

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED**

**PROJECTS 011-288 & 011-288
SD HIGHWAY 11
LINCOLN COUNTY
BRIDGE BERM REPAIR, CHANNEL REPAIR & RIPRAP
STRUCTURES 42-140-063 & 42-140-115
PCN I3LK & I3LL**

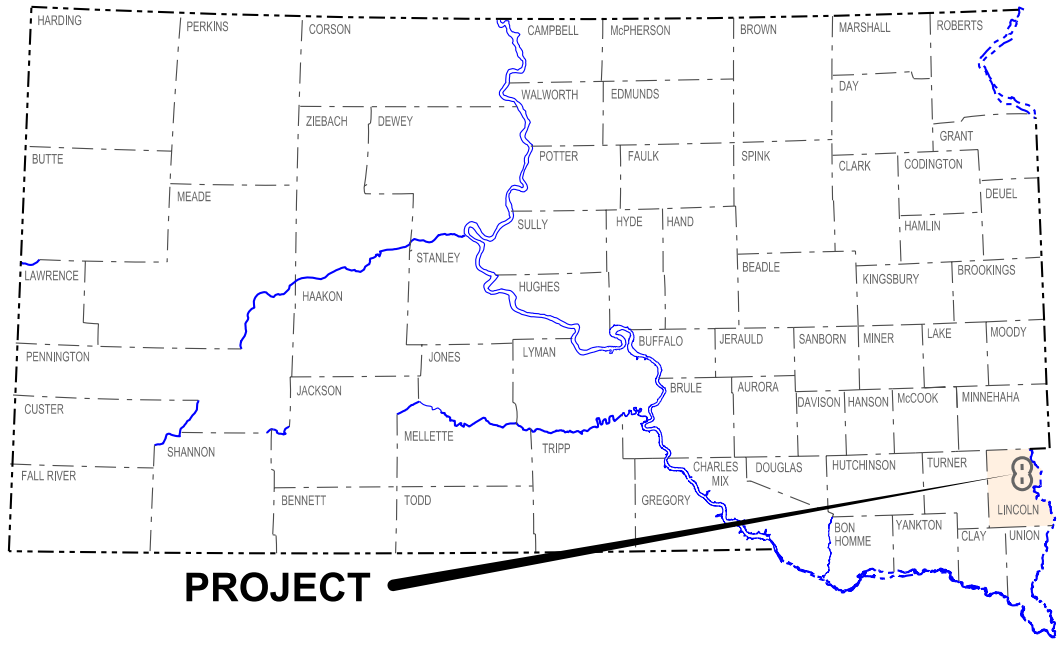
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	1	16

Plotting Date: 08/14/2014

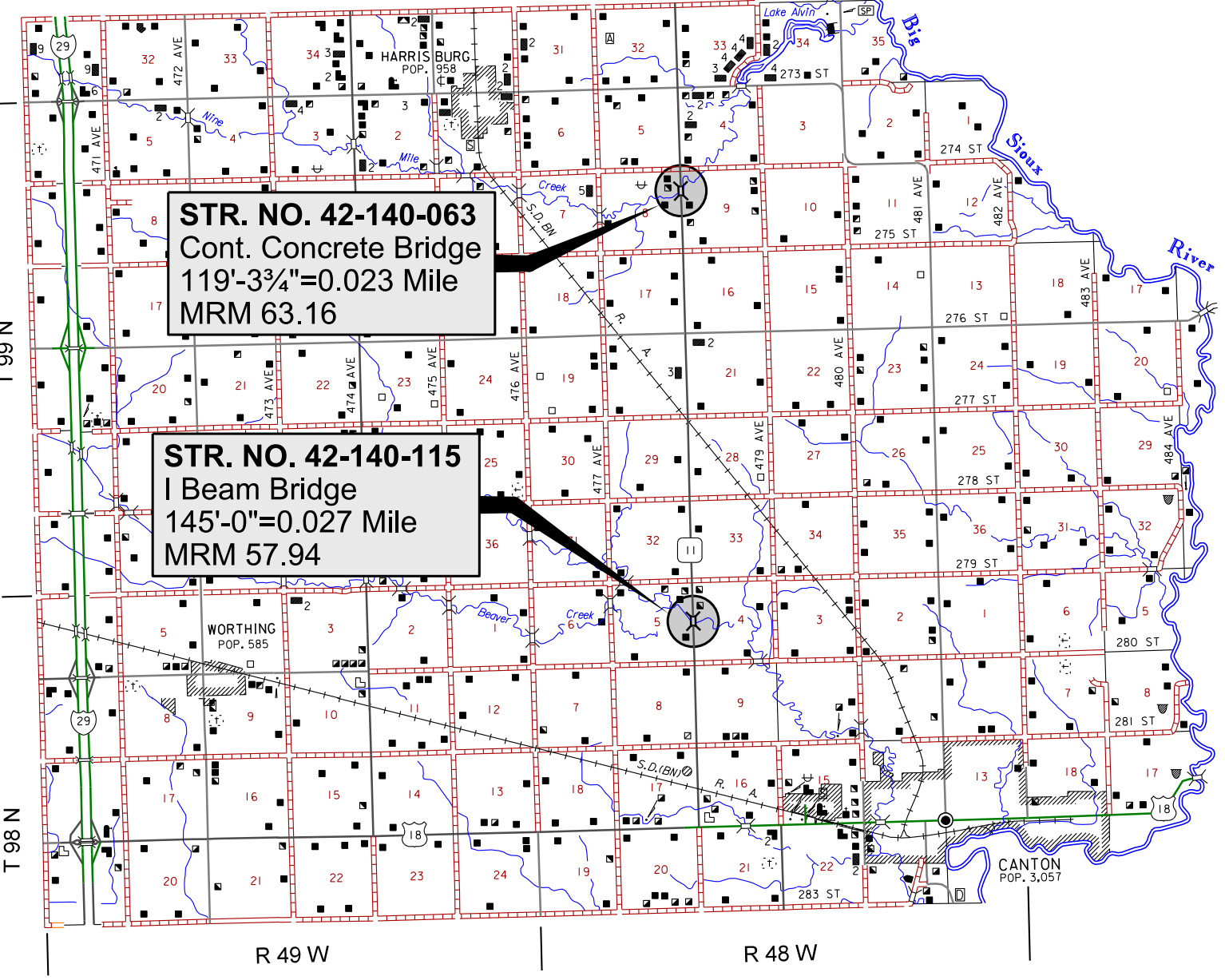
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PLOT SCALE - 1:8865



PROJECT



STORM WATER PERMIT
(None required)

DESIGN DESIGNATION	
ADT(2013)	2,347
ADT(2033)	4,539
DHV	590
D	51%
T DHV	3.4%
T ADT	7.5%
V	65 MPH

PLOTTED FROM - TRM11115

PLOT NAME - 1

FILE - ... \TTL13LK.DGN

**ESTIMATE OF QUANTITIES
STRUCTURE 42-140-063 – PCN I3LK**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow	450	CuYd
230E0020	Placing Contractor Furnished Topsoil	52	CuYd
634E0010	Flagging	15	Hour
634E0100	Traffic Control	187	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
700E0210	Class B Riprap	76.0	Ton
730E0212	Type G Permanent Seed Mixture	3	Lb
730E1200	Hydroseeding	350	SqYd
732E0200	Fiber Mulching	0.2	Ton
734E0154	12" Diameter Erosion Control Wattle	250	Ft
734E0630	Floating Silt Curtain	20	Ft

**ESTIMATE OF QUANTITIES
STRUCTURE 42-140-115 – PCN I3LL**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow	1,550	CuYd
230E0020	Placing Contractor Furnished Topsoil	137	CuYd
634E0010	Flagging	20	Hour
634E0100	Traffic Control	187	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
700E0210	Class B Riprap	102.0	Ton
730E0212	Type G Permanent Seed Mixture	5	Lb
730E1200	Hydroseeding	900	SqYd
732E0200	Fiber Mulching	0.3	Ton
734E0154	12" Diameter Erosion Control Wattle	440	Ft
734E0630	Floating Silt Curtain	30	Ft

SPECIFICATIONS

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

UTILITIES

The Contractor shall contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It shall be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor shall contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. The environmental commitments associated with this project are as follows:

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall 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 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 Project 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 and/or 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 and/or 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.

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

COMMITMENT I: 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.

Action Taken/Required:

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.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES (CONTINUED)

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.

CONTRACTOR FURNISHED BORROW

The Contractor shall provide a suitable site for Contractor furnished borrow material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material shall be approved by the Engineer. The plans quantity for Contractor Furnished Borrow as shown in the Estimate of Quantities will be the basis of payment for this item.

Contractor Furnished Borrow will have a maximum of 70% passing the #4 sieve, have a maximum Liquid Limit (LL) of 45 and a Plastic Index (PI) greater than 10 but less than 25. The Contractor shall be responsible for one gradation, LL and PI test for each borrow source for berm and channel reconstruction. The results shall be supplied to the Engineer in writing.

It is not anticipated that water for compaction will be required; however, if in the opinion of the Engineer the fill material is extremely dry, water may be ordered and placed to the satisfaction of the Engineer. Cost for water shall be incidental to the contract unit price per cubic yard for Contractor Furnished Borrow.

Restoration of the Contractor furnished borrow site shall be the responsibility of the Contractor.

BRIDGE BERM & CHANNEL REPAIR

The bridge berm and channel have experienced settlement and erosion and shall be rebuilt to their original template using Contractor Furnished Borrow.

Reconstruct the berms to at least 1' above the bottom of the abutment backwall seat and fill eroded areas on the berm slope. The berm and channel will be benched into stable embankment during reconstruction.

Borrow shall be placed in horizontal lifts perpendicular to centerline of the structure. Shape the fill in front of the wing walls to divert runoff from the inslopes away from the face of the berm slope. Compaction of the fill will be governed by the Ordinary Compaction Method.

At the upper part of the berm slope, clearance between the structure and berm will prohibit the use of compaction equipment. Borrow in this area will be placed by a method approved by, and compacted to, the satisfaction of the Engineer.

Cost for berm and channel reconstruction shall be included in the contract unit price for Contractor Furnished Borrow. Plans quantity will be the basis for payment. Payment shall be full compensation for material, labor, tools and equipment necessary to reconstruct the bridge berm and channel.

PLACING CONTRACTOR FURNISHED TOPSOIL

The Contractor will be required to furnish and place 4 inches of topsoil on the reconstructed bridge berm and ditch area (outside of the channel).

Plans quantity will be the basis for payment. Cost for furnishing and placing topsoil shall be included in the contract unit price per cubic yard for Placing Contractor Furnished Topsoil.

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

- Glomus intraradices* 25%
- Glomus mosseae* 25%
- Glomus aggregatu* 25%
- Glomus etunicatum* 25%

All seed shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. Cost for inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The mycorrhizal inoculum shall be from the list below or an approved equal:

Product	Manufacturer
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 http://www.mycorrhizae.com/

PERMANENT SEEDING

The areas to be seeded include all disturbed areas within the right-of-way resulting from the work required by this contract.

The areas to be seeded are estimated at 0.3 acre.

The varieties listed for seed mixtures are preferred varieties.

Native harvest seed will be allowed.

PERMANENT SEEDING (CONTINUED)

The following two paragraphs only apply if Hydroseeding is not used:

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. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

Type G Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk	3
Big Bluestem	Bison, Bonilla, Champ, Pawnee, Sunnyview	3
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

FIBER MULCHING

The areas to be fiber mulched include all disturbed areas within the right-of-way resulting from the work required by this contract.

The areas to be fiber mulched are estimated at 0.3 acre.

Fiber mulch shall be applied in a separate operation following 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 3000 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.

Cost for additional tackifier including labor, equipment and material shall be incidental to the contract unit price per ton for Fiber Mulching.

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

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

TABLE OF FIBER MULCHING

Structure	Location	Quantity Ton
42-140-063	Nine Mile Creek	0.2
42-140-115	Beaver Creek	0.3
Total:		0.5

EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor shall provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles shall remain on the project to decompose.

Erosion control wattle provided shall be from the approved product list. The approved product list for erosion control wattle may be viewed at: <http://sddot.com/business/certification/products/Default.aspx>

TABLE OF EROSION CONTROL WATTLE

Structure	Diam. (In)	Location	Quantity (Ft)
42-140-063	12	Nine Mile Creek	250
42-140-115	12	Beaver Creek	440
Total:			690

FLOATING SILT CURTAIN

Floating silt curtain shall be installed at locations noted in the table and at locations determined by the Engineer during construction.

The Contractor shall determine the water depth and other waterway characteristics such as stream flow velocity and seek technical advice from the manufacturer before ordering the floating silt curtain so that the floating silt curtain installed is the correct type for the individual sites.

The Contractor shall install the floating silt curtain according to the manufacturer's installation instructions or as directed by the Engineer.

The Contractor shall maintain the floating silt curtains for the duration of the project to ensure continuous protection of the waterway.

A list of known manufacturers of floating silt curtain is shown below for informational purpose. Contractors may also use Engineer approved floating silt curtain from manufacturers that are not included in the list.

- | | |
|---|--|
| ABASCO, LLC
Houston, TX
Phone: 1-800-242-7745
www.abasco.net | Aer-Flo, Inc.
Bradenton, FL
Phone: 1-800-823-7356
www.aerflo.com |
| American Boom and Barrier Corp.
Cape Canaveral, FL
Phone: 1-800-843-2110
www.abbcoboom.com | ENVIRO-USA, LLC
Cocoa, FL
Phone: 1-321-222-9551
www.enviro-usa.com |
| Elastec/American Marine, Inc.
Carmi, IL
Phone: 1-618-382-2525
www.turbiditycurtains.com | Geo-Synthetics, LLC (GSI)
Waukesha, WI
Phone: 1-800-444-5523
www.geosynthetics.com |
| Parker Systems, Inc.
Chesapeake, VA
Phone: 1-866-472-7537
www.parkersystemsinc.com | |

TABLE OF FLOATING SILT CURTAIN

Structure	Location	Quantity (Ft)
42-140-063	Nine Mile Creek	20
42-140-115	Beaver Creek	30
Total:		50

ITEMIZED LIST FOR TRAFFIC CONTROL

MAINTENANCE OF TRAFFIC

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

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

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

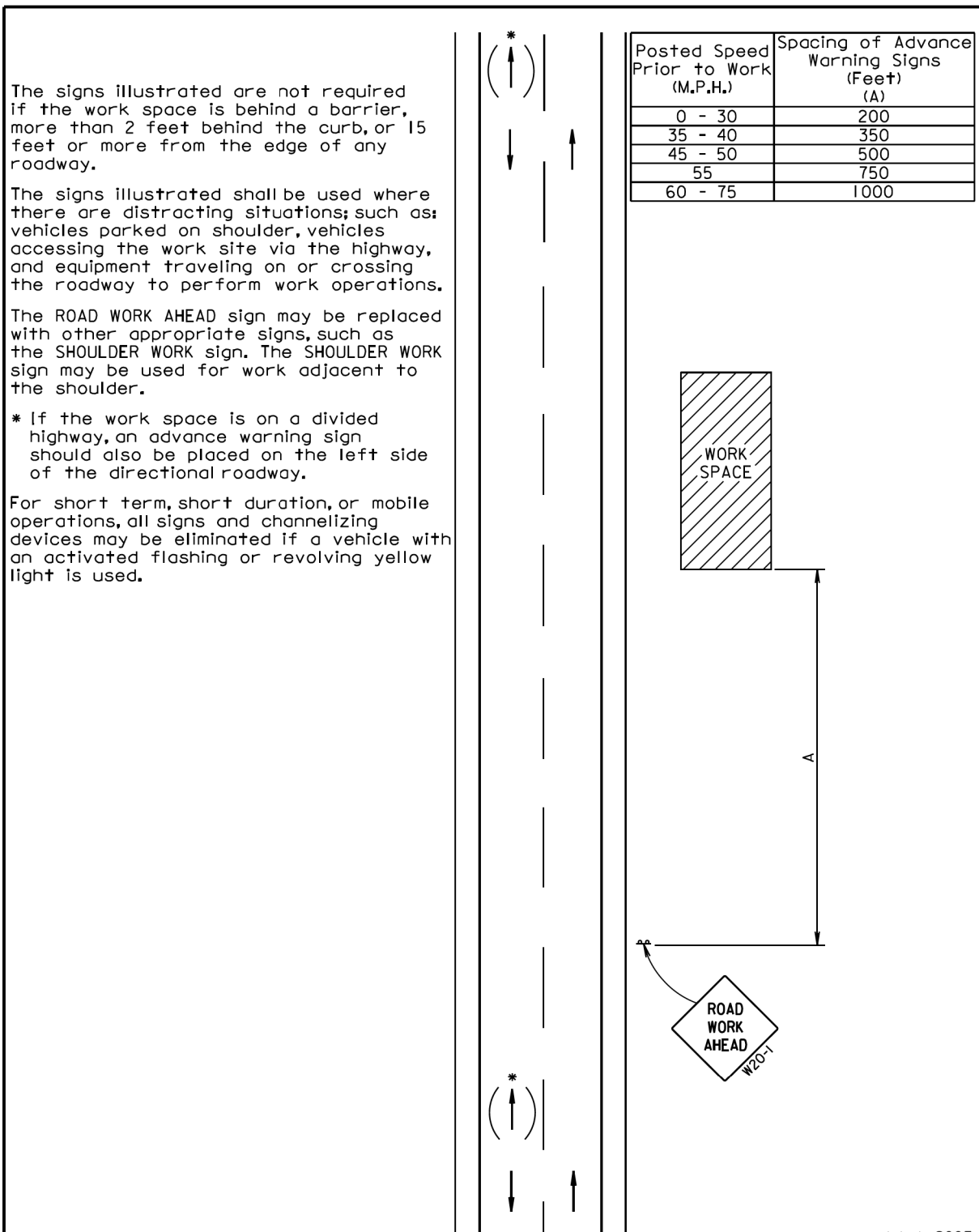
The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 or Manual for Assessing Safety Hardware (MASH) crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

Sufficient traffic control devices have been included in these plans to sign one workspace. If the Contractor elects to work on both sites simultaneously, the cost for additional traffic control devices shall be incidental to the contract unit price per unit for Traffic Control.

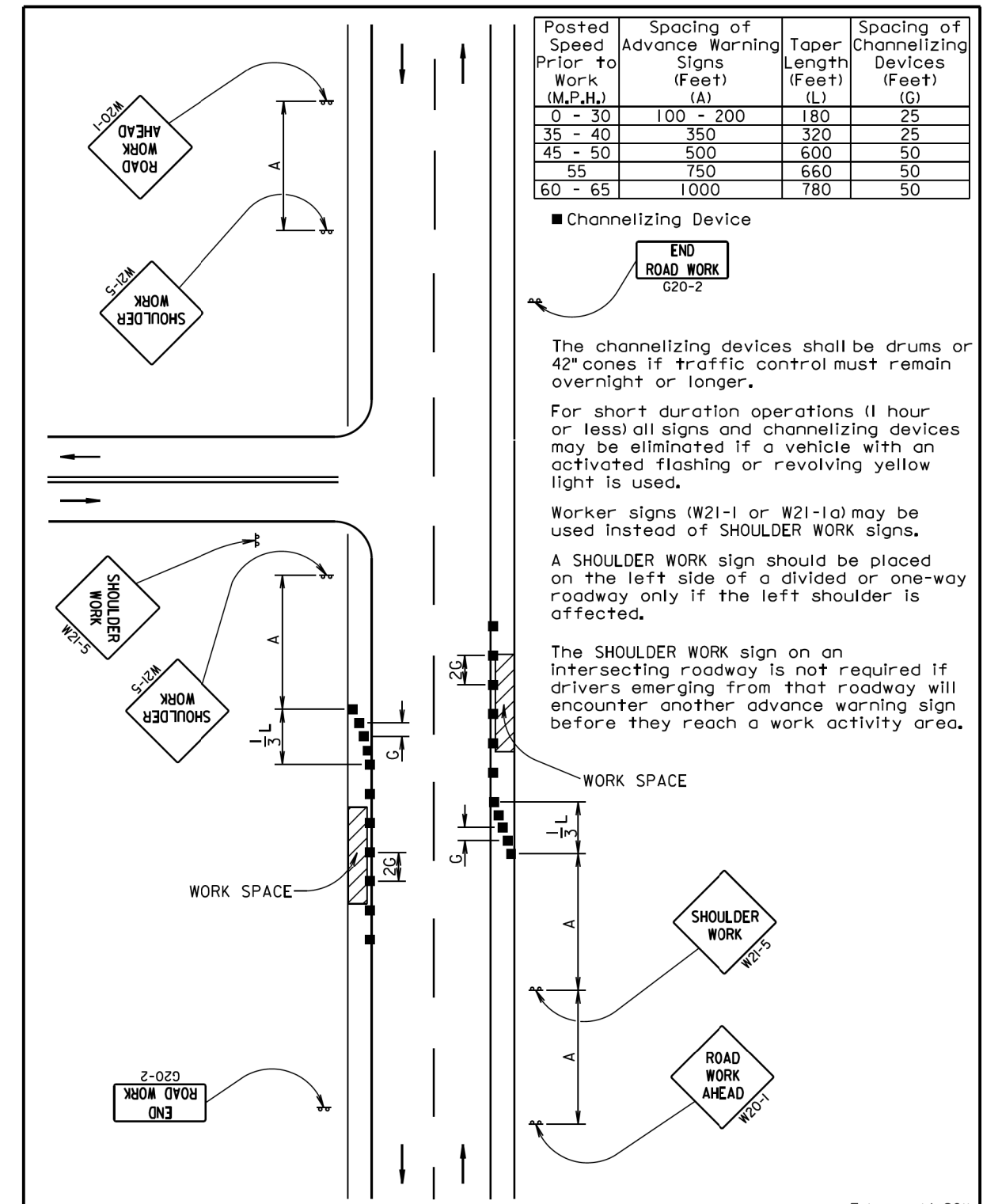
SIGN CODE	DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	UNITS PER SIGN	UNITS
R1-1	STOP		30" x 30"	21	
R1-2	YIELD		36" x 36"	27	
R2-1	SPEED LIMIT XX		24" x 30"	18	
R2-6aP	FINES DOUBLE (plaque)		24" x 18"	15	
R4-7	KEEP RIGHT (symbol)		24" x 30"	18	
R5-1	DO NOT ENTER		30" x 30"	21	
R5-1a	WRONG WAY		36" x 24"	20	
R10-6	STOP HERE ON RED		24" x 36"	20	
R11-2	ROAD CLOSED		48" x 30"	27	
R11-3a	ROAD CLOSED ___ MILES AHEAD LOCAL TRAFFIC ONLY		60" x 30"	30	
R11-4	ROAD CLOSED TO THRU TRAFFIC		60" x 30"	30	
W1-1	LEFT or RIGHT TURN ARROW		48" x 48"	34	
W1-2	LEFT or RIGHT CURVE ARROW		48" x 48"	34	
W1-3	REVERSE TURN (L or R)		48" x 48"	34	
W1-4	REVERSE CURVE (L or R)		48" x 48"	34	
W3-1	STOP AHEAD (symbol)		48" x 48"	34	
W3-2	YIELD AHEAD (symbol)		48" x 48"	34	
W3-3	SIGNAL AHEAD (symbol)		48" x 48"	34	
W3-4	BE PREPARED TO STOP		48" x 48"	34	
W3-5	SPEED REDUCTION AHEAD (___ MPH)		48" x 48"	34	
W4-1	MERGE (symbol)		48" x 48"	34	
W4-2	LEFT or RIGHT LANE ENDS (symbol)		48" x 48"	34	
W4-3	ADDED LANE (symbol)		48" x 48"	34	
W5-3	ONE LANE BRIDGE		48" x 48"	34	
W7-3aP	NEXT ___ MILES (plaque)		36" x 30"	23	
W8-1	BUMP		48" x 48"	34	
W8-6	TRUCK CROSSING	2	48" x 48"	34	68
W8-7	LOOSE GRAVEL		48" x 48"	34	
W8-11	UNEVEN LANES		48" x 48"	34	
W8-17	SHOULDER DROP-OFF (symbol)		48" x 48"	34	
W8-17P	SHOULDER DROP-OFF (plaque)		30" x 24"	18	
W13-1P	ADVISORY SPEED (plaque)		30" x 30"	21	
W20-1	ROAD WORK AHEAD OR NEXT XX MILES	2	48" x 48"	34	68
W20-2	DETOUR AHEAD		48" x 48"	34	
W20-3	ROAD CLOSED AHEAD		48" x 48"	34	
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	34	68
W20-5	LEFT or RIGHT LANE CLOSED AHEAD		48" x 48"	34	
W20-5a	2 RIGHT LANES CLOSED AHEAD		48" x 48"	34	
W20-7	FLAGGER (symbol)	2	48" x 48"	34	68
W21-1	WORKERS (symbol)		48" x 48"	34	
W21-2	FRESH OIL		48" x 48"	34	
W21-3	ROAD MACHINERY AHEAD		48" x 48"	34	
W21-5	SHOULDER WORK	2	48" x 48"	34	68
W21-5a	LEFT or RIGHT SHOULDER CLOSED		48" x 48"	34	
W21-5b	LEFT or RIGHT SHOULDER CLOSED AHEAD		48" x 48"	34	
G20-1	ROAD WORK NEXT ___ MILES		36" x 18"	17	
G20-2	END ROAD WORK	2	36" x 18"	17	34
G20-5aP	WORK ZONE (plaque)		24" x 18"	15	
-	TYPE III OBJECT MARKER		12" x 36"	15	
-	TYPE 3 BARRICADE - 8' single sided			40	
-	TYPE 3 BARRICADE - 8' double sided			56	
TOTAL UNITS					374

Plotting Date: 08/07/2014

PLOT SCALE - 1:206.452



July 1, 2005



February 14, 2011

PLOTTED FROM - TRW11119

PLOT NAME - 1

FILE - ... \TC\STD PLATE RASTERS.DGN

Plotting Date: 08/07/2014

PLOT SCALE - 1:206.452

PLOT NAME - 2

FILE - ... \TC\STD PLATE RASTERS.DGN

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

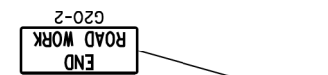
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

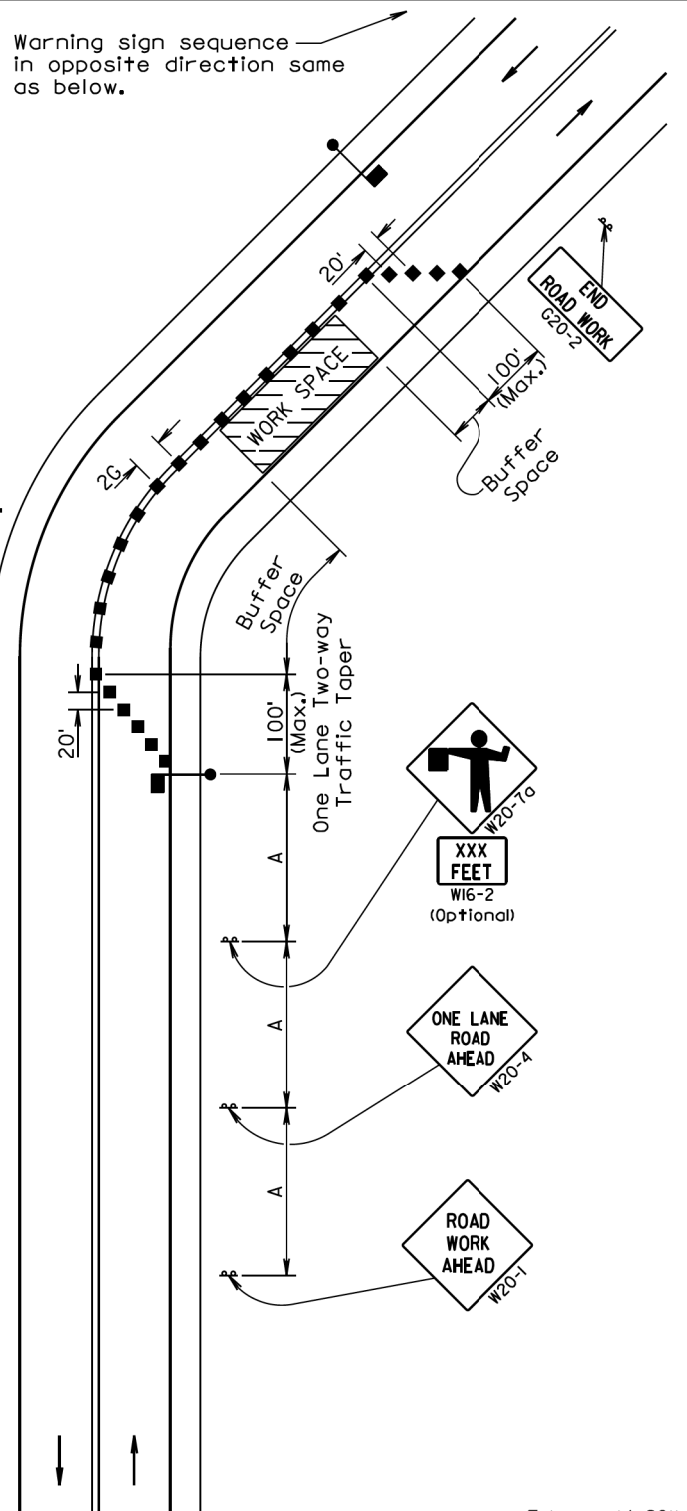
The channelizing devices shall be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

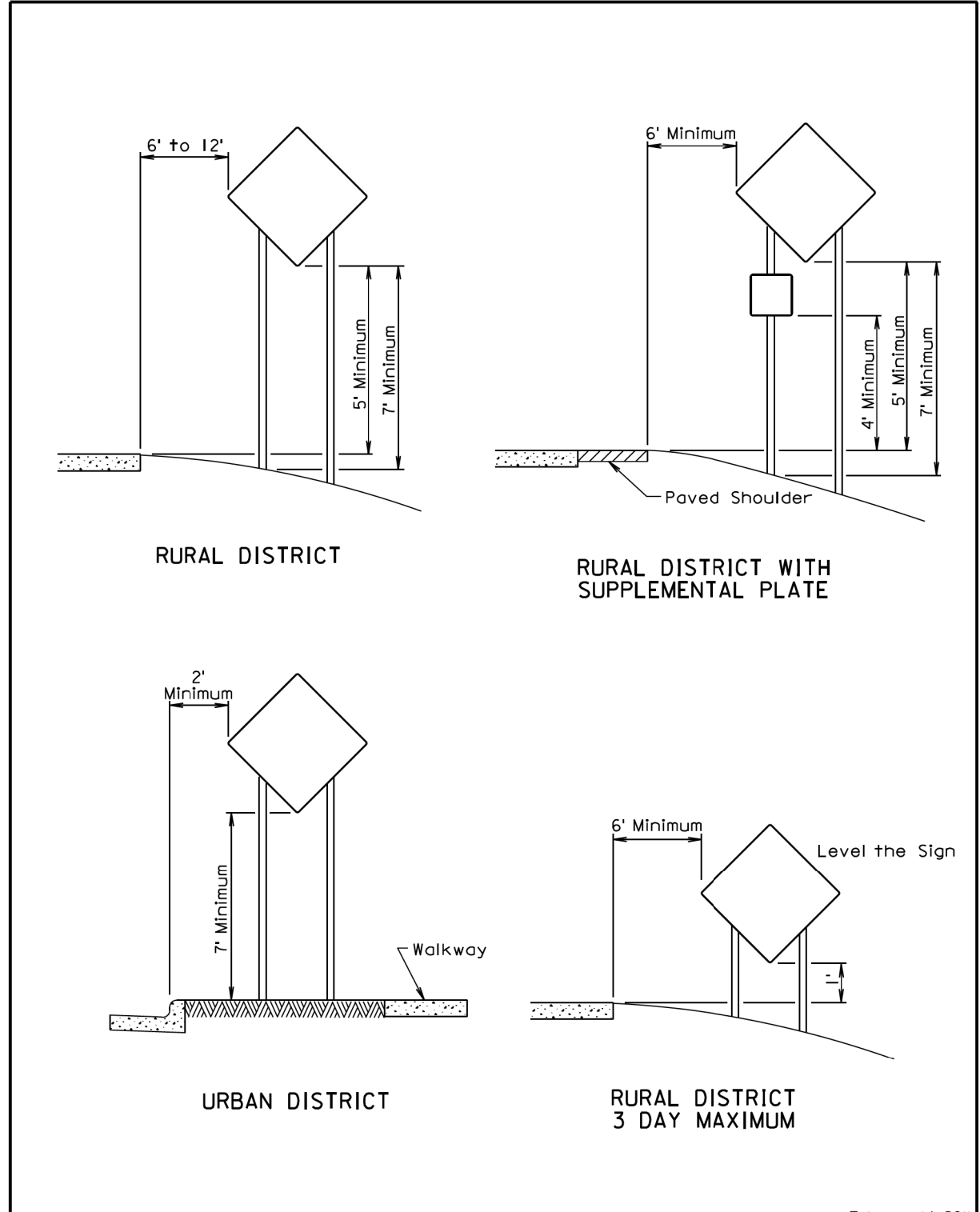
The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.



February 14, 2011

S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
		Sheet 1 of 1

Published Date: 3rd Qtr. 2014



February 14, 2011

S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
		Sheet 1 of 1

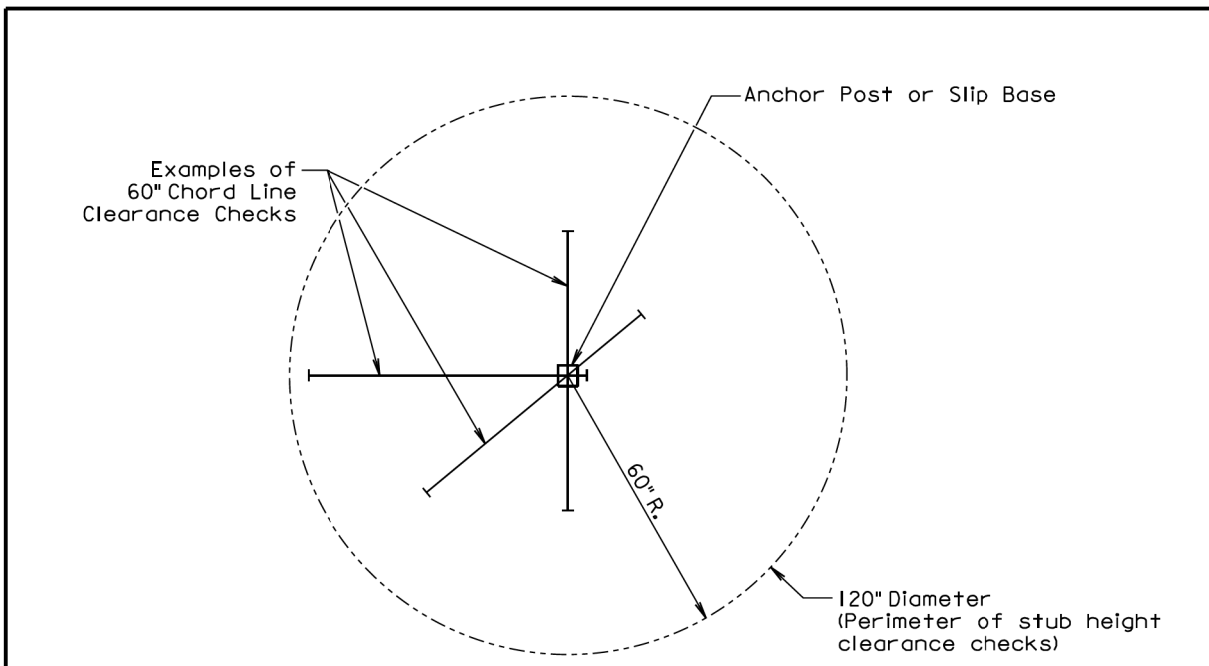
Published Date: 3rd Qtr. 2014

PLOTTED FROM - TRW11119

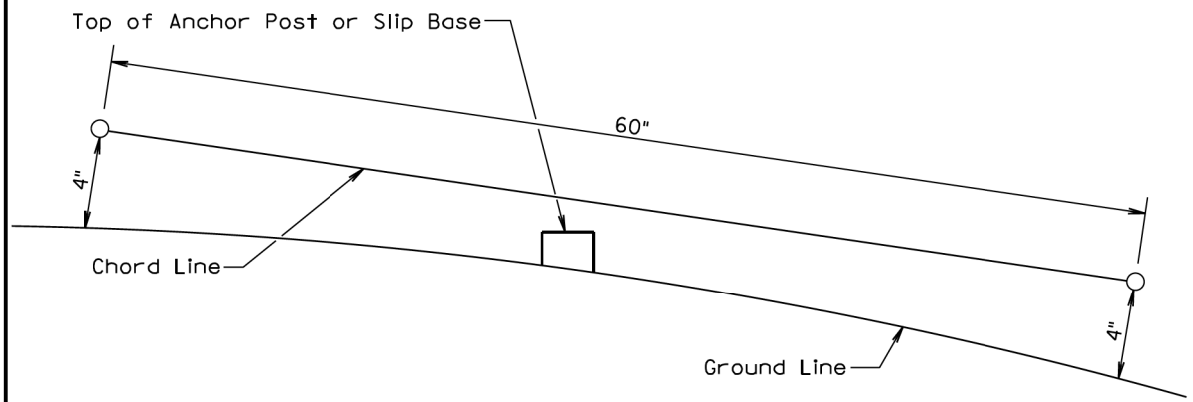
PLOT SCALE - 1:206.452

PLOT NAME - 3

FILE - ... \TC\STD PLATE RASTERS.DGN



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: 3rd Qtr. 2014	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER
			634.99
			Sheet 1 of 1

PLOTTED FROM - TRM11119

BRIDGE BERM & CHANNEL RECONSTRUCTION STRUCTURE 42-140-063 OVER NINE MILE CREEK

STATE OF SOUTH DAKOTA	PROJECT 011-288 & 011-288	SHEET 8	TOTAL SHEETS 16
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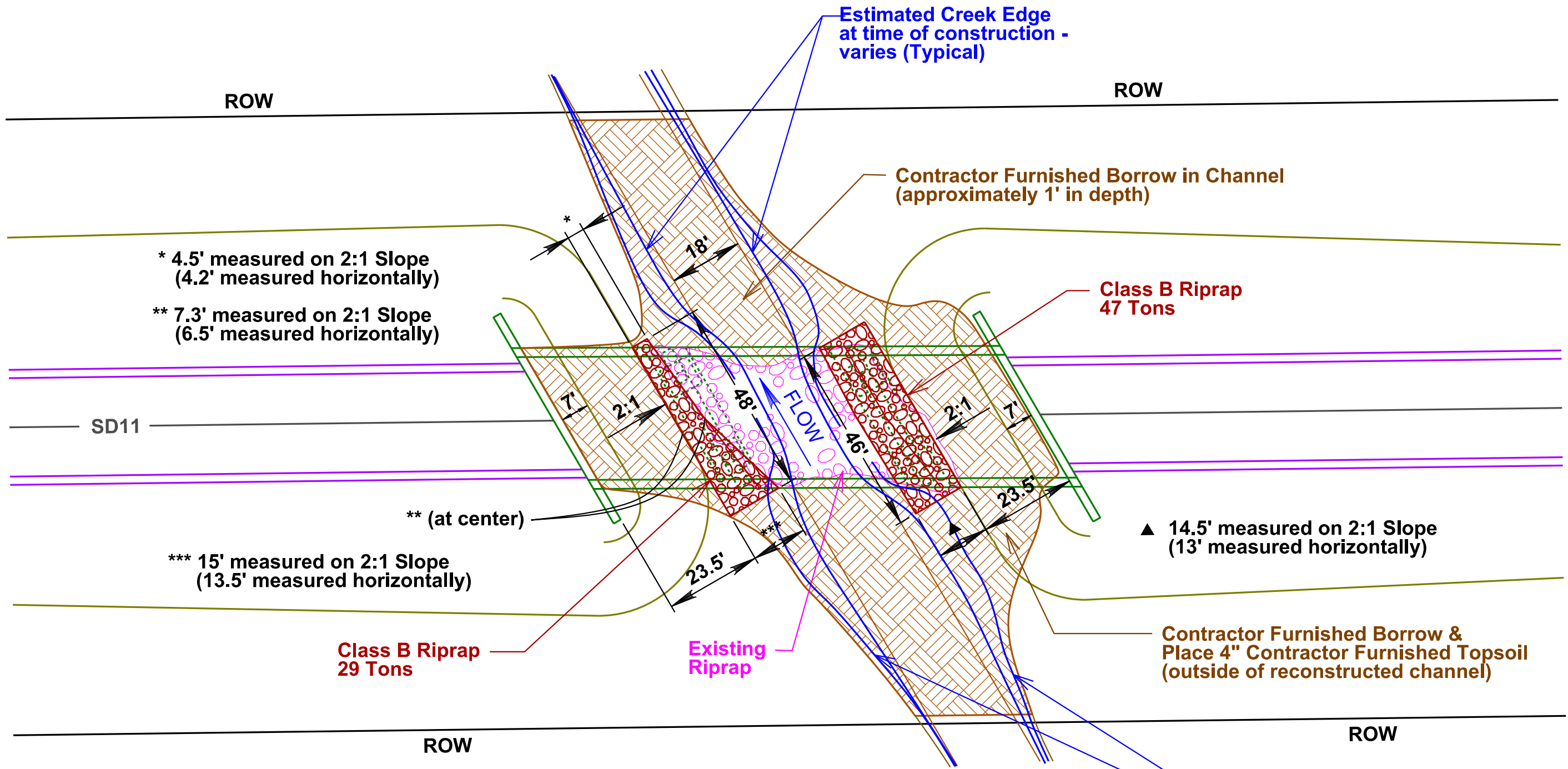
Plotting Date: 08/13/2014



PLOT SCALE - 1:25,000

PLOT NAME - 2

FILE - ... \PLAN\13LK.DGN



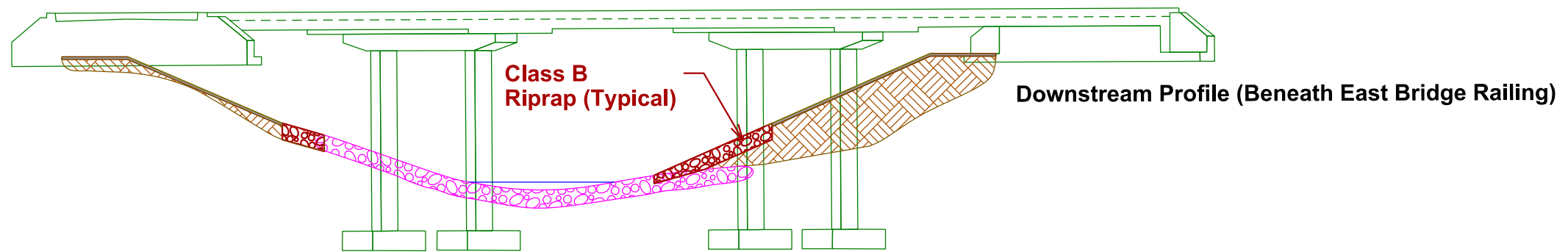
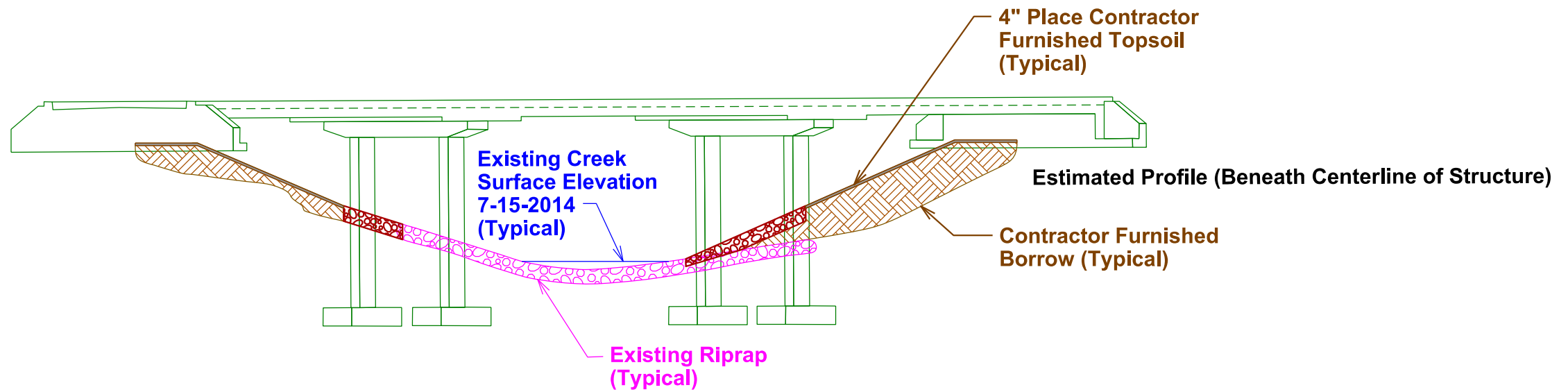
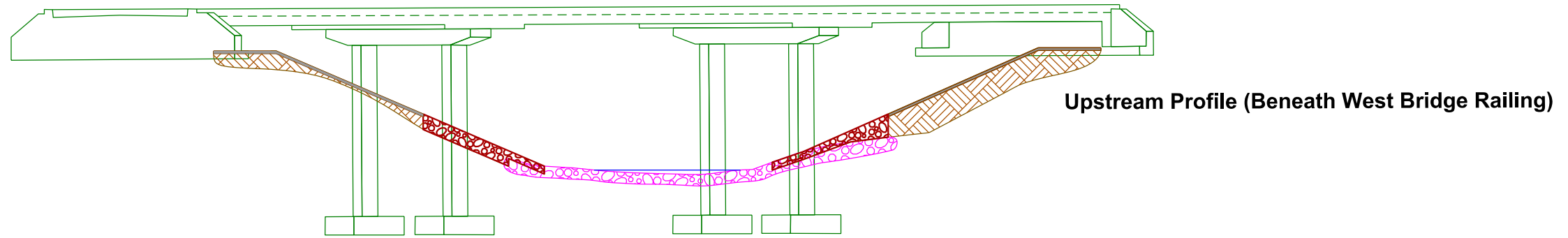
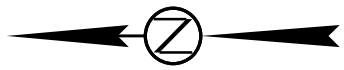
Estimated Contractor Furnished Borrow 450 CuYds
 Estimated Contractor Furnished Topsoil 52 CuYds

Existing Creek Edge 7-15-2014 (Typical)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	9	16

Plotting Date: 08/13/2014

BRIDGE BERM & CHANNEL RECONSTRUCTION STRUCTURE 42-140-063 OVER NINE MILE CREEK



PLOT SCALE - 1:17,3017

PLOTTED FROM - IRMIN115

PLOT NAME - 3

FILE - ... \PLAN13LK.DGN

EROSION CONTROL STRUCTURE 42-140-063 OVER NINE MILE CREEK

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	10	16

Plotting Date: 08/13/2014

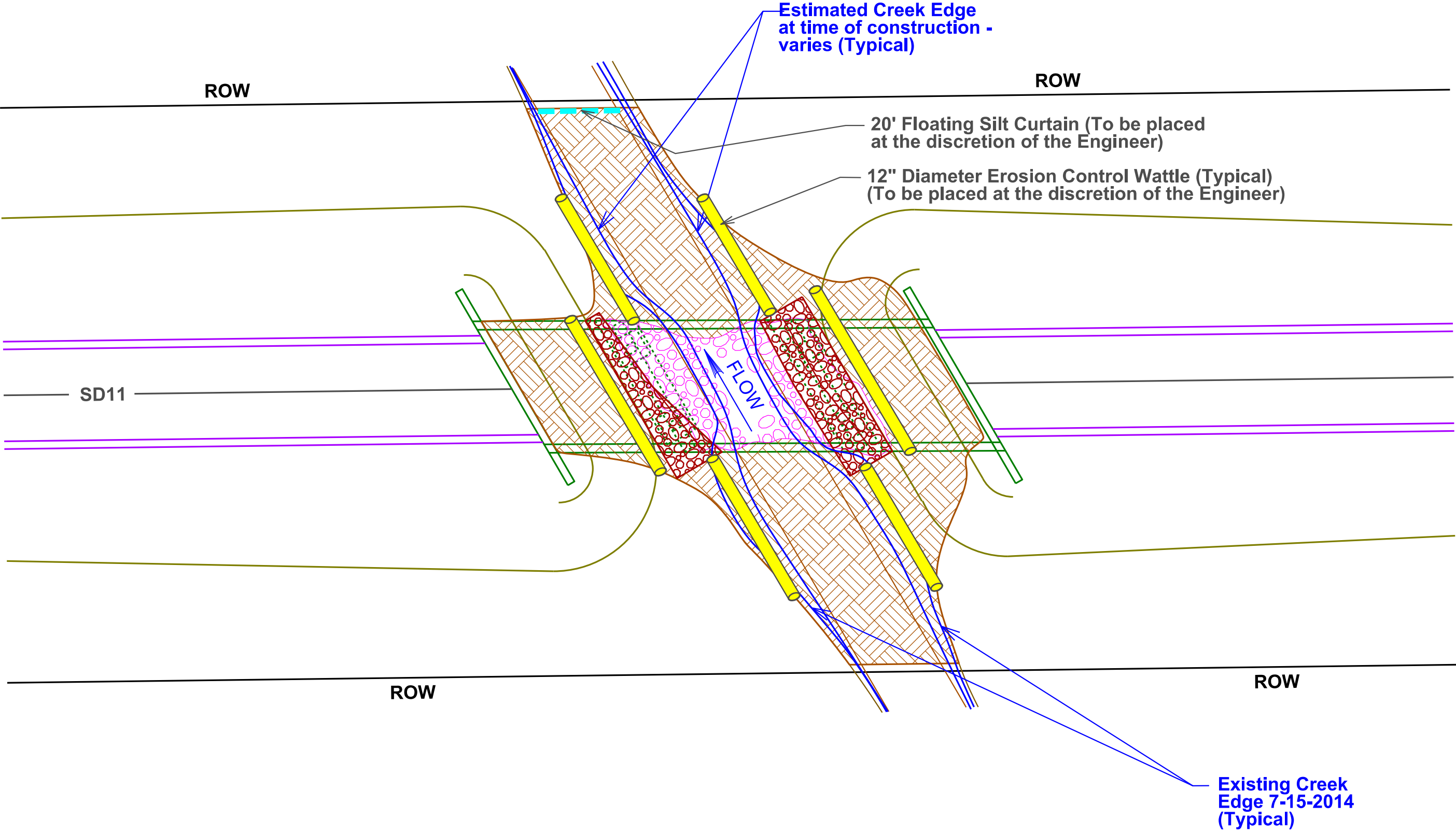


PLOT SCALE - 1:25,000

PLOT NAME - 4

FILE - ... \PLAN\3LK.DGN

PLOTTED FROM - IRMIN115



ORIGINAL CONSTRUCTION PLANS - STRUCTURE 42-140-063 OVER NINE MILE CREEK

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	11	16

Plotting Date: 08/13/2014

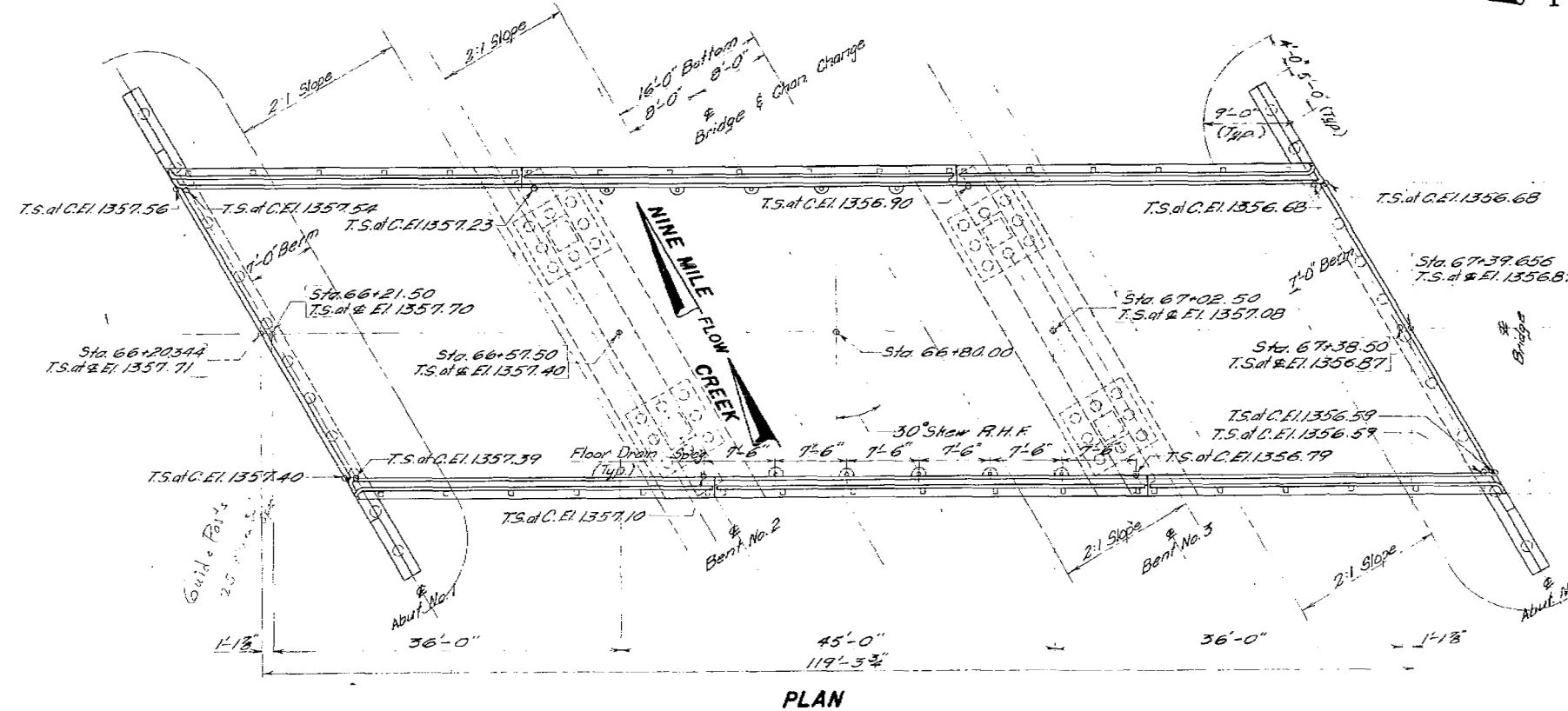
FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL
5	S.D.	3501(2)	28	235

-X020- INDEX OF BRIDGE SHEETS -

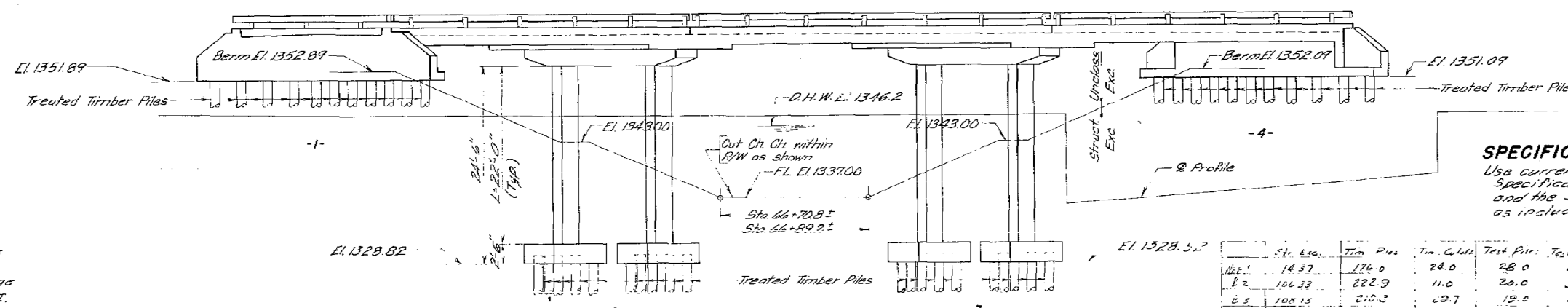
- Sheet No. 1 - General Drawing and Quantities.
- Sheet No. 2 - Subsurface Investigations.
- Sheet No. 3 - Details of Abutments No. 1 & No. 4.
- Sheet No. 4 - Bent Details.
- Sheet No. 5 - Details of Superstructure.
- Sheet No. 6 - Slab E.I.'s & Concrete Placement Schedules.
- Sheet No. 7 - Railing Details.

Q	1350 c.f.s.
A	192.7 Sp. Ft.
V	7 f.p.s.

B.M. No. 2 - E.I. 1384.21
R.R. Spike in P.R.
276' L1 - Sta. 52+89



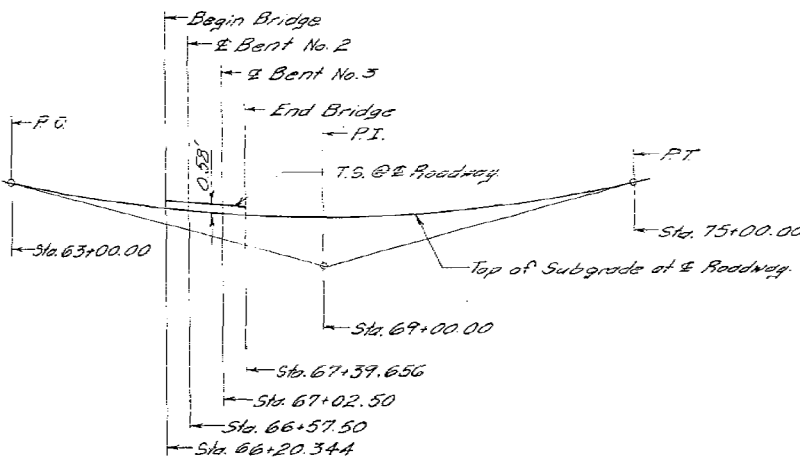
- ### GENERAL NOTES -
- Design Specifications: A.A.S.H.O. Specifications for Highway Bridges, 1961, with Interim Specifications for 1961, 1962.
 - See NOTES on Sheets No. 3, 4, 6, & 7.
 - Place floor drains as shown in Plan. (10 Required)
 - Longitudinal elements of the slab shall conform to the vertical curve.
 - Rail posts shall be built vertical.



SPECIFICATION NOTE -

Use current South Dakota Standard Specifications for Roads and Bridges and the Supplemental Specifications as included in the Proposal.

Abut.	St. Etc.	Tim. Piles	Tim. Culvert	Test Pile	Test Culvert
Abut. 1	14.57	174.0	28.0	28.0	2.5
Bent 2	106.33	222.9	11.0	20.0	5.0
Bent 3	108.15	210.3	12.7	19.0	4.5
Abut. 4	15.97	325.8	11.4	40.4	4.4
Total	244.00	945.0	76.1	107.4	17.0



ESTIMATED QUANTITIES

ITEM	Cl. 7' Core Cu. Yds.	Steel - Lbs.		Type "B" Steel Timber Piles - Lin. Ft.	Excavation - Cu. Yds.		INCIDENTAL WORK
		Reinf.	Struct. Railing - Lin. Ft.		Struct.	Unclass.	
Superstructure	220.8	68,990	170	240.3			
Abutment No. 1	21.1	2,685	525	10 @ 25' = 250	1 @ 30' = 30	11	
Bent No. 2	26.9	4,685		15 @ 20' = 300	1 @ 25' = 25	103	
Bent No. 3	26.8	4,685		15 @ 20' = 300	1 @ 25' = 25	105	
Abutment No. 4	21.0	2,685	525	10 @ 40' = 400	1 @ 45' = 45	11	
Totals	316.6	83,730	1,220	240.3	1,250	236	4,610

See Grading Plans for Unclassified Excavations.
One Treated Timber Test Pile shall be driven at Abutments No. 1 & No. 4 and at Bents No. 2 & No. 3 before the remaining piles are ordered.
PILE NOTE: Piles driven at Abutments No. 1 and No. 4 including Test Piles, shall obtain their full bearing 24 Tons in the natural ground below the new embankment, elevations 1347.31 and 1338.02 respectively. Pre-bored holes through the pile all are required and shall have a minimum diameter 2" larger than the nominal diameter (3" from the butt) of the pile.
*INCIDENTAL WORK: - In place, on @ Sta. 67+37.2 old 3-Span Reinf. Concrete Slab Bridge - 43.5' x 18' Rdwy. Remove and salvage old gas pipe railing, taking care not to injure the structural properties thereof. Break down and remove old superstructure and substructure to 1' below finished ground line, or as necessary to facilitate the construction of Abutment No. 4 and footing at Bent No. 3. Salvaged gas pipe railing shall be placed neatly within the right-of-way, to be picked up by County forces for maintenance work. Satisfactory broken concrete shall be used as slope protection on the upstream side of the new embankments around wings of Sills No. 1 & 4. All other broken concrete and materials, not salvaged, shall be disposed of as directed by the ENGINEER.

GENERAL DRAWING AND QUANTITIES FOR

119'-3 3/4" CONTINUOUS CONCRETE BRIDGE

30'-0" ROADWAY: 30° SKEW R.H.F.
OVER NINE MILE CREEK SEC. 8/9-T99N-R49W
STA. 66+20.344 TO 67+39.656 S3501 (2)
LINCOLN COUNTY
SOUTH DAKOTA H20-S16-44
DEPARTMENT OF HIGHWAYS
-X020- AUGUST 1963 ① OF ⑦

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED
		H.A.	<i>[Signature]</i> BRIDGE ENGINEER

PLOT SCALE - 1" = 17.3017'

PLOT NAME - 5

FILE - ... \PLAN\313K.DGN

BRIDGE BERM & CHANNEL RECONSTRUCTION STRUCTURE 42-140-115 OVER BEAVER CREEK

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	12	16

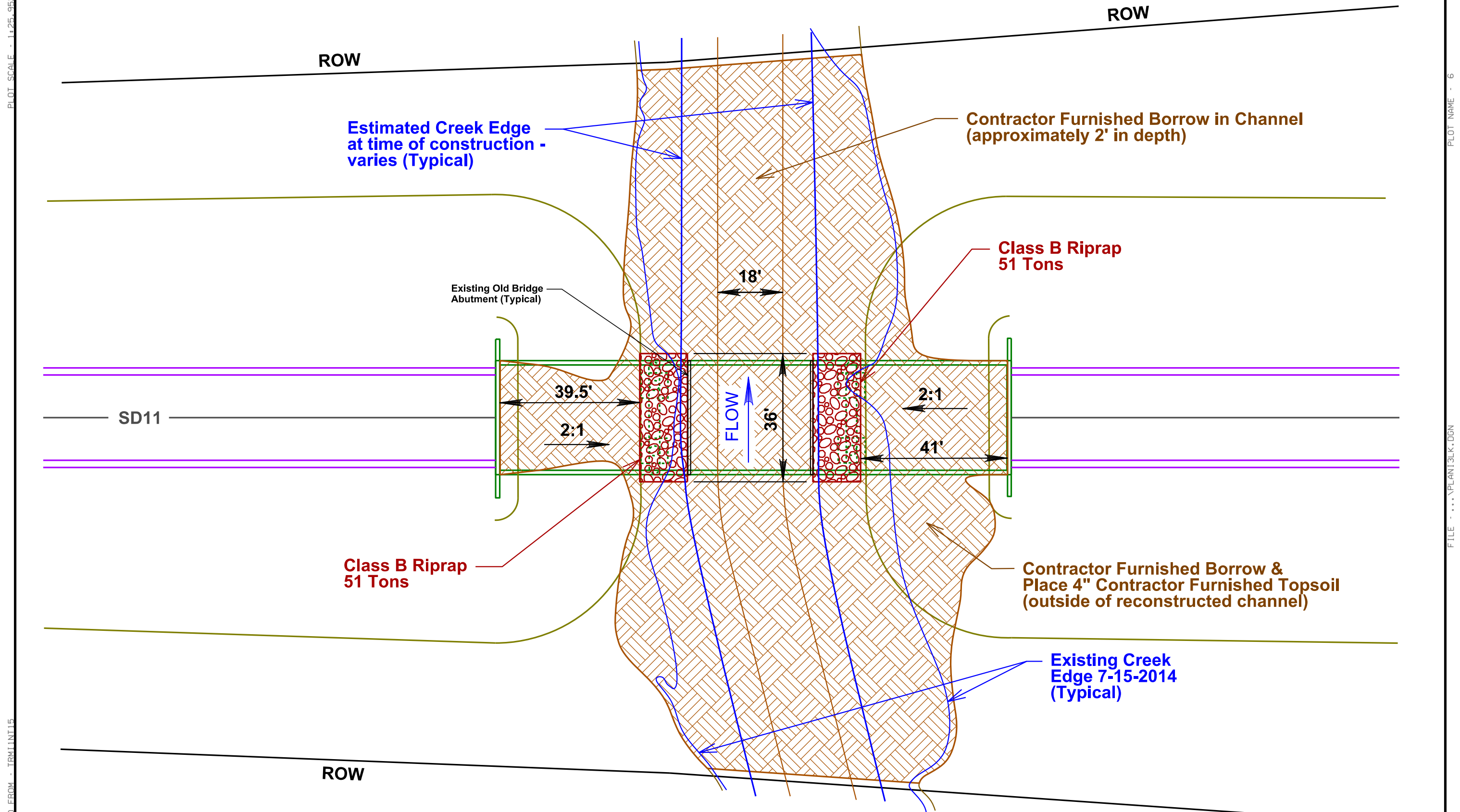
Plotting Date: 08/13/2014



PLOT SCALE - 1:25,000

PLOT NAME - 6

FILE - ... \PLAN\13LK.DGN



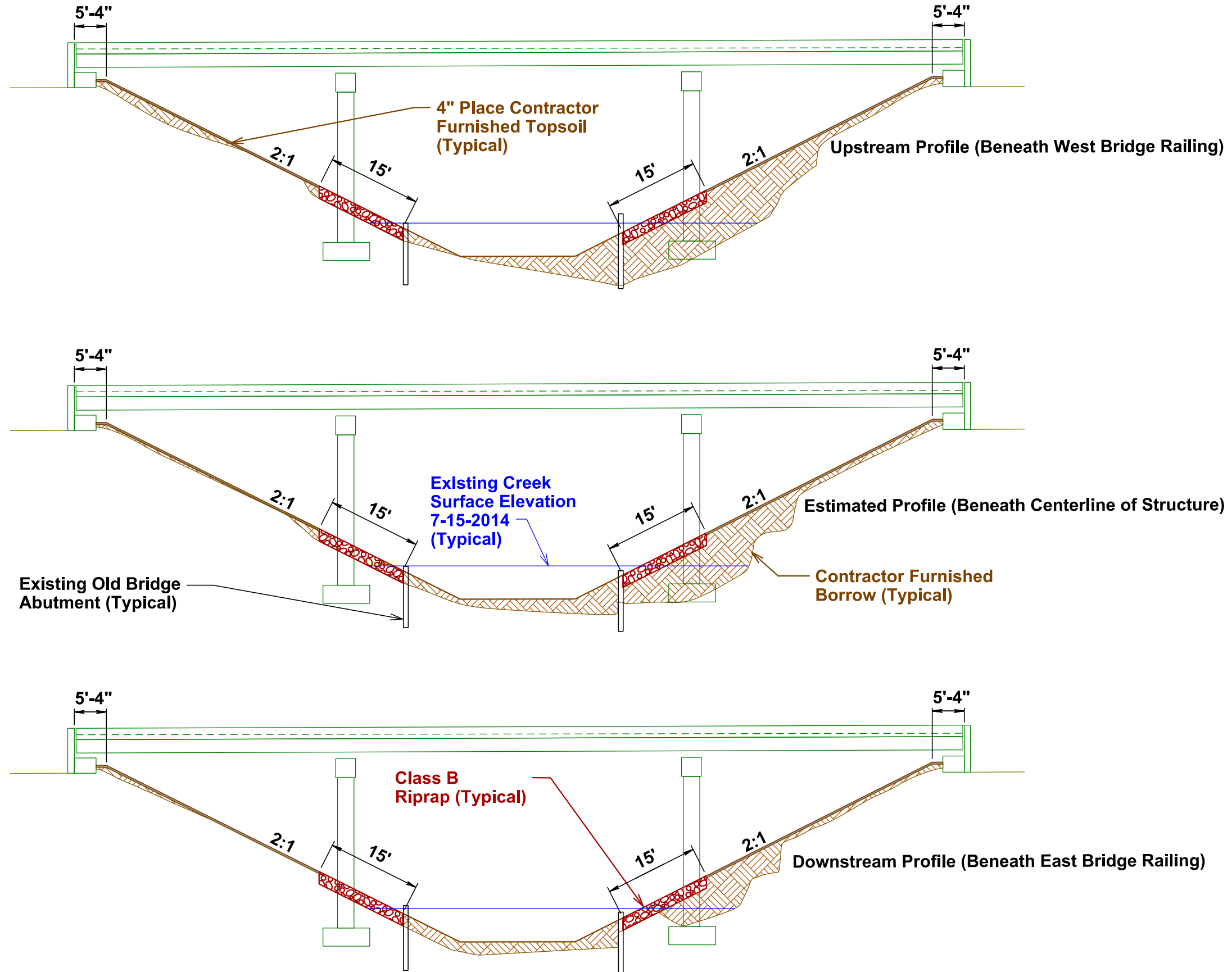
Estimated Contractor Furnished Borrow 1550 CuYds
 Estimated Contractor Furnished Topsoil 137 CuYds

ROW

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	13	16

Plotting Date: 08/13/2014

BRIDGE BERM & CHANNEL RECONSTRUCTION STRUCTURE 42-140-115 OVER BEAVER CREEK



PLOT SCALE - 1:17,3017

PLOTTED FROM - IRWIN115

PLOT NAME - 7

FILE - ... \PLAN13LK.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	14	16

Plotting Date: 08/13/2014

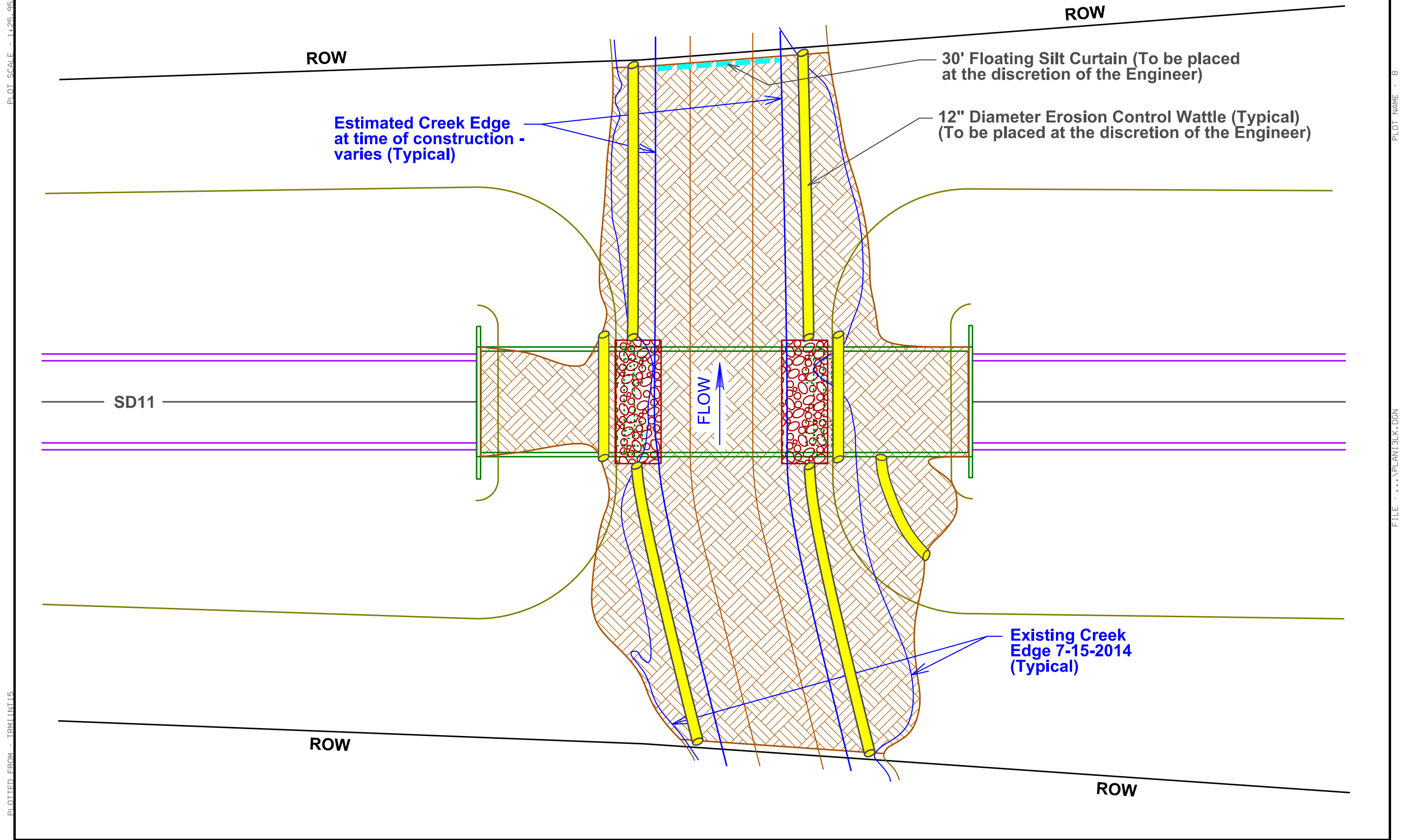
EROSION CONTROL STRUCTURE 42-140-115 OVER BEAVER CREEK



PLOT SCALE - 1:25,000

PLOT NAME - 8

FILE - ... \PLAN\13LK.DGN



ROW

ROW

30' Floating Silt Curtain (To be placed at the discretion of the Engineer)

12" Diameter Erosion Control Wattle (Typical) (To be placed at the discretion of the Engineer)

Estimated Creek Edge at time of construction - varies (Typical)

SD11

FLOW ↑

Existing Creek Edge 7-15-2014 (Typical)

ROW

ROW

PLOTTED FROM - IRMIN115

ORIGINAL CONSTRUCTION PLANS - STRUCTURE 42-140-115 OVER BEAVER CREEK

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	011-288 & 011-288	15	16

Plotting Date: 08/13/2014

FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL
5	S.D.	53501(2)	35	235

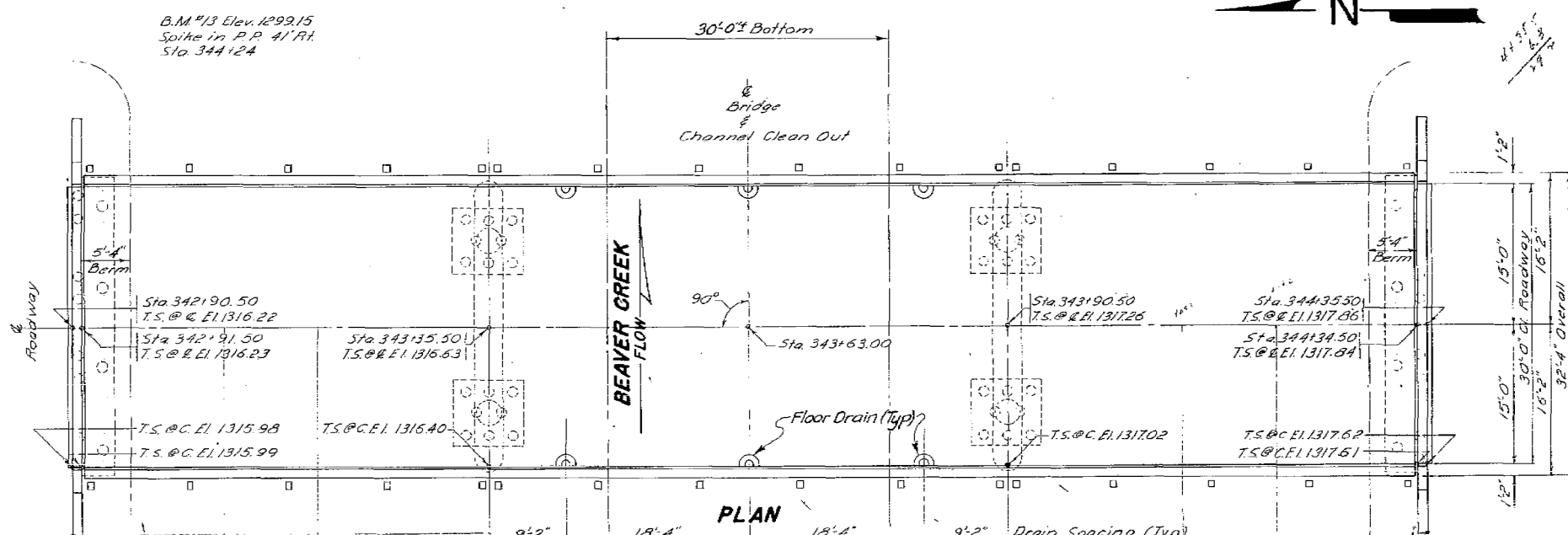
PLOT SCALE - 1:17,3017

PLOT NAME - 9

FILE - ... \PLAN\13LK.DGN

INDEX OF BRIDGE SHEETS—

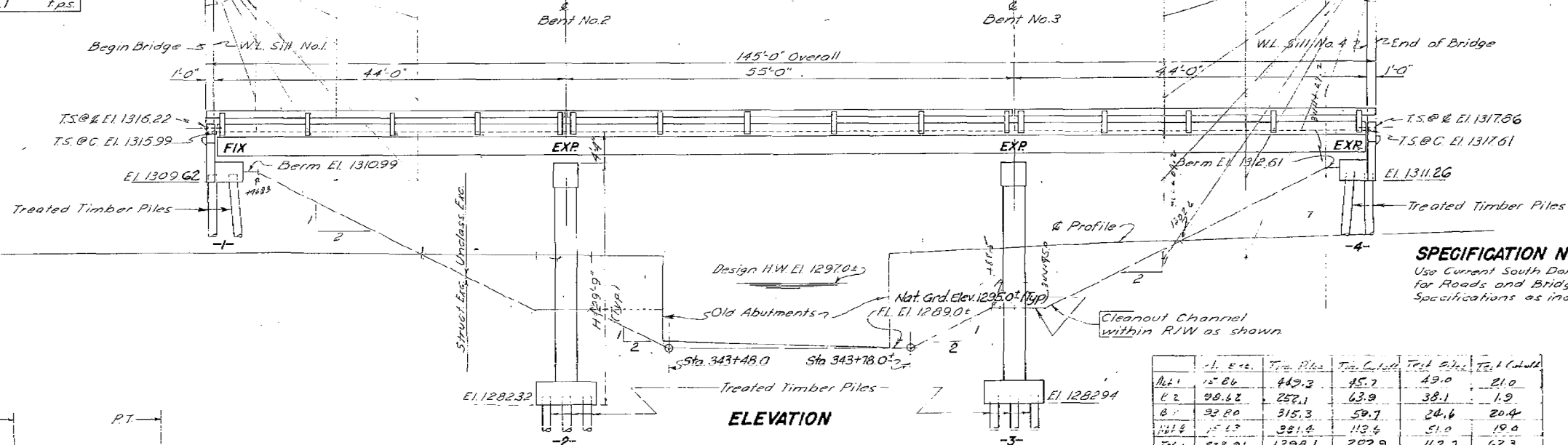
- Sheet No.1 General Drawing and Quantities
- Sheet No.2 Subsurface Investigations
- Sheet No.3 Sill Details
- Sheet No.4 Bent Details
- Sheet No.5 Details of Superstructure
- Sheet No.6 Details of Superstructure
- Sheet No.7 Details of Standard Joints **NJ-30** (7-31-63)
- Sheet No.8 Erection Data
- Sheet No.9 Special Details
- Sheet No.10 Std. Railing and Drain Details **RRA-1** (5-3-63)



- ### GENERAL NOTES—
1. Design Specifications: A.A.S.H.O. Specifications for Highway Bridges, 1961, with Interim Specifications for 1961, 1962.
 2. See NOTES on Sheets No. 2 thru 10.
 3. Longitudinal elements of the slab shall conform to the vertical curve.
 4. Rail posts shall be built vertical.
 5. Place floor drains as shown in PLAN (6 required).

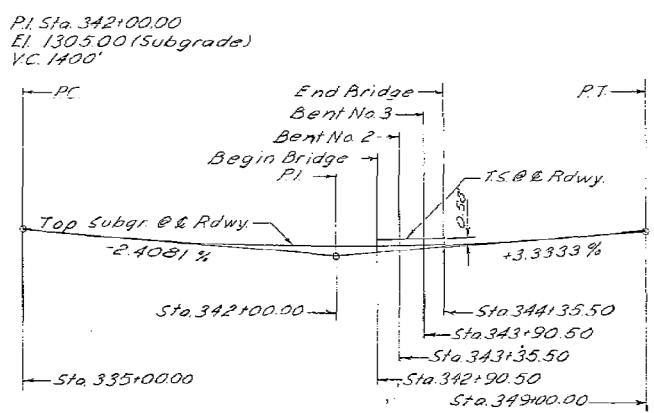
Q	1500	cfs
A	368	sq ft.
V	4.1	fps.

NOTE—
 T.S. @ C. El. = Top of Slab @ Curb Elevation.
 T.S. @ R. El. = Top of Slab @ Rdwy. Elevation.



SPECIFICATION NOTE—
 Use Current South Dakota Standard Specifications for Roads and Bridges and the Supplemental Specifications as included in the proposal.

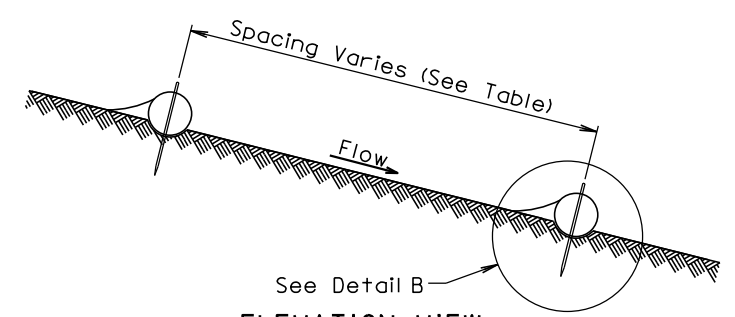
Item	El. Elev.	Top Pile	Top. Cut-off	Test Pile	Test Capacity
Abt 1	15.86	44.3	45.2	49.0	21.0
E 2	20.22	252.1	63.9	38.1	1.9
B 1	32.20	315.3	59.7	24.6	20.4
Abt 2	15.17	381.4	113.4	51.0	19.0
Abt 3	22.21	1398.1	282.9	162.7	62.3



ITEM	C.I.A. Concr. Cu. Yds	Steel - Lbs.		Type 'A' Steel Reinf. Lin. Ft.	Timber Piles - Lin. Ft. Treated Timber @ Test	Excavation - Cu. Yds.	
		Reinf.	Struct.			Struct.	in class
Superstructure	108.2	33,385	75,819	292.3			
Sill No. 1	21.4	2050	480		11@65'-715' 1@70'-70	15	
Sill No. 4	21.4	2050	1215		11@65'-715' 1@70'-70	16	
Bent No. 2	31.6	7594			15@35'-525' 1@40'-40	99	
Bent No. 3	31.6	7594	76,975		15@40'-600' 1@45'-45	94	
Totals	214.2	52,673	77,514	292.3	2555' @ 225'	225	210@70'

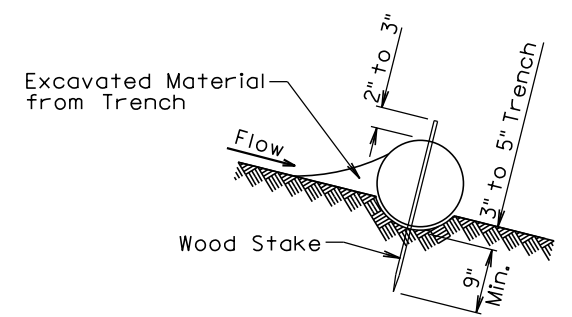
One Treated Timber Test Pile shall be driven at Sills No. 1 & No. 4 and at Bents No. 2 & No. 3 before remaining piles are ordered.
 See Grading Plans for Unclassified Excavation.
PILE NOTE: Piles driven at Sills No. 1 & No. 4, including Test Piles, shall obtain their full bearing (24 Tons) in the natural ground below the new embankment elevations 1301.5± and 1303.0± respectively. Pre-bored holes through the fill are required and shall have a minimum diameter 2" larger than the nominal diameter (3" from the butt) of the pile.
***INCIDENTAL WORK:** In place, on & Sta. 343+47 to 343+75, 28"x24" Roadway Single Span Reinforced Concrete I-Beam Bridge. Break down and remove reinforced concrete superstructure being careful not to injure the structural properties of the I-Beam Stringers including the concrete enclosed exterior Stringers and gas pipe railing. Salvaged I-Beam Stringers and gas pipe railing shall be placed neatly within the right-of-way as directed by the ENGINEER to be picked up by county forces for maintenance work. Break down and remove concrete substructure to 1'± below finished ground line or as necessary for construction of new footings. Pull piling if necessary for construction of new footings. Satisfactory broken concrete shall be used as slope protection on the upstream side of the new embankments around wings of Sills No. 1 and No. 4. All other broken concrete and materials shall be disposed of as directed by the ENGINEER.

GENERAL DRAWING AND QUANTITIES
 FOR
145'-0" I-BEAM VIADUCT
 30'-0" ROADWAY
 OVER BEAVER CREEK SEC. 4/5-T98N-R49W
 STA. 342+90.50 TO 344+35.50 S3501(2)
 LINCOLN COUNTY
 SOUTH DAKOTA H20-S16-44
 DEPARTMENT OF HIGHWAYS
 AUG. 1963 1 OF 10
 X-071-
 DESIGNED BY: DRAWN BY: G.L.S. CHECKED BY: R.C.M. APPROVED: [Signature] BRIDGE ENGINEER

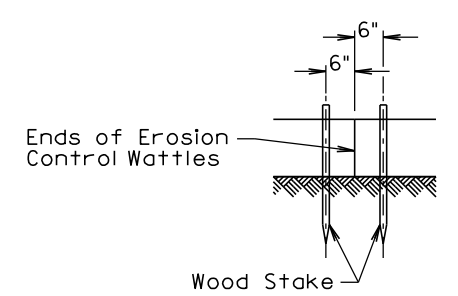


Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40

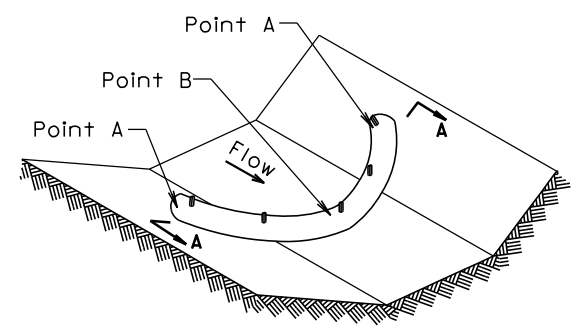
ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION



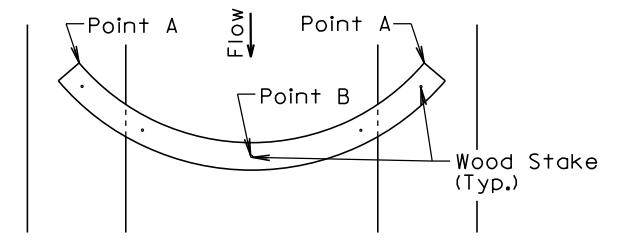
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C

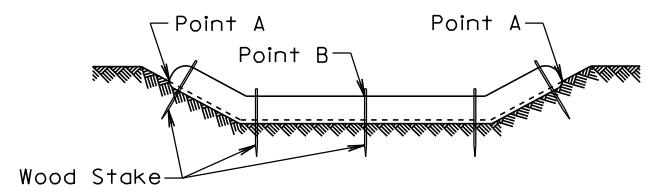


ISOMETRIC VIEW
DITCH INSTALLATION



PLAN VIEW
DITCH INSTALLATION

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



SECTION A-A

December 23, 2004

Published Date: 3rd Qtr. 2014	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

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".

December 23, 2004

Published Date: 3rd Qtr. 2014	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2