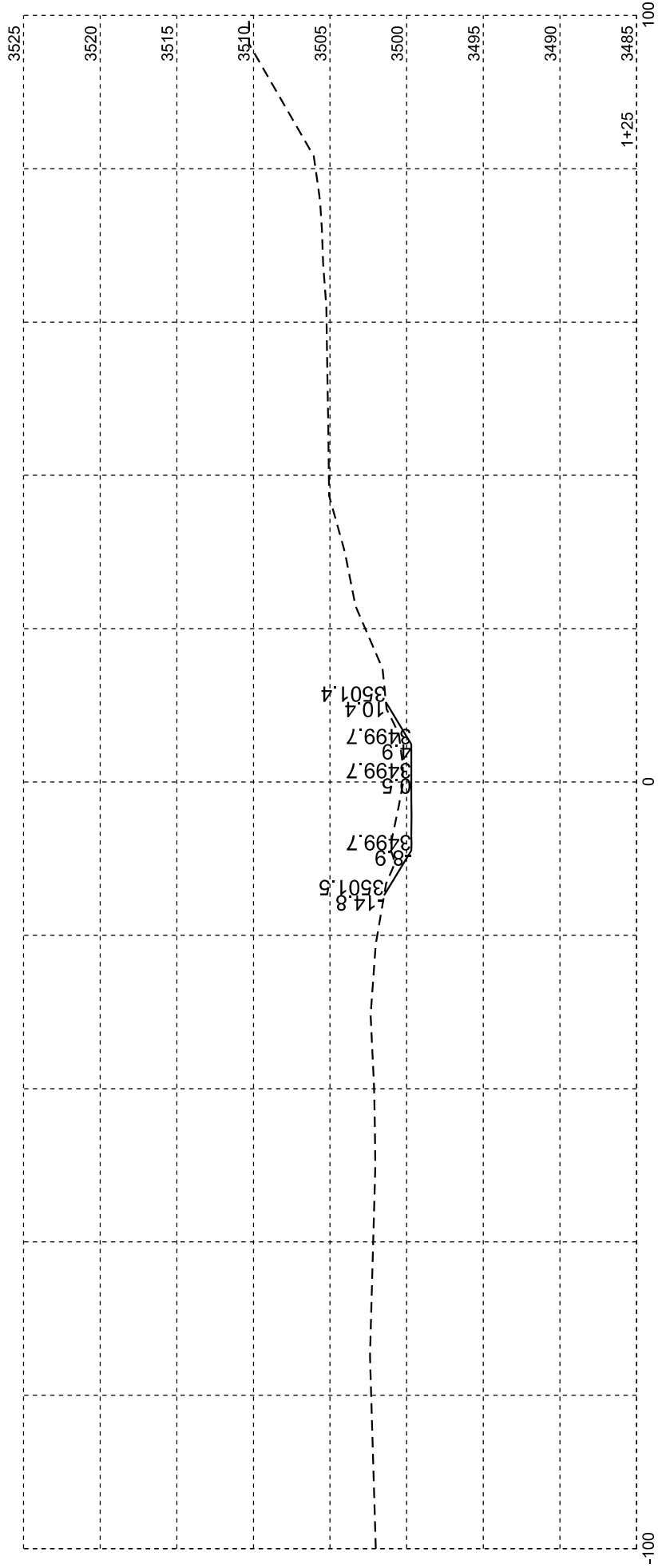
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E 960087.648  
Del 46°15'03"L  
Dc 45°50'12"  
T 53.38  
L 100.90  
R 125.00

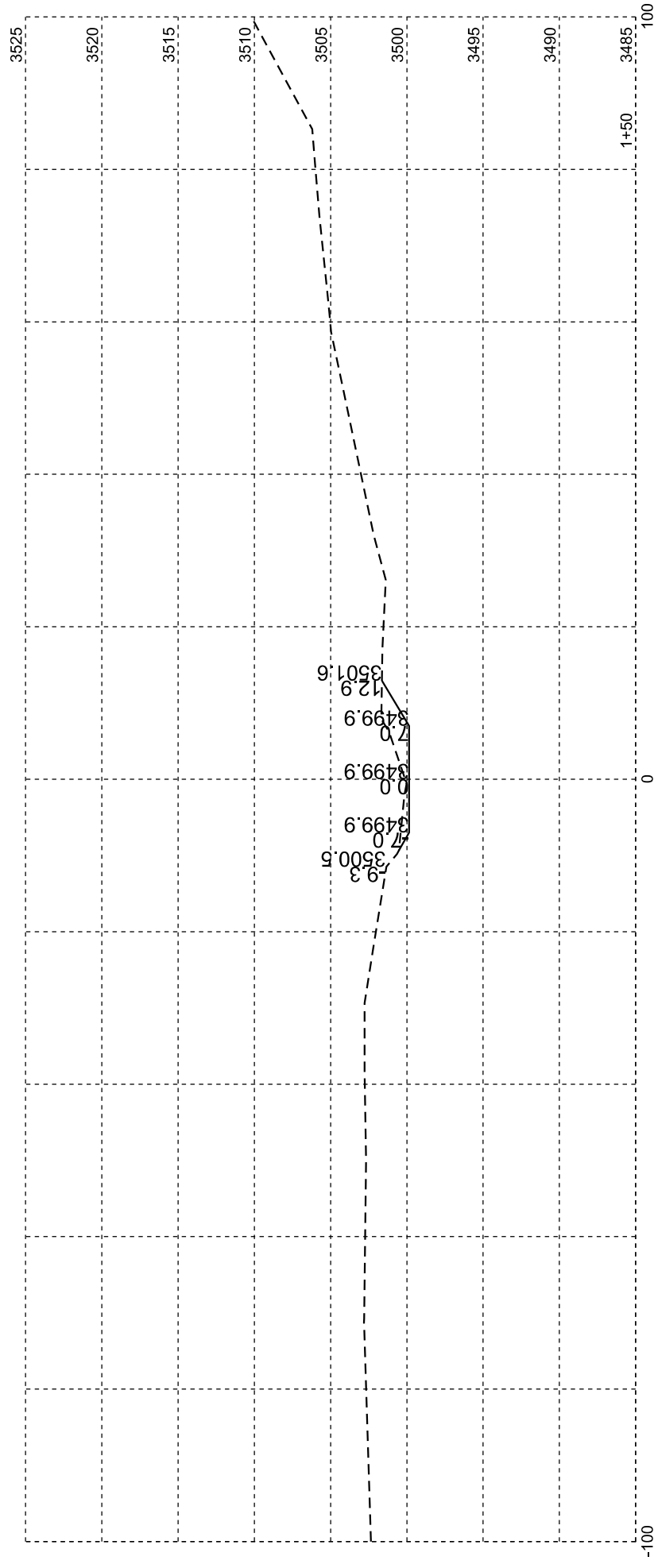
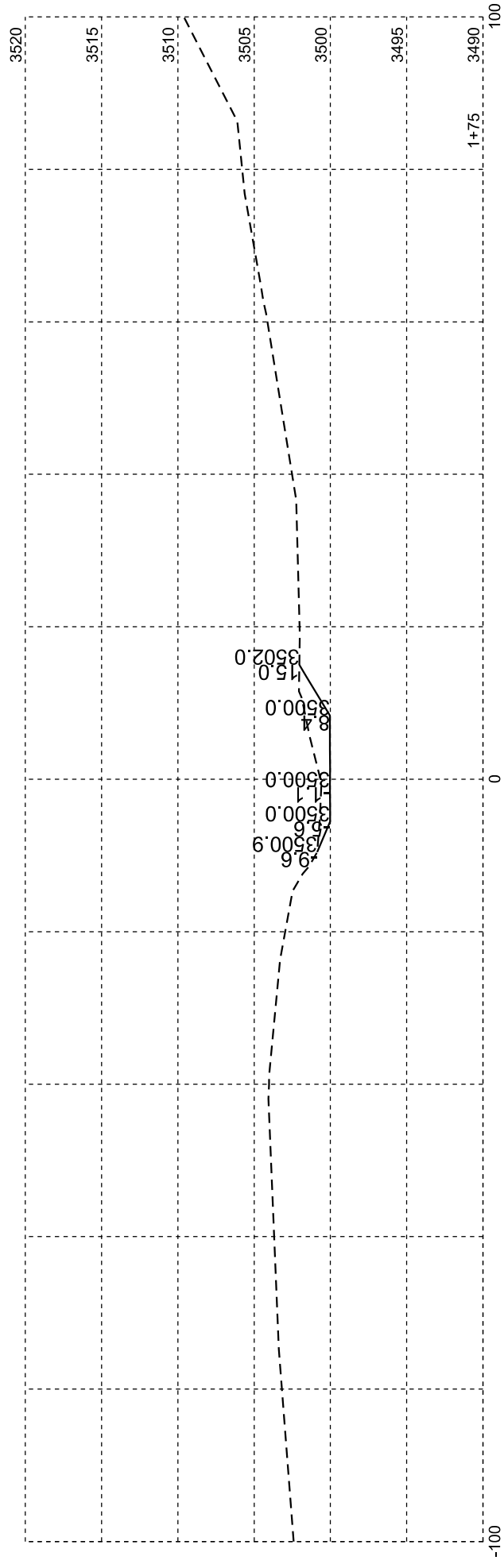
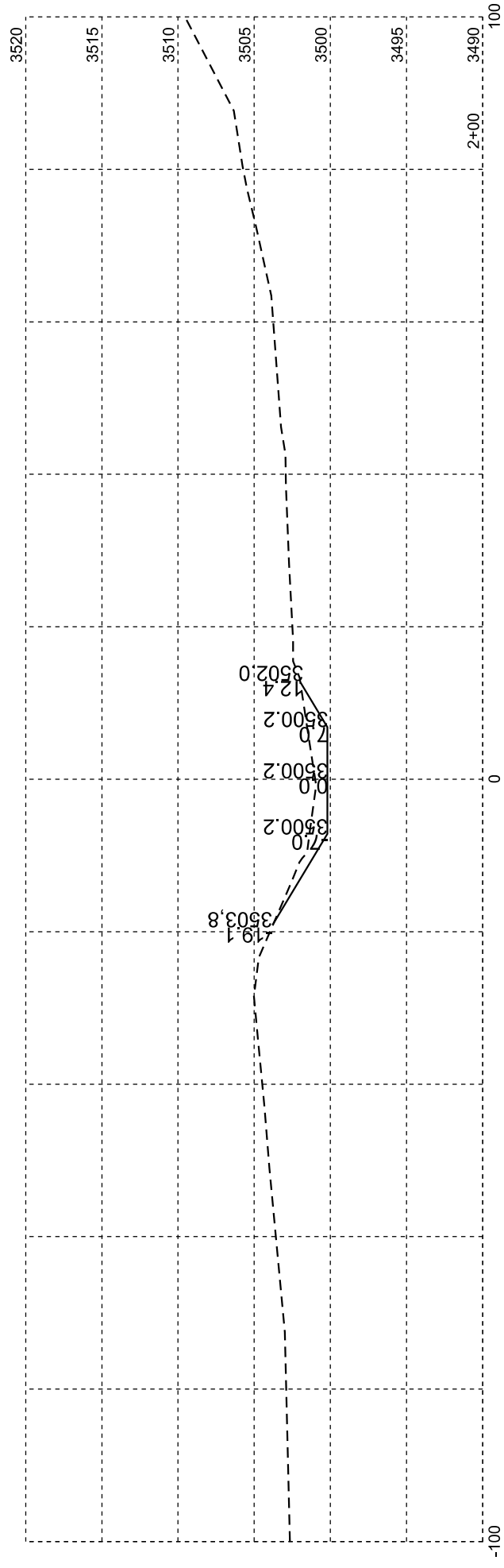
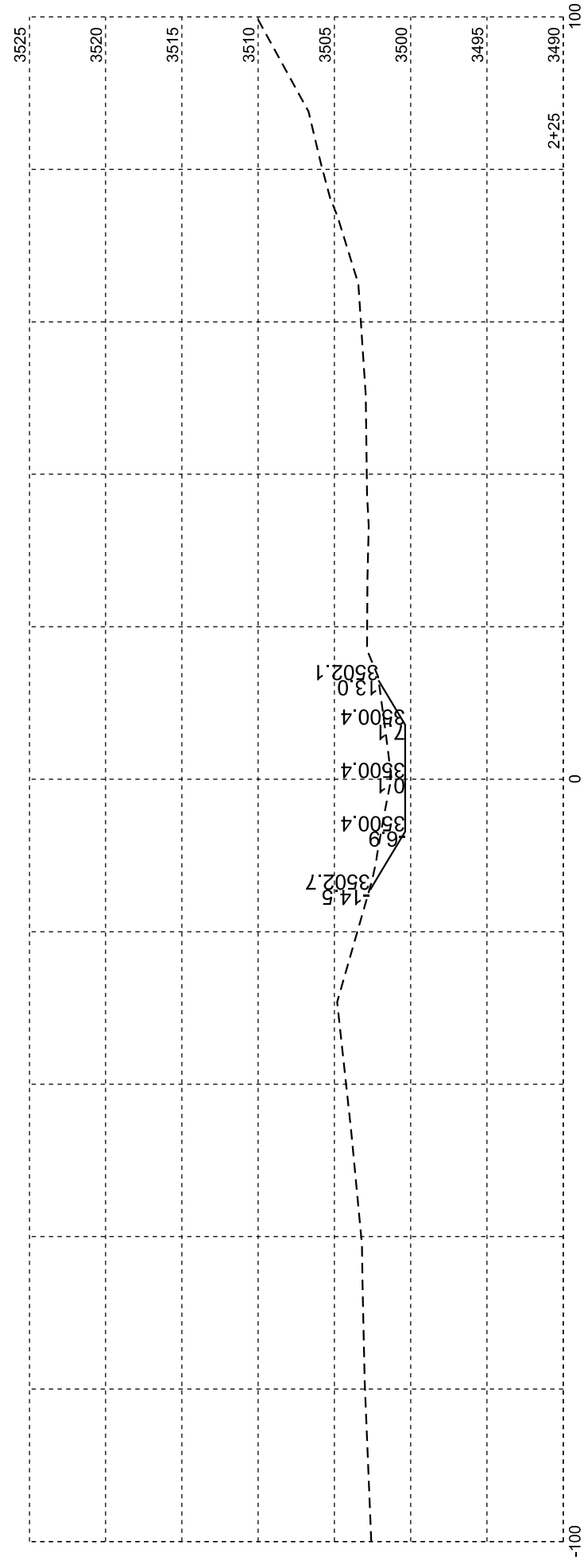
Parcel L

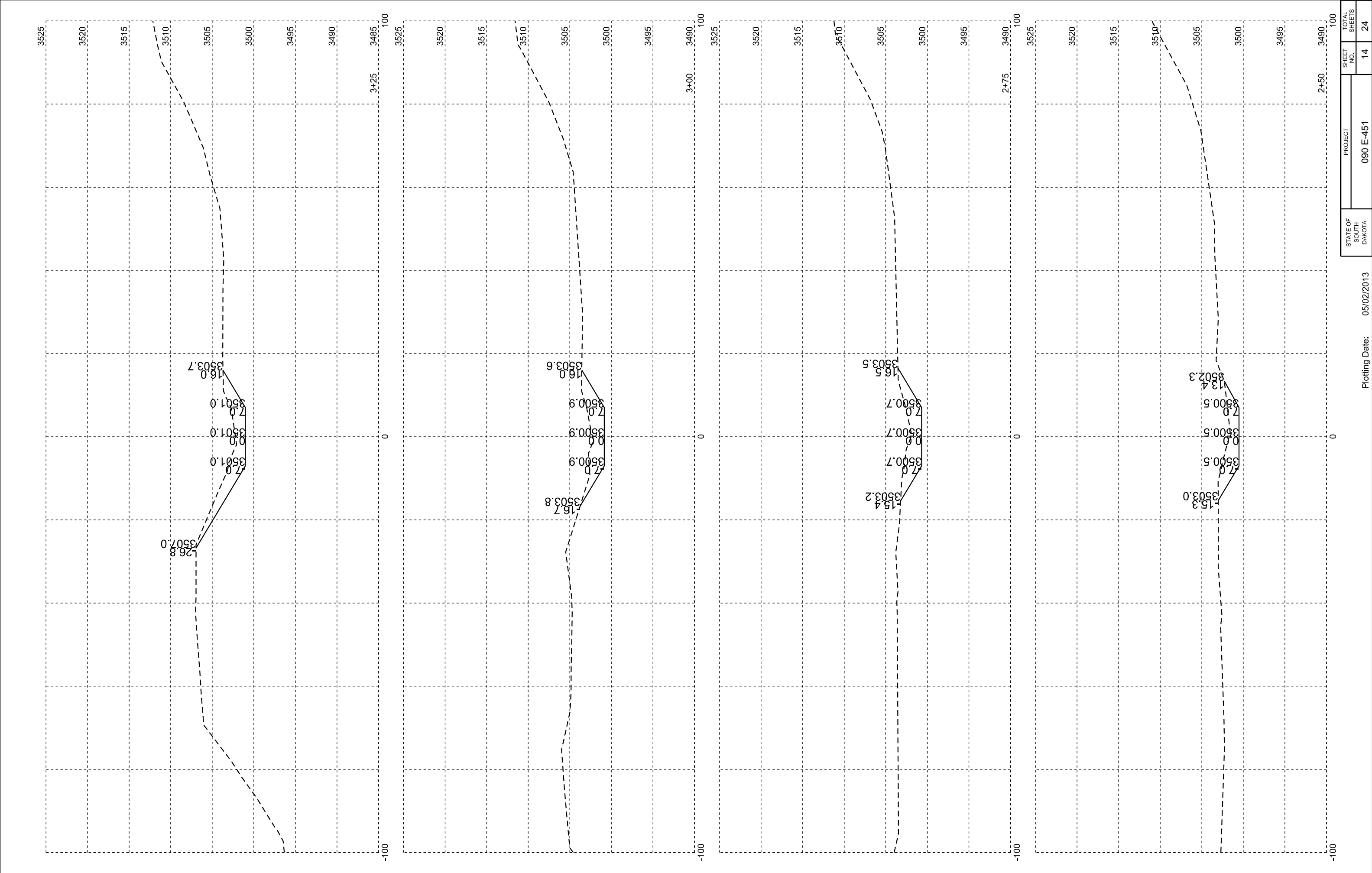
Creek Alignment  
0+50 to 2+99 R &  
0+42 to 2+54 L  
Temporary easement for  
Channel Work containing  
0.6 ac. more or less

Sec. 4 - T6N - R2E













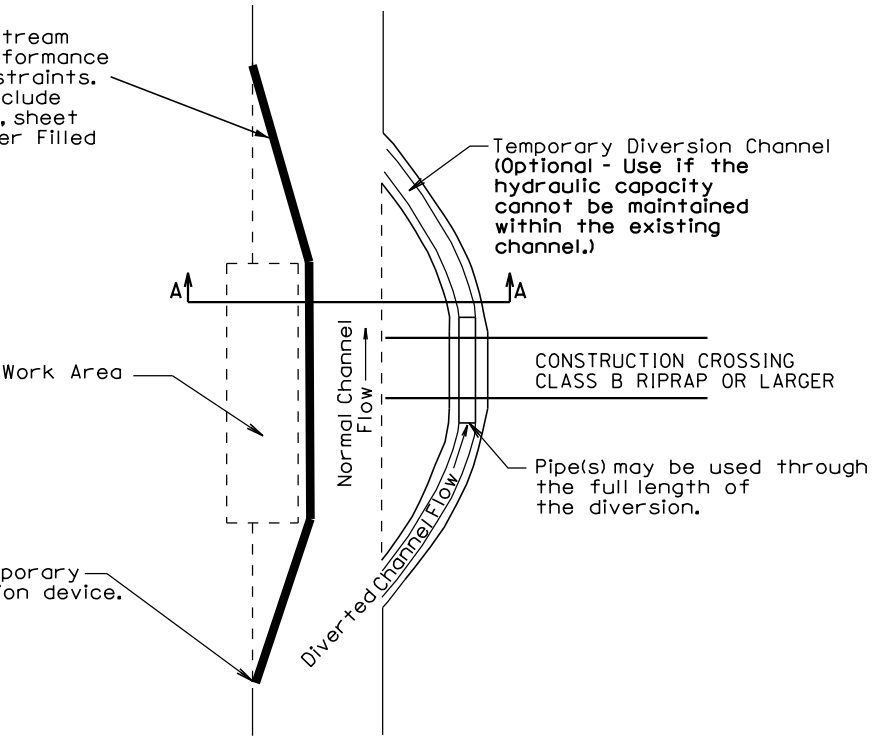


# TEMPORARY WATERWAY DIVERSION DETAILS FOR DEWATERING

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	090 E-451	17	24

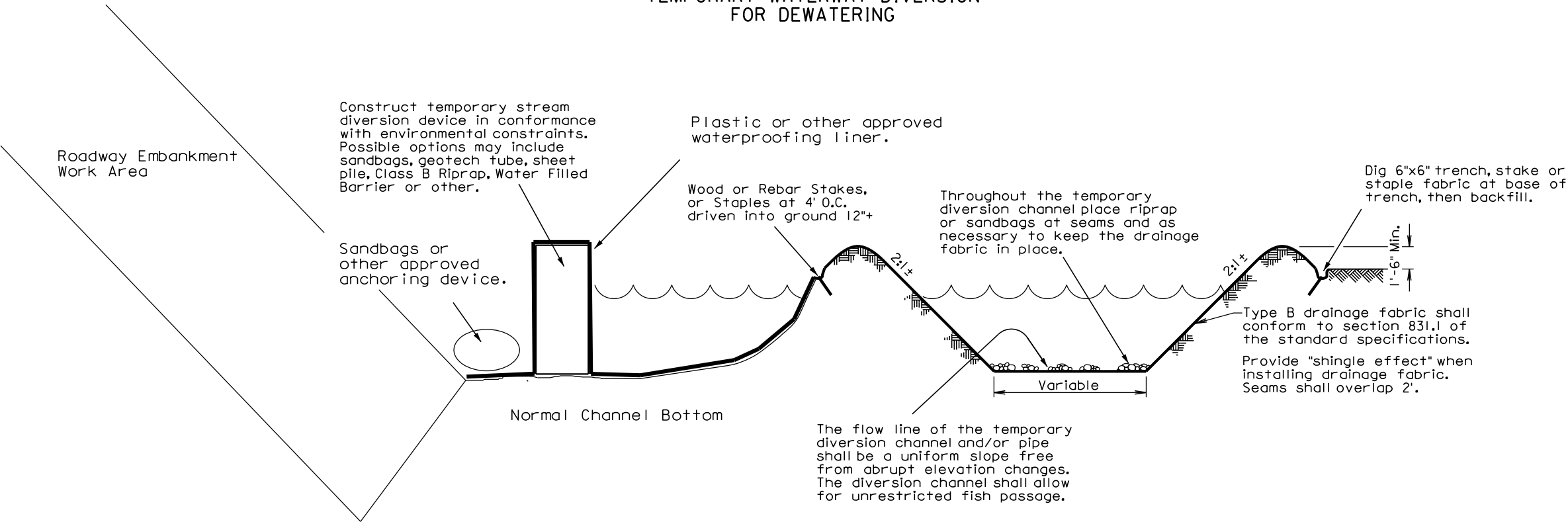
Plotting Date: 05/02/2013

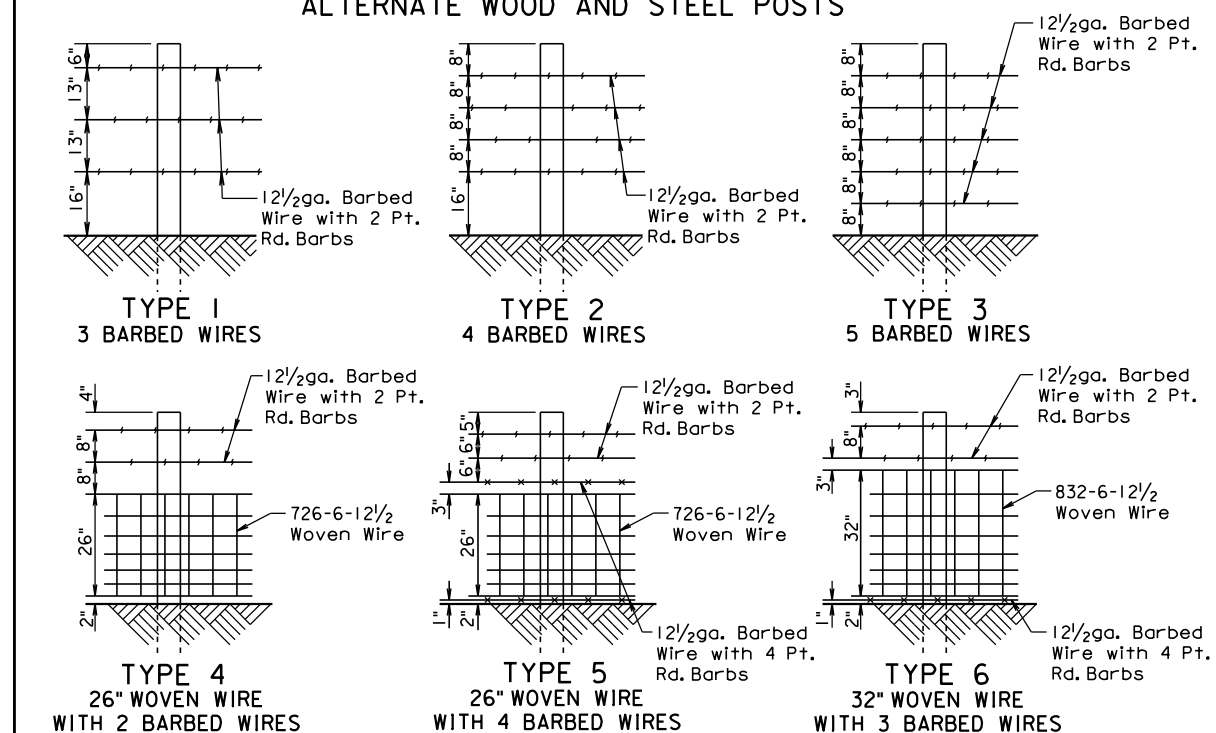
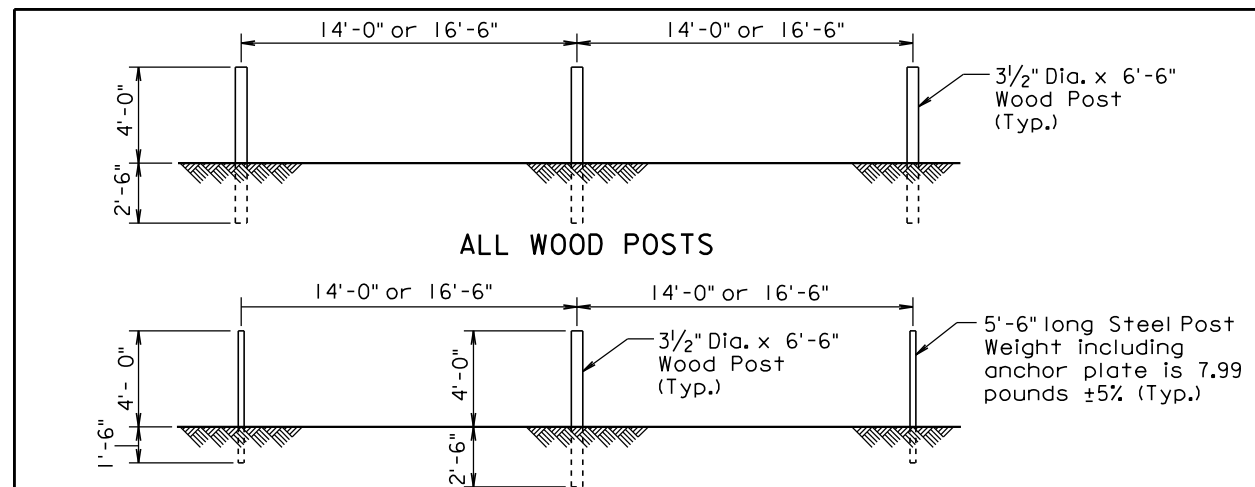
Construct temporary stream diversion device in conformance with environmental constraints. Possible options may include sandbags, geotech tube, sheet pile, Class B Riprap, Water Filled Barrier or other.



**GENERAL NOTES:**  
If hydraulic capacity cannot be maintained within the existing channel, a temporary diversion channel and/or pipe(s) shall be used to divert stream or drainage away from a construction area to provide a dry work area for construction. The diversion of streams and waterways is intended to protect the streams and waterways from various construction contaminants and sediment. Disturbing the existing stream channel and riparian zone should be minimized. Equipment shall not cross through the stream outside of the work area. Sizing of the temporary diversion channel and/or pipe(s) shall be the Contractor's responsibility.  
The method and materials used to construct the stream diversion device shall be the Contractor's responsibility, however, earthen berms are not acceptable since their removal causes siltation problems.  
The Contractor shall restore the original channel bottom to its original condition prior to returning any flows. Upon completion of the new permanent drainage structure, the temporary stream diversion block or device shall be removed in a manner that will not cause violation of water quality standards. The temporary diversion channel shall then be backfilled and any pipe(s) (if used) shall be removed. The entire work area shall be cleaned and restored to smooth/even contours.  
All costs for labor, equipment, materials and incidentals necessary to divert water away from the work area shall be incidental to the contract unit per lump sum for "Dewatering".

SECTION A-A  
TEMPORARY WATERWAY DIVERSION  
FOR DEWATERING





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

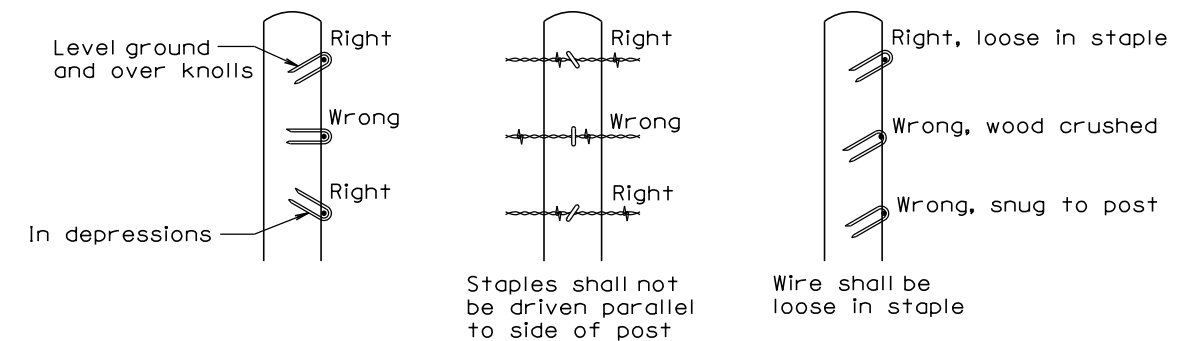
GENERAL NOTES:

Fence types designated on the plans that are followed by the letter S shall have smooth (barbless) wires.

When type 5S or 6S is designated  
the bottom wire may be barbed,  
smooth, or left off.

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

September 14, 2009



## STAPLE INSTALLATION

GENERAL NOTES:

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

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

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

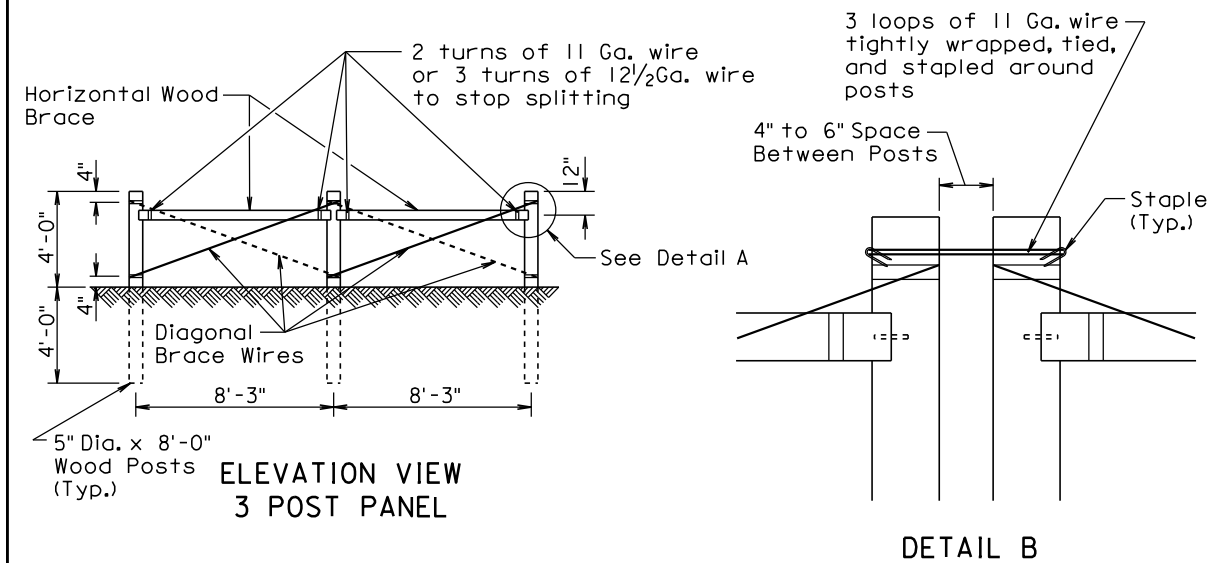
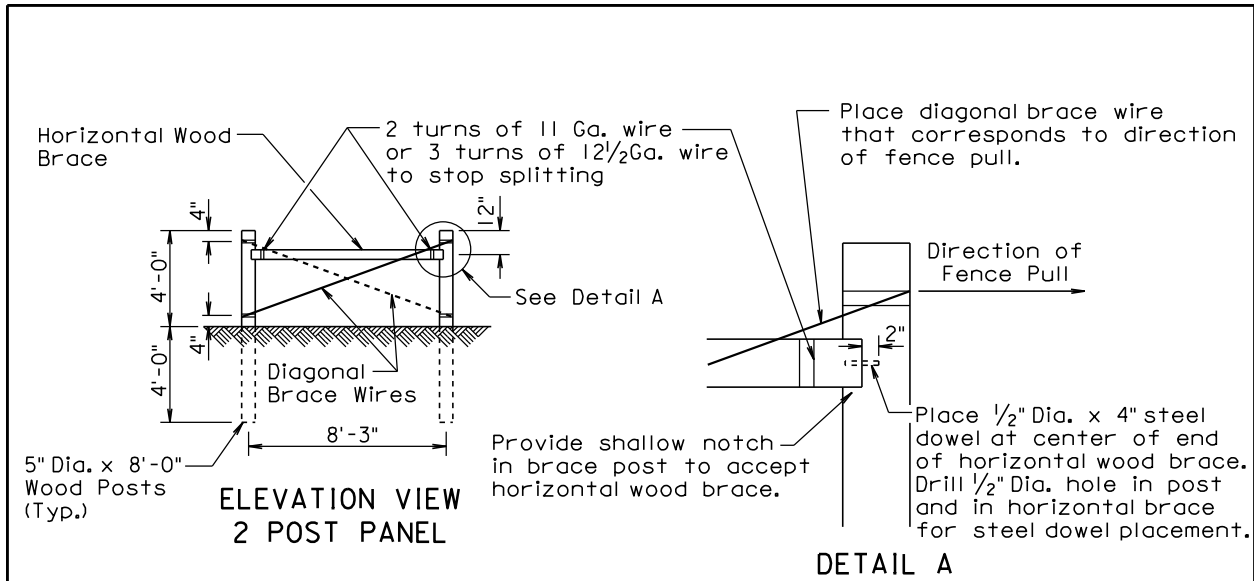
Barbs shall be fabricated from zinc coated 14 ga. wire. Two point barbs shall be wrapped twice around one main strand at 4" spacings and the four point barbs shall be interlocked and wrapped around both main strands at 5" spacings.

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

December 23, 2004

Published Date: 1st Qtr. 2013	S D D O T	RIGHT-OF-WAY FENCE	PLATE NUMBER 620.01
			Sheet 1 of 1

Published Date: 1st Qtr. 2013	S D D O T	STAPLE INSTALLATION AND GENERAL RIGHT-OF-WAY FENCE NOTES	PLATE NUMBER 620.02
			Sheet 1 of 1

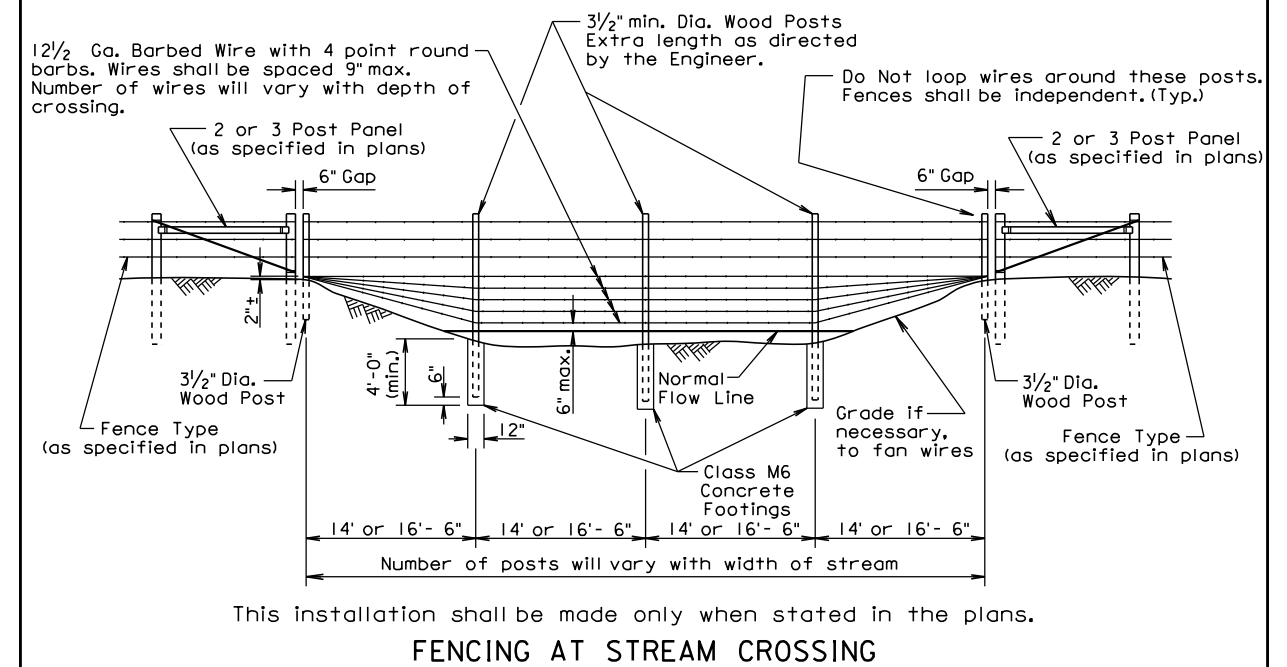
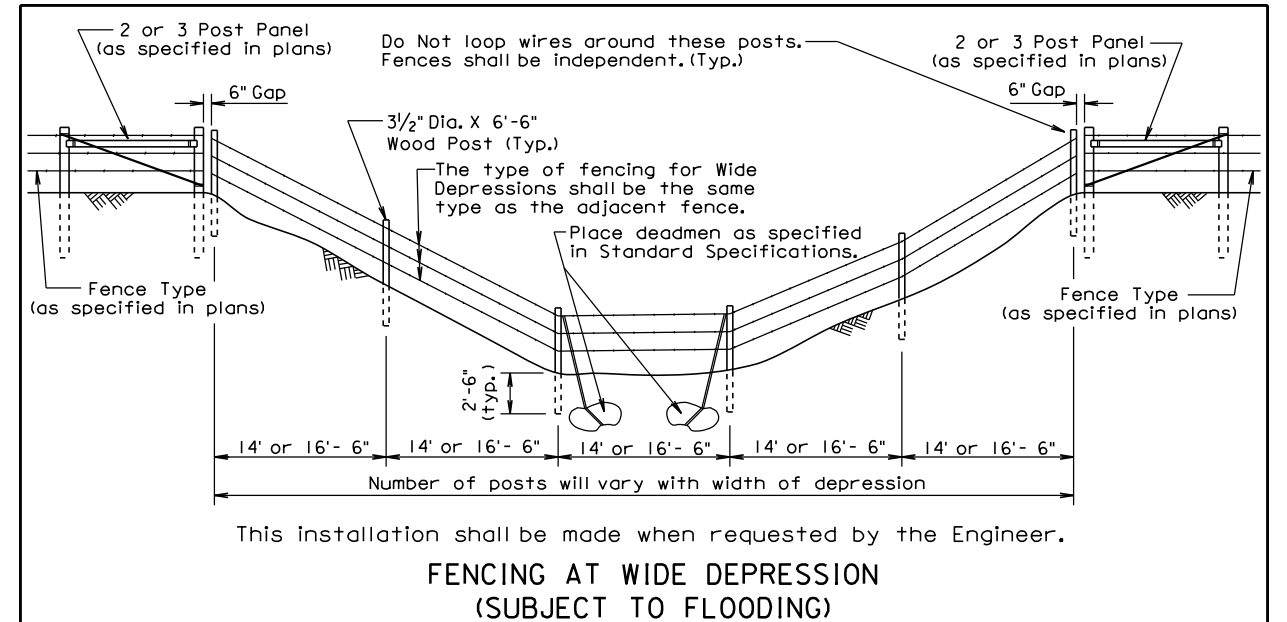


**GENERAL NOTES:**

- Two Post Panels shall be installed at least every 1320' between corners.
- Two Post Panels shall be installed at any sharp vertical angle crest points and as directed by the Engineer.
- Horizontal wood braces shall consist of 4" dia. x 8' wood posts or rough 4" x 4" x 8' timbers.
- Diagonal brace wires shall be fabricated with 4 strands of 9 Ga. galvanized wire twisted tight. The diagonal brace wires shall be installed in accordance with the direction of the fence pull. Two diagonal brace wires are required if fence pull is in both directions.

December 23, 2004

Published Date: 1st Qtr. 2013	S D D O T	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 1 of 3

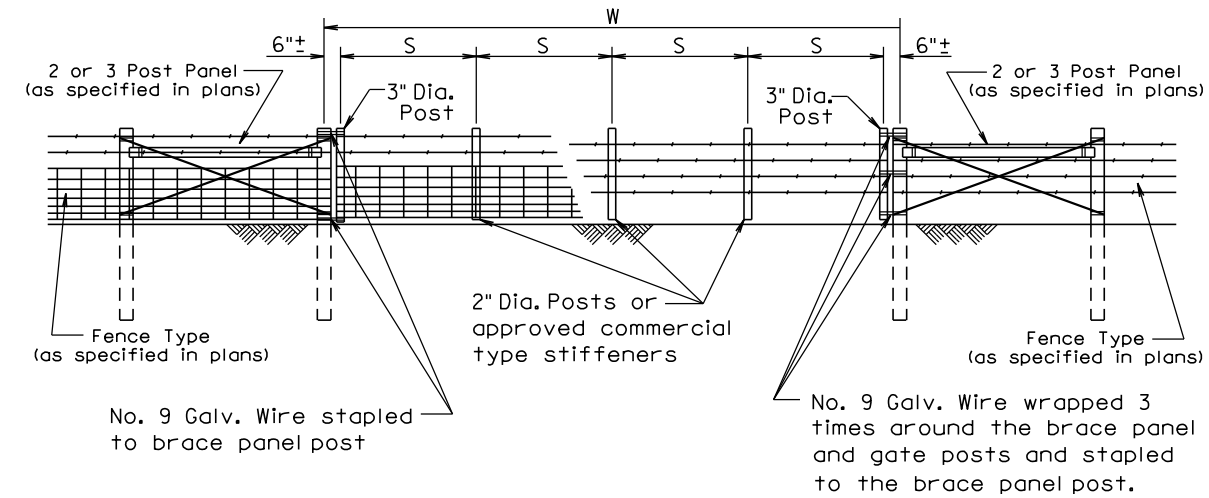


**GENERAL NOTES:**

- There will be no extra payment for the additional work and materials required to construct the fencing at the wide depression(s) and/or the fencing at the stream crossing(s).
- Measurement and payment for the fencing at the wide depression(s) and/or the fencing at the stream crossing(s) shall be at the contract unit price per foot for the corresponding Right-of-Way fence bid item.

December 23, 2004

Published Date: 1st Qtr. 2013	S D D O T	FENCING AT WIDE DEPRESSION(S) AND STREAM CROSSING(S)	PLATE NUMBER 620.10
			Sheet 1 of 1



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

**GENERAL NOTES:**

Creosote treatment of the gate posts will not be accepted.

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

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

March 31, 2000



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

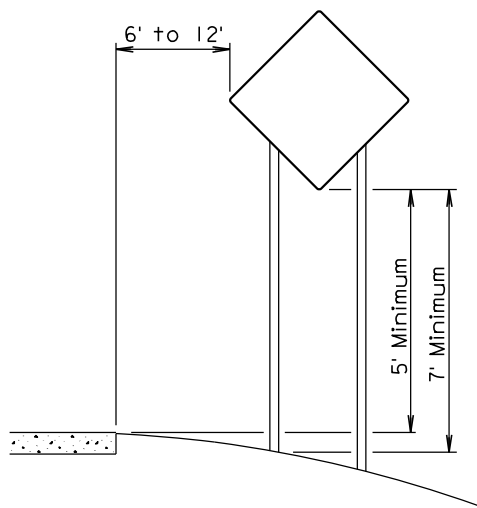
Published Date: 1st Qtr. 2013

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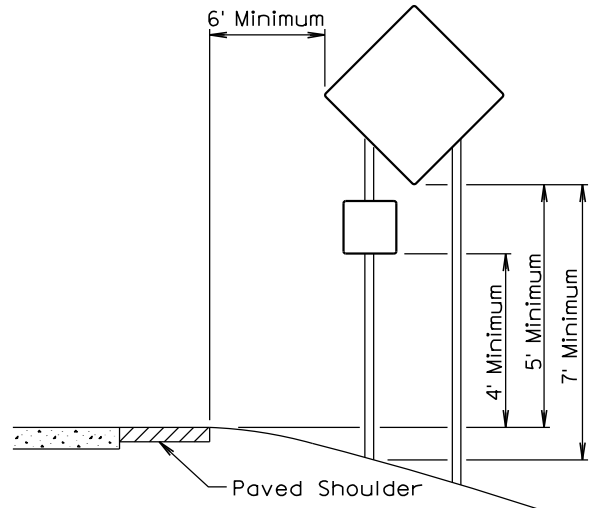
**GUIDES FOR TRAFFIC CONTROL DEVICES  
WORK BEYOND THE SHOULDER**

PLATE NUMBER  
634.01

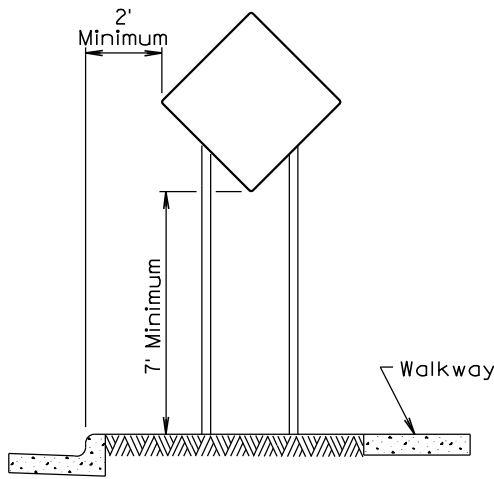
Sheet 1 of 1



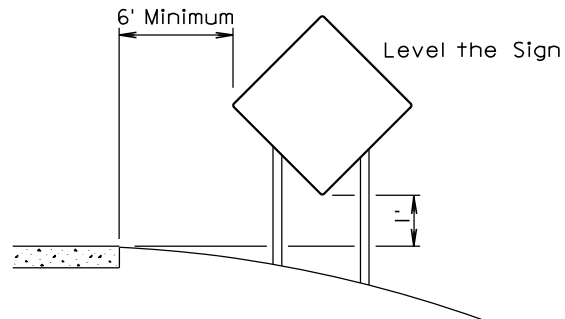
RURAL DISTRICT



RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



URBAN DISTRICT



RURAL DISTRICT  
3 DAY MAXIMUM

February 14, 2011

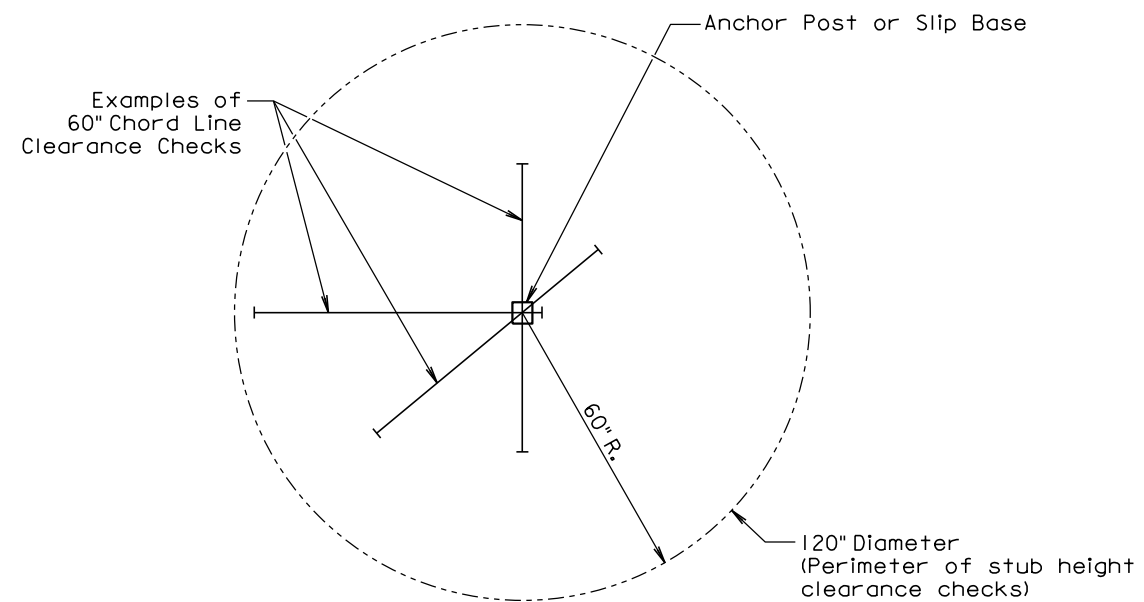
Published Date: 1st Qtr. 2013

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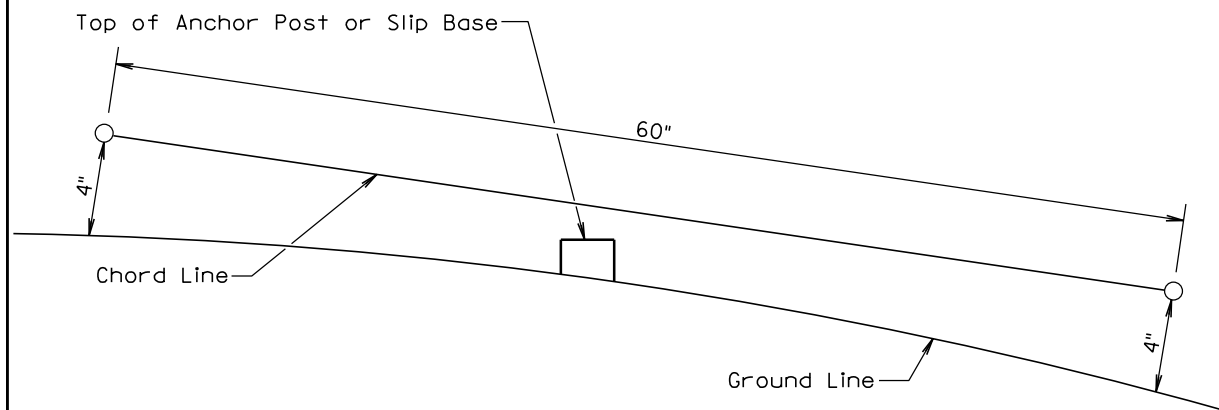
**CRASHWORTHY SIGN SUPPORTS  
(Typical Construction Signing)**

PLATE NUMBER  
634.85

Sheet 1 of 1



PLAN VIEW  
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

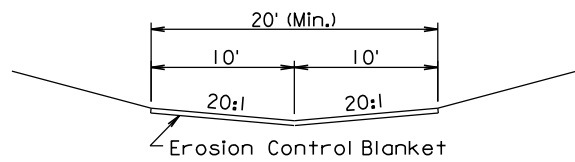
Published Date: 1st Qtr. 2013

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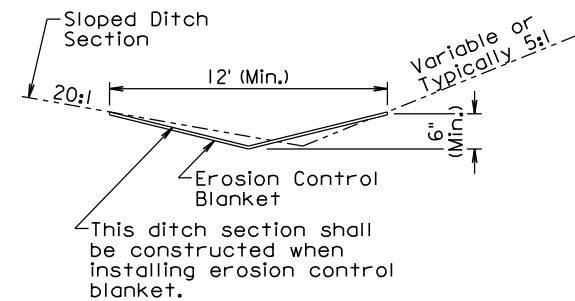
BREAKAWAY SUPPORT STUB CLEARANCE

PLATE NUMBER  
634.99

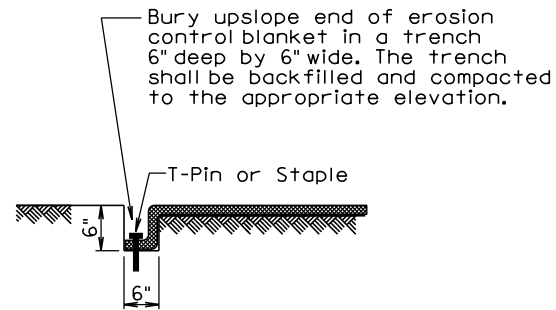
Sheet 1 of 1



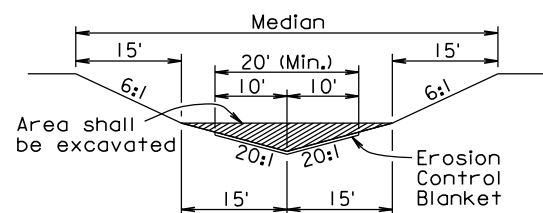
STANDARD DITCH SECTION



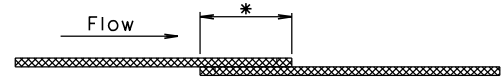
SLOPED DITCH SECTION



TRENCH DETAIL



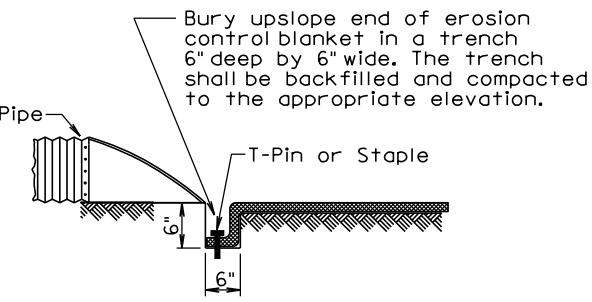
MEDIAN SECTION



\* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

\* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.

OVERLAP DETAIL



PIPE END DETAIL

GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas shall be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket shall be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket shall be buried in a trench 6" wide by 6" deep. There shall be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

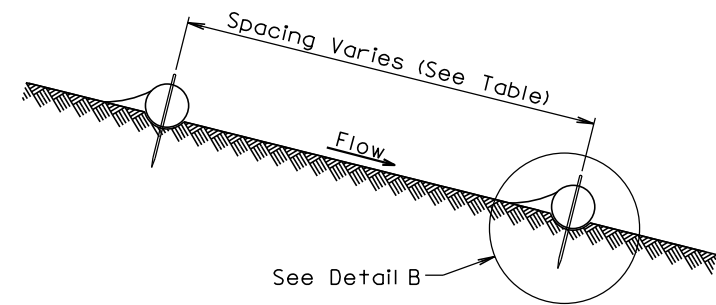
The erosion control blanket shall be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor shall fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

All ditch sections shall be shaped when installing the erosion control blanket. All costs for shaping the ditches shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

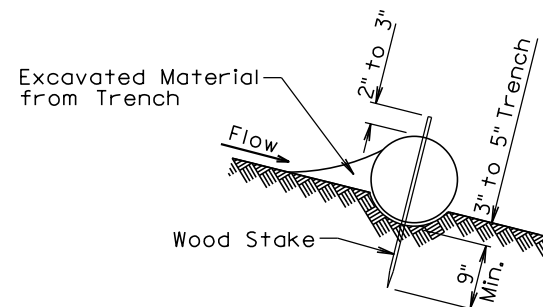
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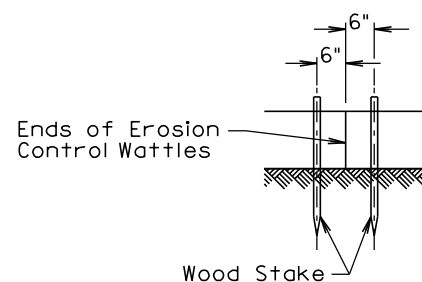


ELEVATION VIEW  
CUT OR FILL SLOPE INSTALLATION

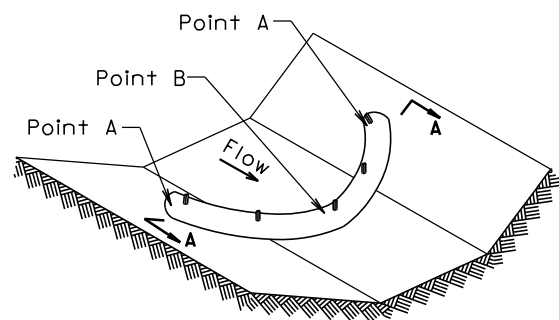
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40



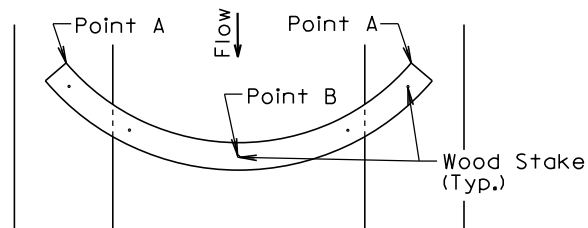
DETAIL B  
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C

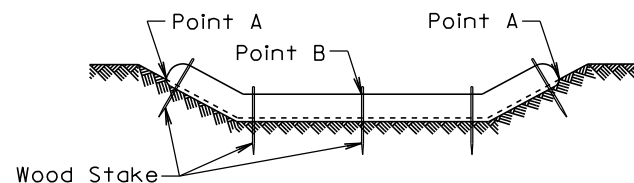


ISOMETRIC VIEW  
DITCH INSTALLATION



PLAN VIEW  
DITCH INSTALLATION

DITCH INSTALLATION	
Grade	Spacing (Ft)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

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GENERAL NOTES:

At cut or fill slope installations, wattles shall be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor shall dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes shall be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the ends. See Detail C.

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than 1/2". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

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