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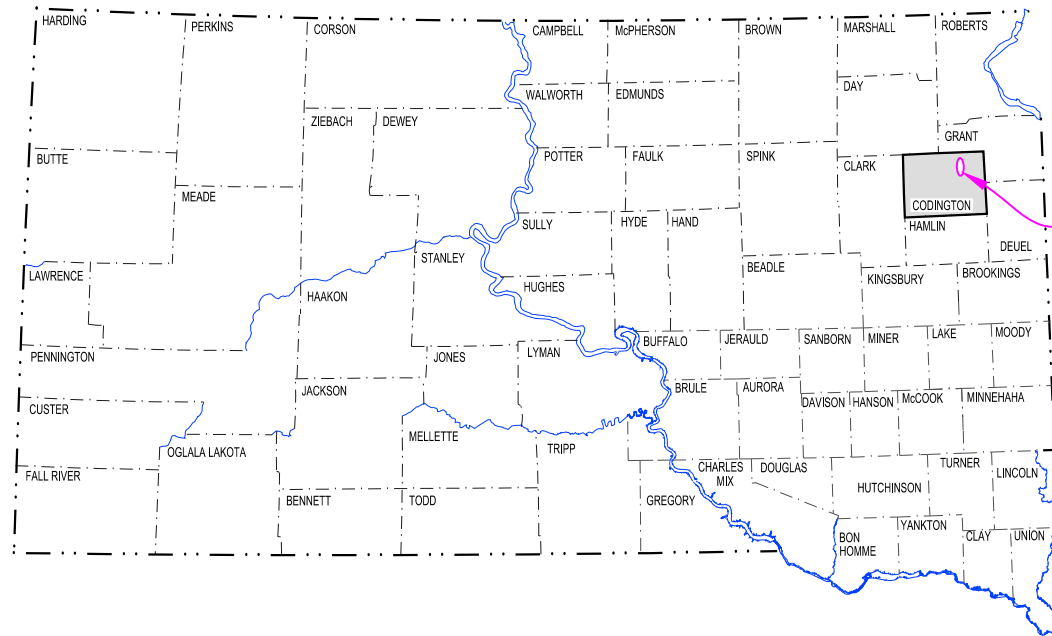
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT
BRF-B 6127(10)
CODINGTON COUNTY

STRUCTURE AND APPROACH GRADING
STRUCTURE NO. 15-190-022
PCN 09MA

INDEX OF SHEETS

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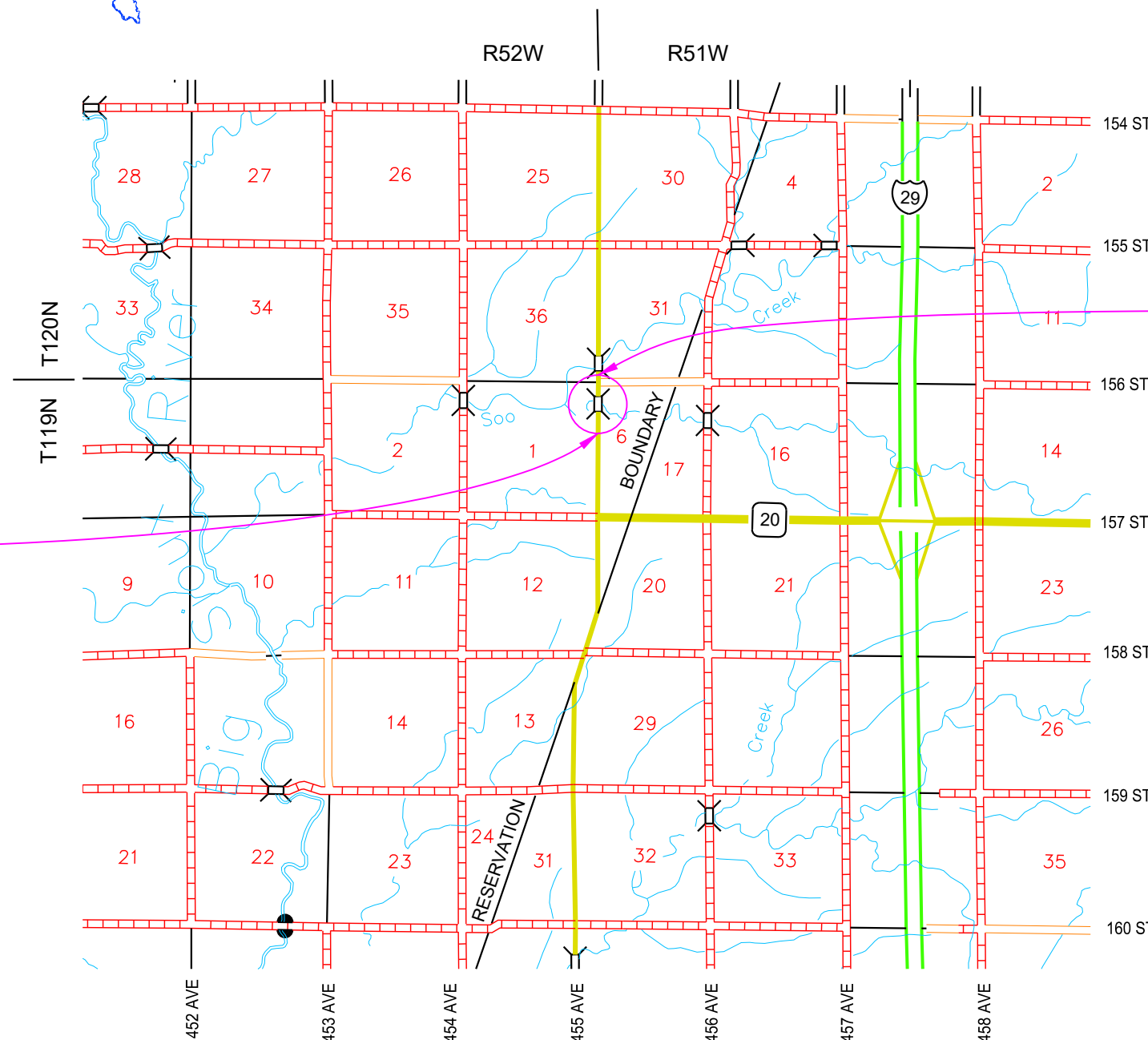
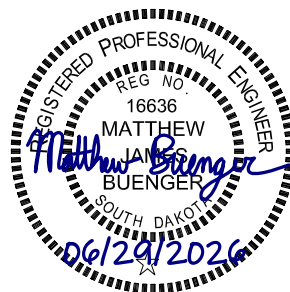
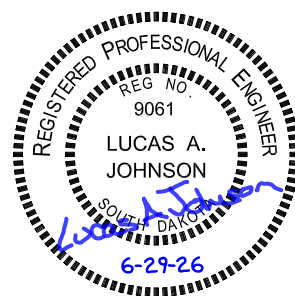
PROJECT

STORM WATER PERMIT
Major Receiving Body of Water: Tributary to Soo Creek
Total Project Area: 1.4 Acre
Area Disturbed: 1.3 Acre
Approx. Begin Lat/Long: 45.120361° N
-97.103281° W

DESIGN DESIGNATION
AADT (2026) 425
AADT (2046) 598
DHV 90
D 50%
DHV T% 4.8
AADT T% 10.5
V 55 mph

BEGIN BRF-B 6127(10)

Station 8+50.00
4322.42 feet North and 140.72 feet East
of the southeast corner of Section 1 -
Township 119 North - Range 52 West



END BRF-B 6127(10)

Station 11+50.00
4622.27 feet North and 150.31 feet East
of the southeast corner of Section 1 -
Township 119 North - Range 52 West

BANNER
engineering a better community

803 S. Dakota St.
Milbank, SD 57252
1-855-323-6342

2

September 16, 2026

ESTIMATE OF QUANTITIES

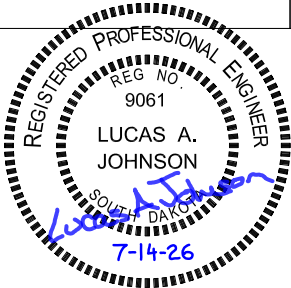
GRADING

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	558.7	SqYd
120E0010	Unclassified Excavation	1,028	CuYd
120E0600	Contractor Furnished Borrow	960	CuYd
230E0010	Placing Topsoil	150	CuYd
260E1010	Base Course	868.2	Ton
* 320E1200	Asphalt Concrete Composite	238.7	Ton
633E1220	High Build Waterborne Pavement Marking Paint, 4" White	600	Ft
633E1222	High Build Waterborne Pavement Marking Paint, 4" Yellow	75	Ft
634E0110	Traffic Control Signs	213.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	10	Each
734E0010	Erosion Control	Lump Sum	LS
734E0102	Type 2 Erosion Control Blanket	463	SqYd
734E0154	12" Diameter Erosion Control Wattle	646	Ft

* - Denotes Non-Participating

STRUCTURE NO. 15-190-022

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
250E0030	Incidental Work, Structure	Lump Sum	LS
420E0200	Structure Excavation, Box Culvert	98	CuYd
421E0200	Box Culvert Undercut	307	CuYd
460E0120	Class A45 Concrete, Box Culvert	214.8	CuYd
480E0100	Reinforcing Steel	30,783	Lb
700E0210	Class B Riprap	117.3	Ton
831E0110	Type B Drainage Fabric	171	SqYd



ENVIRONMENTAL COMMITMENTS

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

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <<https://dot.sd.gov/doing-business/environmental/about-environmental/>>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

COMMITMENT A: AQUATIC RESOURCES

COMMITMENT A2: STREAMS

All efforts to avoid and minimize stream impacts from the project have resulted in approximately 0.12 acre(s) of stream (includes temporary and permanent) becoming impacted.

Table of Impacted Streams

Stream Name	Station	Permanent Impact (Acres)	Temporary Impact (Acres)	Total Impact (Acres)
Tributary to Soo Ck	10+00 (L/R)	0.06	0.06	0.12

Action Taken/Required:

It has been determined that project impacts do not require mitigation. Temporary impacts identified in the Table of Impacted Streams will not be mitigated as the finished ground under the bridge will be shaped to match the upstream channel and flood plain and the existing low water channel will be maintained as near as practical to the existing location as designated in plans.

The Contractor will notify the Project Engineer if additional easement is needed to complete work adjacent to any stream. The Project Engineer will obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect any streams beyond the work limits and easements shown in the plans.

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COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight, and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

COMMITMENT B6: MIGRATORY BIRDS WORK RESTRICTION

Migratory birds may use structures for nesting, which primarily occurs from April 1st-August 31st.

Action Taken/Required:

All Swallows are state and federally protected under the Migratory Bird Treaty Act of 1918. It is illegal for any person to take, possess, transport, sell, or purchase them or their parts, such as feathers, nests, or eggs, without a permit. Active nests with eggs or chicks inside may not be touched or destroyed without a permit from the U.S. Fish and Wildlife Service (USFWS). Inactive (empty) nests do not require a permit to destroy. Nest or bird removal applications must be justified with strong, compelling reasons such as a health or safety hazard towards humans and/or birds or damage to property.

Construction activities should not occur in the locations listed in the table below during the migratory bird work restriction if nesting birds are present without prior approval from the SDDOT Environmental Office to avoid conflicts with nesting migratory birds.

Table of Migratory Bird Restrictions

Station	Migratory Bird Restrictions
10+00 (L/R)	April 1- August 31

If necessary, you may do the following to prevent birds from nesting:

Before birds arrive:
Remove old nests and any traces of mud. Since old nests can be reused, remove any potential nests before the birds arrive from winter migration.

Place physical barriers on potential nesting sites to prevent birds from nesting. You may use products such as coroplast, polytetrafluoroethylene (Teflon), Bird Slide™, plexiglass, plastic sheeting, or silicon-based paint coated to the surface. Physical barriers may be a permanent deterrent in preventing birds from nesting in nuisance locations.

After birds arrive:

Remove mud nests frequently, in between nest construction. They may eventually give up on that site if they are not successful in building a nest. You may only destroy nests that do not have eggs or chicks within.

Play sounds of alarm and distress calls of cliff and barn swallows to disrupt nest construction.

If project activities cannot be conducted outside of the seasonal restriction the Contractor will notify the Project Engineer and the Environmental Office Biologist (605-773-3309) to coordinate with the USFWS.

COMMITMENT C: WATER SOURCE

If a Contractor needs access to state waters for extraction, the Contractor must obtain a water right, through the application of a Temporary Permit to Use Public Waters before work begins.

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (SDDANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Temporary permit to use public waters for highway construction purposes application can be found on the SDDANR website:
<https://danr.sd.gov/OfficeOfWater/WaterRights/PermitForms/default.aspx>

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at:
< <https://sdleastwanted.sd.gov/maps/default.aspx> >

South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species:
< <https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04> >

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COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

This project may be in the vicinity of multiple streams and wetlands. These waters are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that this water body is not impacted.

Action Taken/Required:

The Contractor is advised that the South Dakota Surface Water Quality Standards, administered by the South Dakota Department of Agriculture and Natural Resources (DANR), apply to this project. Special construction measures will be taken to ensure the above standard(s) of the surface waters are maintained and protected.

COMMITMENT D2: SURFACE WATER DISCHARGE

The DANR General Permit for Temporary Discharge Activities is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as coldwater permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as coldwater permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to Section 4.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in Section 3.4 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

Action Taken/Required:

If construction dewatering is required and this project is currently covered under a General Permit for Stormwater Discharges Associated with Construction Activities, the contractor will need to submit the dewatering information to the Project Engineer using the following SDDOT Dewatering Info CDX form:

<<https://dot.sd.gov/doing-business/environmental/forms/>>

The Contractor will provide a copy of the approved permit or the submitted dewatering information to the Project Engineer prior to proceeding with any dewatering activities. The approved permit or submitted dewatering information must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DANR monthly. Additional information can be found at:

<
<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/swdpermitting/Ereporting.aspx> >

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COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance and/or work in a waterway.

Action Taken/Required:

The DANR General Permit for Stormwater Discharges Associated with Construction Activities is required for construction activity disturbing one or more acres of earth and work in a waterway. The SDDOT is the owner of this permit and will submit the NOI to DANR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DANR letter of approval is received.

The Contractor must adhere to the “Special Provision Regarding Storm Water Discharges to Waters of the State.”

The Contractor will complete the DANR Contractor Authorization Form prior to the pre-construction meeting. The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the permit for this project. Work may not begin on this project until this form is signed and submitted to DANR.

The form can be found at:
<
https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR_CGPAppendixCCA2023Fillable.pdf >

The Contractor is advised that permit coverage may also be required for off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

Storm Water Pollution Prevention Plan

The Storm Water Pollution Prevention Plan (SWPPP) will be developed prior to the submittal of the NOI and will be implemented for all construction activities for compliance with the permit. The SWPPP must be kept on-site and updated as site conditions change. Erosion control measures and best management practices will be implemented in accordance with the SWPPP.

The DOT 298 Form will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

The inspection will include disturbed areas of the construction site that have not been finally stabilized, areas used for storage materials, structural control measures, and locations where vehicles enter or exit the site. These areas will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are operating correctly, and sediment is not tracked off the site.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: < <https://dot.sd.gov/doing-business/environmental/stormwater> >
DANR:<
<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/default.aspx> >
EPA: < <https://www.epa.gov/npdes> >

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

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

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

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

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

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

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06. Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

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

COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

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

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

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

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 150 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery 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 Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S.

The Contractor is advised that special construction measures must be taken to ensure that the waterways of the U.S. are not impacted.

Action Taken/Required:

Excavation will not occur below the ordinary high-water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting. The natural streambed will not be disturbed unless specified by the plans and under the observation of the Project Engineer. Refer to the Table of U.S. Waterways to Protect for ordinary high-water elevations. Any structure work over or within the waterway will be constructed according to Section 7.18 C of the Specifications.

All dredged or excavated materials will be placed at a site above the ordinary high-water elevation in a confined area (not classified as a wetland) that is a

minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets 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 if 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 will be removed with minimal disturbance to the streambed. Proper construction practices will be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, stream diversions, grading, etc. will 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 Contractor's construction operations will 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.

All temporary works in waterways of the US are required to be covered in the Corp of Engineers 404 Permit. At the time of the preconstruction meeting, the Contractor will submit documentation for all temporary works for the purpose of complying with the 404 Permit requirements in accordance with Section 423.3 A of the Specifications.

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Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High-Water Elevation
10+00 R/L	Tributary to Soo Ck	1811.81' (2-yr)

Stream channel excavation within "Waters of the US" is subject to USACE regulatory jurisdiction. Stream channel excavation cannot exceed the permitted quantities and/or surface area. The 404 Permit is included in the Special Provisions.

The Contractor will take all precautions necessary to prevent any incidental discharges associated with the excavation and hauling of material from the stream channel. This pertains to any excavation operations such as, foundation, pier, or abutment excavation, channel cleanout, excavation for riprap protection, and removal of any temporary fill associated with construction activities.

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the USACE for the permanent actions associated with this project.

Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 404 Permit.

The Contractor will also be responsible for obtaining a Section 404 Permit for any dredge, excavation, or fill activities associated with material sources, storage areas, waste sites, and Contractor work sites outside the plan work limits that affect wetlands, floodplains, or waters of the United States.

COUNTY REQUIREMENTS

The County will perform the following items without Federal participation:

- 1. Obtain temporary & permanent easements as shown in plans.
- 2. Assist in coordination of utility adjustments.
- 3. Remove existing bridge end marker signs, delineators, weight limit signs, and all sign posts.
- 4. Furnish and install all temporary and permanent fencing.
- 5. Furnish and install permanent signing in accordance with the MUTCD.

EXISTING UTILITIES

Utilities within the limits of the proposed construction are to be adjusted by the utility owner unless otherwise indicated on these plans.

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

The Contractor will be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor will contact each utility owner and confirm the status of all existing and new utility facilities.

UTILITY CONTACT INFORMATION

Codington-Clark Electric Cooperative, Inc.
Underground power (7,200 volts) east side of road.
PO Box 880
3520 9th Avenue SW
Watertown, SD 57201
Jared Terhark, 605-886-5848 office, jaredt@ccelectric.coop

East River Electric Power Cooperative, Inc.
Overhead electric (69,000 volts) east side of road.
211 South Harth Ave
Madison, SD 57042-0227
Jordan Brown, 605-256-8231 office, 605-291-9302 cell, jbrown@eastriver.coop

Lumen (formerly Century Link)
50 pr copper west side of road.
1201 29th Street SE
Watertown, SD 57212
Cory Moser, 605-290-7886 cell, Cory.Moser@lumen.com
Office, 605-229-7441 office

Midcontinent Communications
24 ct fiber optic line west side of road.
222 9th Avenue
Watertown, SD 57201
Eugene Mielitz, 605-520-2334 cell, eugene.mielitz@midco.com

UTILITY ADJUSTMENT NOTICE

All utility owners require at least **60-days notice** to relocate their utilities. The utility owners will not relocate utilities when the ground is frozen. **It is the responsibility of the Contractor to give the required utility adjustment notice to all utility owners.**

TABLE OF ANTICIPATED UTILITY ADJUSTMENTS

Location	Description
8+50 to 11+50 R (east of road)	Codington-Clark Electric Cooperative, Inc. Underground power (7,200 volts) east side of road. No adjustment anticipated.
	East River Electric Power Cooperative, Inc. Overhead electric (69,000 volts) east side of road. No adjustments anticipated. Coordinate all equipment work on the east side of road with Jordan at East River Electric to help ensure safety.
8+50 to 11+50 L (west of road)	Lumen (formerly Century Link) 50 pr copper west side of road. No adjustment anticipated.
	Midcontinent Communications 24 ct fiber optic line west side of road. Relocate the fiber optic line. Midco plans to re-bore the fiber optic line deeper before construction starts. The Contractor will contact Eugene as soon as the project is awarded to coordinate the relocation of the fiber optic line.

GENERAL MAINTENANCE OF TRAFFIC

This project will be closed to through traffic and the roadway barricaded. Local access to entrances must be maintained.

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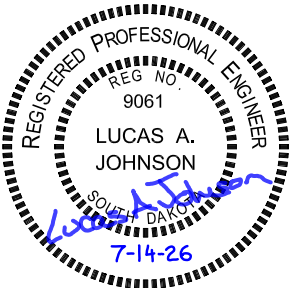
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REMOVAL OF EXISTING ASPHALT CONCRETE PAVEMENT

The Contractor will remove the existing asphalt concrete pavement. The existing mainline asphalt concrete pavement is typically 22 feet wide with an unknown thickness. For earthwork calculations, a thickness of 10” was assumed. Prior to removal of the existing asphalt concrete pavement at Station 8+50 and 11+50 the existing pavement will be sawed full depth to a true line with a vertical face. The asphalt concrete pavement will be disposed of in a manner compliant with the Environmental Conditions and its reuse in grading operations is not permitted. The quantity of asphalt on the bridge deck is included in the quantity for contract item “Remove Asphalt Concrete Pavement”. All costs associated with sawing, removal, hauling, and disposal will be incidental to the contract unit price per square yard for “Remove Asphalt Concrete Pavement”.

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Station	to	Station	L/R	Quantity (SqYd)
8+50.00		9+65.90	CL	281.1
10+33.26		11+50.00	CL	277.6
Total:				558.7



GRADING OPERATIONS

Shrinkage factor: Embankment plus 30%.

Compaction of roadway embankment and box culvert backfill material will be governed by the Specified Density Method.

Water for Embankment and Backfill is estimated at the rate of 10 gallons of water per cubic yard of Embankment. The estimated quantity of Water is **11.6 MGal**. No separate payment will be made for the Water and all costs associated will be incidental to the contract unit price per cubic yard for "Unclassified Excavation".

UNCLASSIFIED EXCAVATION

The plans quantity for "Unclassified Excavation" as shown in the Estimate of Quantities will be the basis for payment for this item unless the Engineer orders a change.

Station to Station	Excavation General	* Contractor Furnished Borrow	* Str Exc & Box Undercut	Total Exc	** Waste
	(CuYd)	(CuYd)	(CuYd)	(CuYd)	(CuYd)
8+50 11+50	517	960	405	1882	320

- * The quantities for these items are in the Estimate of Quantities under their respective contract items.
- ** The quantity for this item is for information only.

TABLE OF UNCLASSIFIED EXCAVATION

Excavation	517
+ Excavation For RCB Installation	361
+ Stripping Topsoil	150
Total Unclassified Excavation	= 1,028 CuYd

The Excavation General quantity includes excavation for the roadway, excavation in the channel to the box culvert flowline, and excavation in the channel to the top of the riprap.

Channel bank shaping will be done at the ends of the box culvert wingwalls and ends of the riprap as directed by the Engineer. The shaping will be incidental to the contract unit price per cubic yard for "Unclassified Excavation".

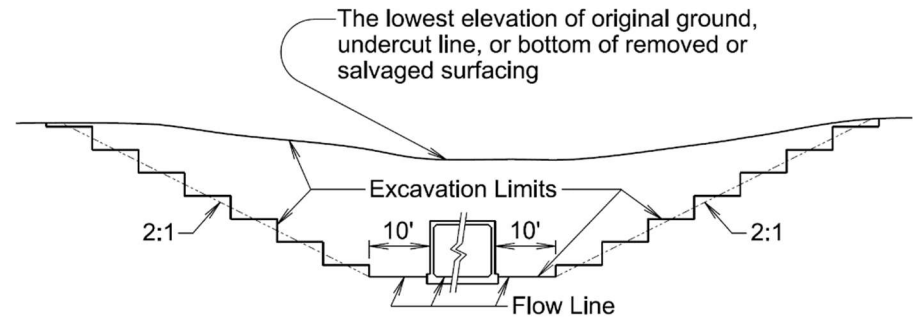
All excavation waste material will be disposed of by the Contractor at a site approved by the Engineer. The removal and disposal of the waste material will be incidental to the contract unit price per cubic yard for "Unclassified Excavation".

EXCAVATION FOR REINFORCED CONCRETE BOX CULVERT INSTALLATION

Included in the quantity of "Unclassified Excavation" are **361** cubic yards of excavation for installation of the box culvert.

All work necessary to excavate a trench for installation of the box culvert including labor, equipment, and incidentals will be incidental to the contract unit price per cubic yard for "Unclassified Excavation". Payment for excavation of the box culvert will be based only on plans quantity and measurement of these excavation quantities during construction will not be performed.

The excavation quantity for installation of the box culvert is not included with the earthwork balance quantities on the plans profile sheet. The quantity computed for excavation of the box culvert is based on the limits shown in the drawing below.



CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor will provide a suitable site for Contractor Furnished Borrow Excavation Material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site.

The Contractor Furnished Borrow Excavation material will be uniform in texture and free from organic material. The liquid limit will not exceed 45 and the plastic index will not exceed 25. The borrow material will be approved by the Engineer.

Restoration of the Contractor Furnished Borrow Excavation site will be the responsibility of the Contractor.

FOR BIDDING PURPOSES ONLY

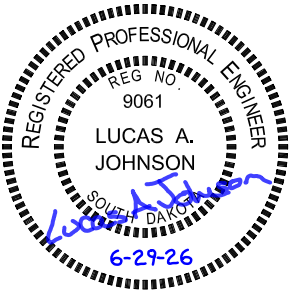
PLACING TOPSOIL

Existing vegetation will be salvaged, incorporated, and placed with the topsoil as far as practical.

The areas to receive topsoil comprise of all newly graded areas, within the project limits, exclusive of top of roadway and riprap area.

The plans quantity for "Placing Topsoil" as shown in the Estimate of Quantities will be the basis for payment for this item unless the Engineer orders a change.

The amount of topsoil shown in the Estimate of Quantities is based upon a 4 inch depth within the right of way limits and a 6 inch depth on all Temporary Easement areas.



	PROJECT	SHEET	TOTAL SHEETS
	BRF-B 6127(10)	8	36

WATER FOR GRANULAR MATERIAL

Water for Granular Material is estimated at the rate of 12 gallons of water per ton of base course. The estimated quantity of Water is **10.4 MGal**. No separate payment will be made for the Water and all costs associated will be incidental to the contract unit price per ton for “Base Course”.

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite will include MC-70 Asphalt for Prime placed at the rate of 0.30 gallons per square yard. The Asphalt for Prime will be applied to the Base Course for the full width of the bottom layer of Asphalt Concrete Composite plus one foot additional on the outside shoulder.

Asphalt for tack SS-1h or CSS-1h will be applied prior to each lift of Asphalt Concrete Composite. Asphalt for tack will be applied at a rate of 0.09 gallons per square yard on existing pavement or milled asphalt concrete surfaces and at a rate of 0.06 gallons per square yard on primed base course or new asphalt concrete pavement. The Asphalt for tack will be applied for the full width of the bottom layer of Asphalt Concrete Composite plus one-half foot additional on the outside shoulder.

PERMANENT PAVEMENT MARKING

Pavement markings will be installed to match the existing painted lane widths. The Project Engineer will mark the location of the pavement markings prior to installation.

TABLE OF ESTIMATED PERMANENT PAVEMENT MARKING

Location	Quantity (Ft)	
	4” Yellow, Dashed	4” White, Solid
Sta. 8+50 to Sta. 11+50	75	600
Total:	75	600

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

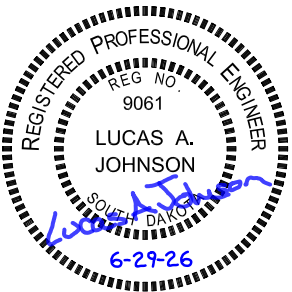
All materials will be applied as per manufacturer’s recommendations. High build waterborne pavement marking paint will conform to Section 980.1 B.

Reflective media will require a certificate of compliance for certification for each source and lot. Acceptance sampling will not be required. Reflective media will consist of glass beads.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4” line = 22.5 Gals/Mile
Dashed 4” line = 6.2 Gal/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.



EROSION CONTROL

All areas of soil disturbed by construction will require erosion control. For informational purposes only, the estimated area requiring erosion control is **1.3 acres**. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding and mulching will be incidental to the contract lump sum price for "Erosion Control".

Type G Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk, Chief, Nebraska 54	3
Big Bluestem	Bison, Bonilla, Champ, Sunnyview, Rountree, Bonanza	3
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

Seeding will be installed by drilling in accordance with Section 730.

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

An additional 2% by weight of tackifier will 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 will be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier will be synthetic.

Fiber mulch will be applied at the rate of 3,000 pounds per acre.

The Contractor will 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.

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

<https://apps.sd.gov/HC60ApprovedProducts/main.aspx>

EROSION CONTROL BLANKET

Erosion control blanket will be installed at the locations noted in the table and as shown on the *Erosion and Sediment Control Plan*. Refer to Standard Plate 734.01 for details.

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

<https://apps.sd.gov/HC60ApprovedProducts/main.aspx>

TABLE OF TYPE 2 EROSION CONTROL BLANKET

Station	Location	Type	Quantity (SqYd)
9+34 to 10+25 - 16' to 46' R	Road Inslope	2	193
9+62 to 10+50 - 16' to 58' L	Road Inslope	2	220
		Additional Quantity	50
Total Type 2 Erosion Control Blanket:			463

FOR BIDDING PURPOSES ONLY

PROJECT	SHEET	TOTAL SHEETS
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EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment will be installed at locations noted in the table and as shown on the *Erosion and Sediment Control Plan* and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

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

Erosion control wattles will remain on the project to decompose.

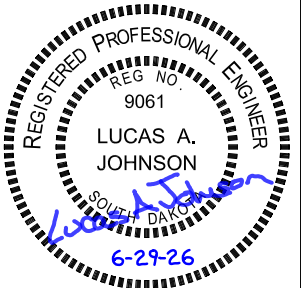
An additional quantity of 12" Diameter Erosion Control Wattles has been added to the Estimate of Quantities for temporary erosion and sediment control during construction.

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

<https://apps.sd.gov/HC60ApprovedProducts/main.aspx>

TABLE OF EROSION CONTROL WATTLE

Station	Location	Diameter (inch)	Quantity (Ft)
9+26 R	Top of Channel Bank	12	60
9+80 L	Top of Channel Bank	12	42
9+62 R	Top of Channel Bank	12	86
10+56 L	Top of Channel Bank	12	58
		Additional Quantity:	400
Total:			646



TYPICAL GRADING SECTION

BAI JOB # 24020.13



PROJECT

BRF-B 6127(10)

SHEET

10

TOTAL
SHEETS

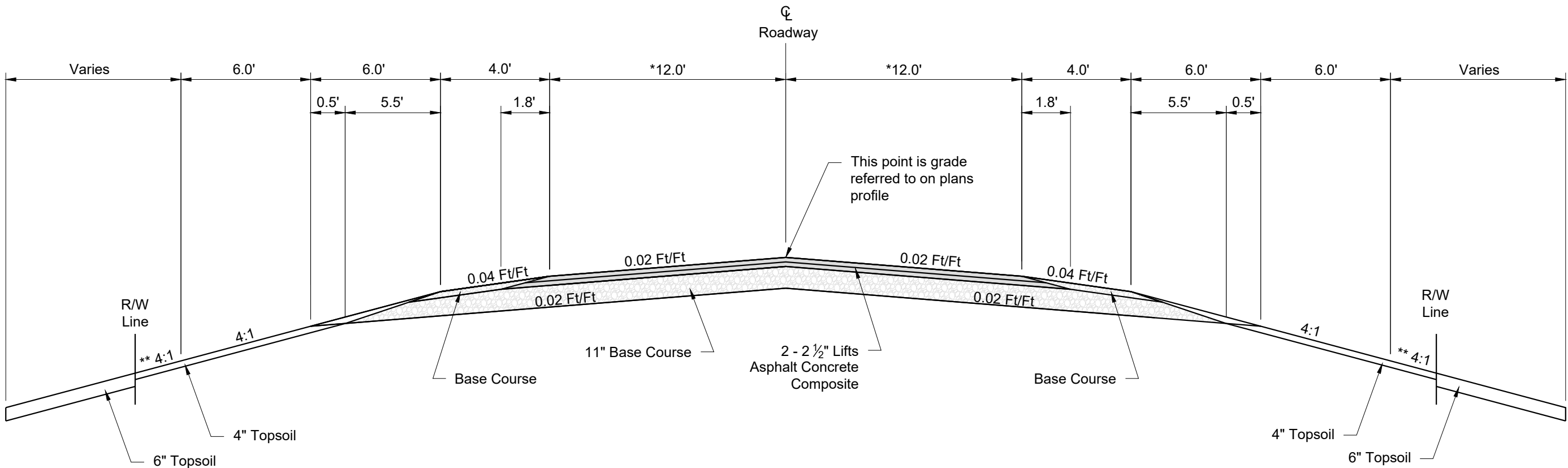
36

Plotting Date:

06/29/2026

FOR BIDDING PURPOSES ONLY

8+50 to 11+50



TRANSITIONS LEFT INSLOPE:

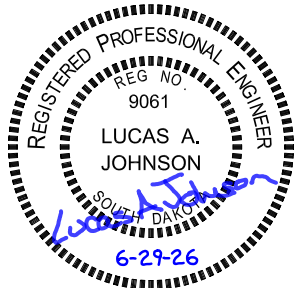
- 8+50 to 8+60 - Existing to 4:1
- ** 9+40 to 9+90 - 4:1 to 2:1
- ** 10+24 to 10+74 - 2:1 to 4:1
- 11+40 to 11+50 - 4:1 to Existing

* TRANSITION ASPHALT WIDTH:

- 8+50 to 9+00 - 11' to 12'
- 11+00 to 11+50 - 12' to 11'

TRANSITIONS RIGHT INSLOPE:

- 8+50 to 8+60 - Existing to 4:1
- ** 9+06 to 9+56 - 4:1 to 2:1
- ** 10+08 to 10+58 - 2:1 to 4:1
- 11+40 to 11+50 - 4:1 to Existing



HORIZONTAL ALIGNMENT DATA

FOR BIDDING PURPOSES ONLY

	PROJECT	SHEET	TOTAL SHEETS
	BRF-B 6127(10)	11	36

MAINLINE

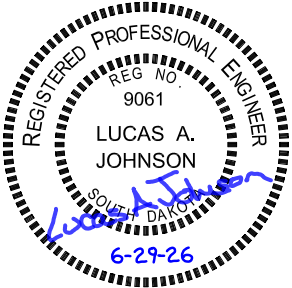
Type	Station			Northing	Easting
POB	5+00.00			482085.778	2716090.351
		TL= 350.00	N 1°42'15" W		
PI	8+50.00			482435.623	2716079.943
		TL= 300.00	N 1°49'58" W		
PI	11+50.00			482735.470	2716070.348
		TL= 350.00	N 1°54'50" W		
POE	15+00.00			483085.274	2716058.659

CONTROL DATA

HORIZONTAL AND VERTICAL CONTROL POINTS						
POINT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
S CP	Near Sta. 5+00		PK Nail	482085.323	2716090.029	-
BM 1	7+97.39	51.27' R	Shaft of RR Spike in Power Pole (2' +/- Above Grade)	482384.561	2716132.751	1817.17
BM 2	10+87.68	50.80' R	Shaft of RR Spike in Power Pole (2' +/- Above Grade)	482674.802	2716123.118	1814.53
N CP	Near Sta. 15+00		PK Nail	483084.890	2716058.660	-
CP BASE	800' +/- N. of Bridge W Side of Road		Rebar (Assumed)	483403.688	2716005.091	-

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. North Zone (4001) NAD 83(2011); epoch 2010.00; Geoid 18; SF = 0.99985679

The elevations shown on this sheet are based on NAVD 88.



TRAFFIC CONTROL FOR BIDDING PURPOSES ONLY

BAI JOB # 24020.13



PROJECT

BRF-B 6127(10)

SHEET

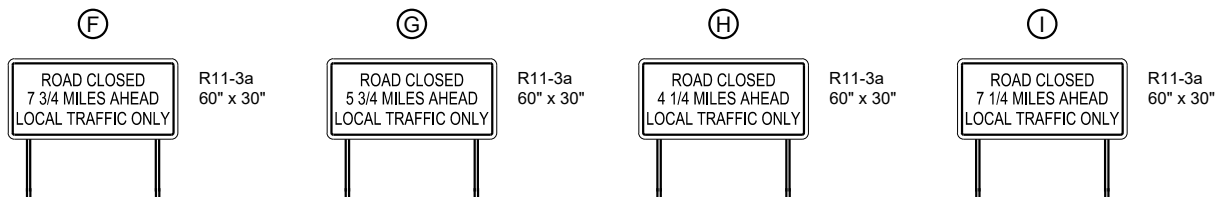
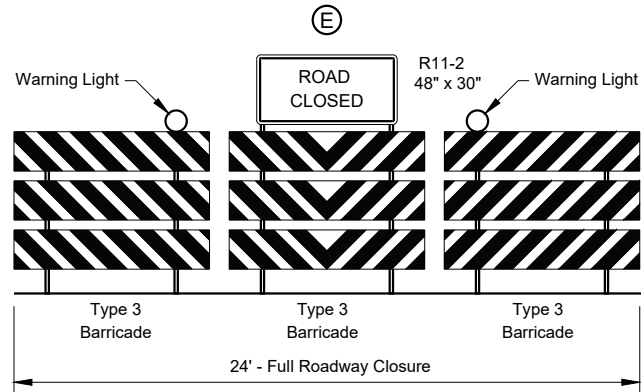
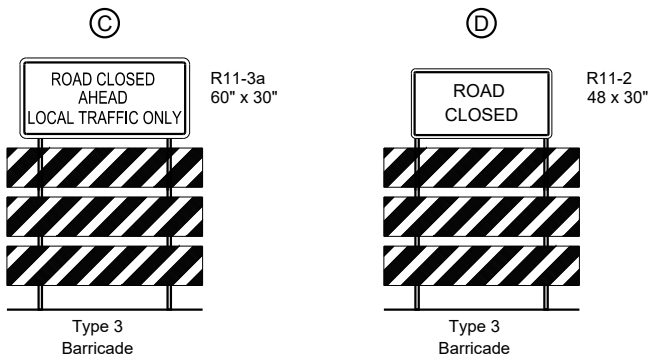
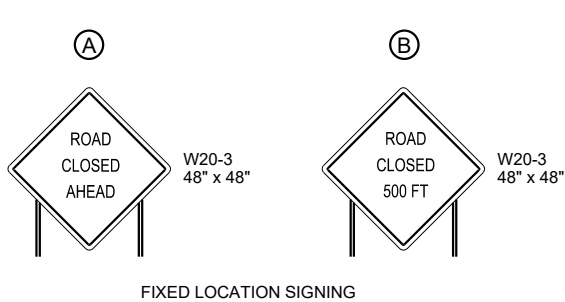
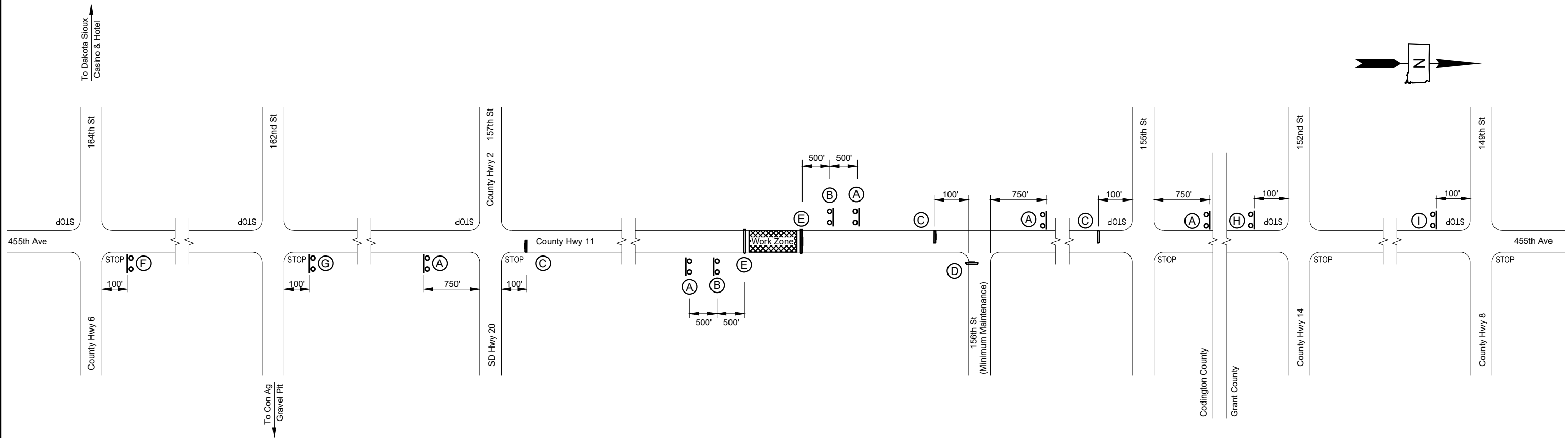
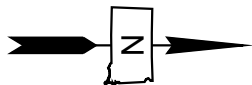
12

TOTAL SHEETS

36

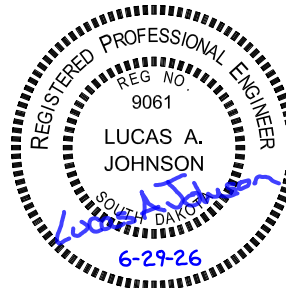
Plotting Date:

06/29/2026



NOTE FOR F, G, H, AND I SIGNS:
Background Color = Fluorescent Orange
Border and Lettering = Black

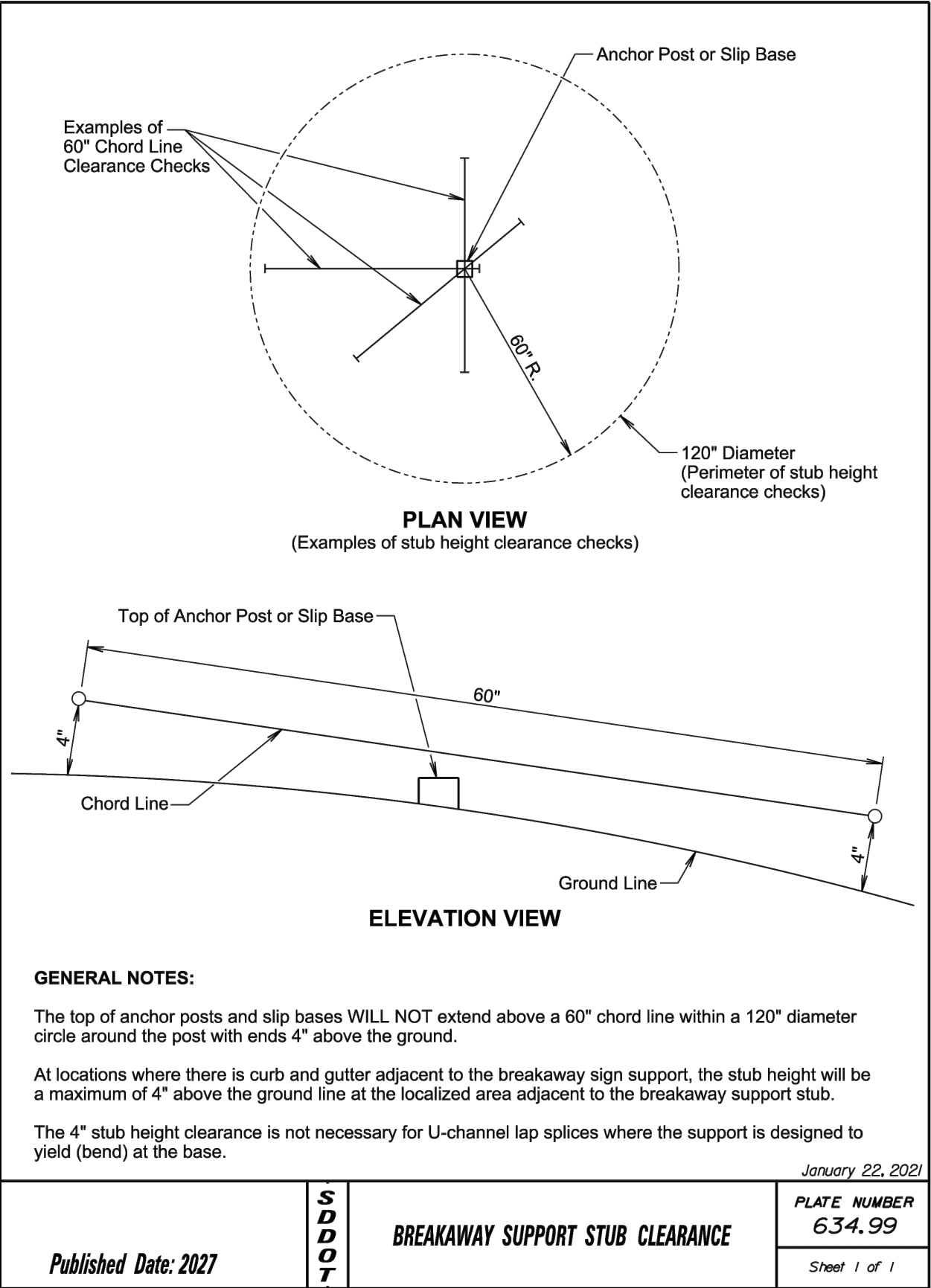
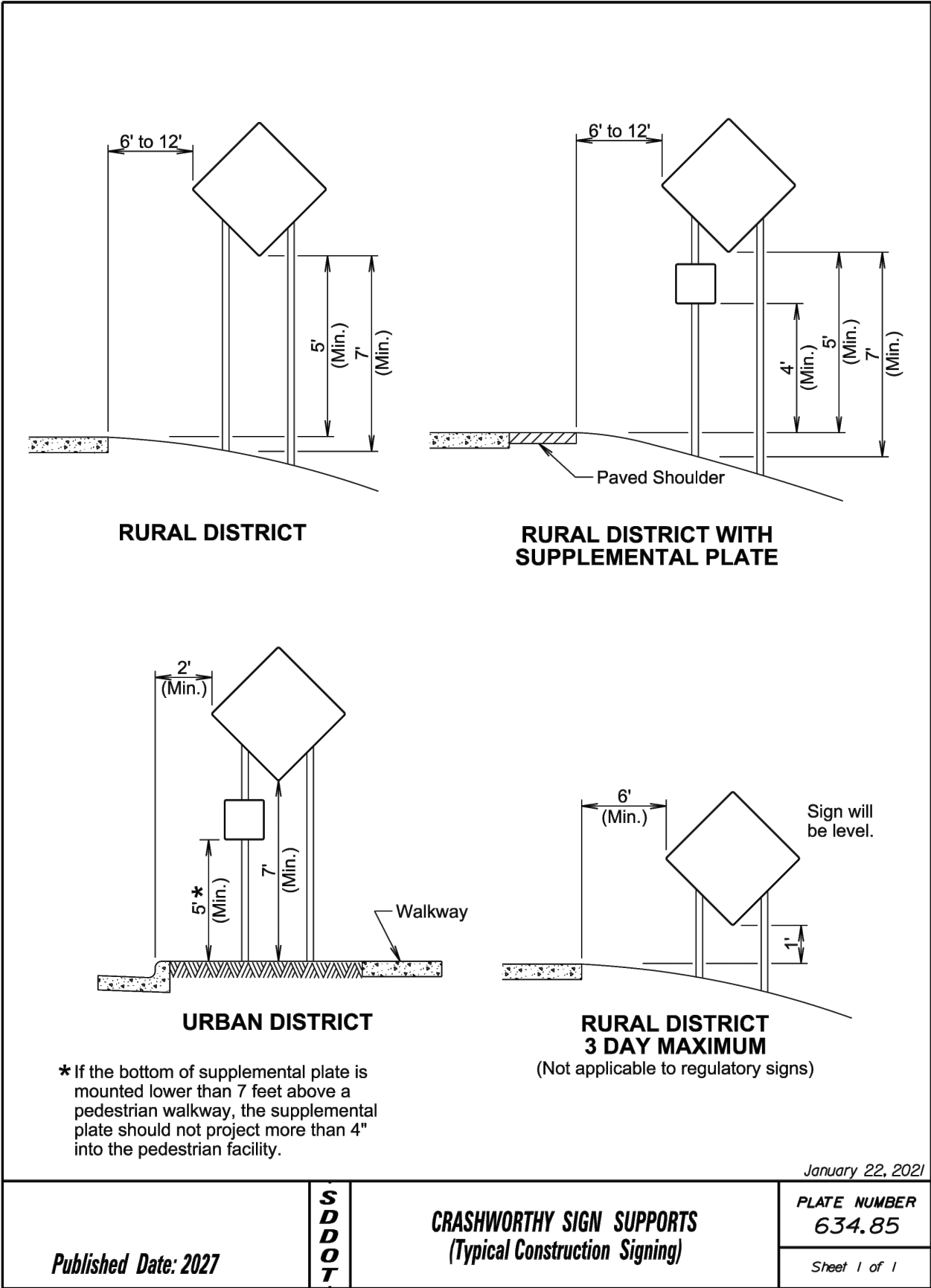
FIXED LOCATION SIGNING



ITEMIZED LIST FOR TRAFFIC CONTROL					
SIGN CODE	DESCRIPTION	NUMBER REQUIRED	SIGN SIZE	SQ. FT. PER SIGN	SQ. FT.
R11-2	ROAD CLOSED	3	48" x 30"	10.0	30.0
R11-3a	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	3	60" x 30"	12.5	37.5
W20-3	ROAD CLOSED AHEAD OR 500 FT	6	48" x 48"	16.0	96.0
R11-3a	ROAD CLOSED 7 3/4 MILES AHEAD LOCAL TRAFFIC ONLY	1	60" x 30"	12.5	12.5
R11-3a	ROAD CLOSED 5 3/4 MILES AHEAD LOCAL TRAFFIC ONLY	1	60" x 30"	12.5	12.5
R11-3a	ROAD CLOSED 4 1/4 MILES AHEAD LOCAL TRAFFIC ONLY	1	60" x 30"	12.5	12.5
R11-3a	ROAD CLOSED 7 1/4 MILES AHEAD LOCAL TRAFFIC ONLY	1	60" x 30"	12.5	12.5
Conventional Road Traffic Control Signs Sq. Ft.					213.5

DESCRIPTION	Each
Type 3 Barricade	10

NOTE:
The exact location and spacing of signs shown will be determined in the field by the Engineer.



STORMWATER POLLUTION PREVENTION PLAN CHECKLIST
*(The numbers left of the title headings are **reference numbers** to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES (Stormwater Permit))*

5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION

To promote stormwater management awareness specific for this project, the Contractor's Erosion Control Supervisor should provide correspondence of how the SWPPP will be implemented. The Contractor's Erosion Control Supervisor is responsible for providing this information at the preconstruction meeting, and subsequently completing an attendance log, which should identify site-specific implementation of the SWPPP and the names of the personnel who attended the preconstruction meeting. Documentation of the preconstruction meeting will be filed with the SWPPP documents.

5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES

- **5.3 (3a): Project Limits** (See Title Sheet)
- **5.3 (3a): Project Description** (See Title Sheet)
- **5.3 (4): Site Map(s)** (See Title Sheet and Plans)
- **Major Soil Disturbing Activities** (check all that apply)
 - ☐ Clearing and grubbing
 - ☒ Excavation/borrow
 - ☒ Grading and shaping
 - ☒ Filling
 - ☐ Other (describe):
- **5.3 (3b): Total Project Area** 1.4 Acres
- **5.3 (3b): Total Area to be Disturbed** 1.3 Acres
- **5.3 (3c): Maximum Area Disturbed at One Time** 1.3 Acres
- **5.3 (3d): Existing Vegetative Cover (%)** 85
- **5.3 (3d): Description of Vegetative Cover** Grass
- **5.3 (3e): Soil Properties:** AASHTO Soil Classification A-7-5 and A-7-6
- **5.3 (3f): Name of Receiving Water Body/Bodies** Tributary to Soo Creek
- **5.3 (3g): Location of Construction Support Activity Areas** Onsite

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

➤ Special sequencing requirements. See grading notes. The Contractor will enter the Estimated Start Date.	
Description	Estimated Start Date
Install temporary sediment control as needed.	
Remove existing structure.	
Install new structure.	
Grade roadway and ditches.	
Install seeding, erosion control blankets, and wattles.	

5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES
All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

Perimeter Controls (See Detail Plan Sheets)	
Description	Estimated Start Date
☐ Natural Buffers (within 50 ft of Waters of State)	
☐ Silt Fence	
☒ Erosion Control Wattles	
☐ Temporary Berm / Windrow	
☐ Floating Silt Curtain	
☐ Stabilized Construction Entrances	
☐ Entrance/Exit Equipment Tire Wash	
☐ Other:	

Structural Erosion and Sediment Controls	
Description	Estimated Start Date
☐ Silt Fence	
☐ Temporary Berm/Windrow	
☒ Erosion Control Wattles	
☐ Temporary Sediment Barriers	
☐ Erosion Bales	
☐ Temporary Slope Drain	
☐ Turf Reinforcement Mat	
☒ Riprap	
☐ Gabions	
☐ Rock Check Dams	
☐ Sediment Traps/Basins	
☐ Culvert Inlet Protection	
☐ Transition Mats	
☐ Median/Area Drain Inlet Protection	
☐ Curb Inlet Protection	
☐ Interceptor Ditch	
☐ Concrete Washout Facility	
☐ Work Platform	
☐ Temporary Water Barrier	
☐ Temporary Water Crossing	
☐ Permanent Stormwater Ponds	
☐ Permanent Open Vegetated Swales	
☐ Natural Depressions to allow for Infiltration	
☐ Sequential Systems that combine several practices	
☐ Other:	

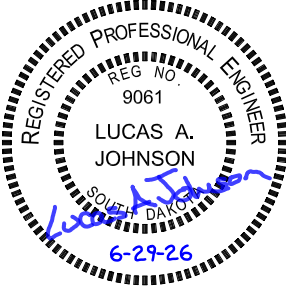
Dust Controls	
Description	Estimated Start Date
☐ Tarps & Wind impervious fabrics	
☐ Watering	
☐ Stockpile location/orientation	
☐ Dust Control Chlorides	
☐ Other	

Dewatering BMPs	
Description	Estimated Start Date
☐ Sediment Basins	
☐ Dewatering bags	
☐ Weir tanks	
☐ Temporary Diversion Channel	
☐ Other:	

Stabilization Practices (See Detail Plan Sheets)
(Stabilization measures will begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization will be completed as soon as practicable but no later than 14 days after initiating soil stabilization activities **(3.18)**)

Description	Estimated Start Date
☐ Vegetation Buffer Strips	
☒ Temporary Seeding (Cover Crop Seeding)	
☒ Permanent Seeding	
☐ Sodding	
☐ Planting (Woody Vegetation for Soil Stabilization)	
☐ Mulching (Grass Hay or Straw)	
☒ Fiber Mulching (Wood Fiber Mulch)	
☐ Soil Stabilizer	
☐ Bonded Fiber Matrix	
☐ Fiber Reinforced Matrix	
☒ Erosion Control Blankets	
☐ Surface Roughening (e.g. tracking)	
☐ 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.



5.3 (6): PROCEDURES FOR INSPECTIONS

- Inspections will be conducted at least once every 7 days.
- 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 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 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.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches 1/2 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 Erosion Control Supervisor are responsible for inspections. Maintenance and 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.

5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT

Stormwater management will be handled by temporary controls outlined in "DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES" above, and any permanent controls needed to meet permanent stormwater management needs in the post construction period will be shown in the plans and noted as permanent.

5.3 (8): POLLUTION PREVENTION PROCEDURES

5.3 (8a): Spill Prevention and Response Procedures

- **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/or 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.
 - Hazardous Materials
 - Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
 - 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 stormwater system or stormwater treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of stormwater runoff.

➤ **Spill Control Practices**

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 cleanup 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 cleanup 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.

➤ **Spill Response**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens stormwater 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 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 SDDANR.
- Personnel with primary responsibility for spill response and cleanup 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.

5.3 (8b): WASTE MANAGEMENT PROCEDURES

➤ **Waste Disposal**

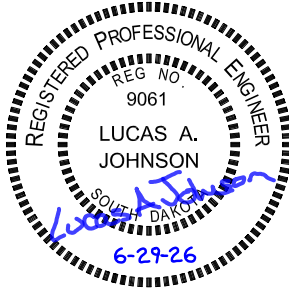
- All liquid waste materials will be collected and stored in approved sealed containers. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal and notices stating proper practices will be posted. The Contractor is responsible for ensuring 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 Contractor 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 which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local regulations.



	PROJECT	SHEET	TOTAL SHEETS
	BRF-B 6127(10)	16	36

5.3 (9): CONSTRUCTION SITE POLLUTANTS

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 heading “POLLUTION PREVENTION PROCEDURES” (check all that apply).

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

Product Specific Practices

▪ **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 stormwater. 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.

▪ **Concrete Trucks**

Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any stormwater outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

5.3 (10): NON-STORMWATER DISCHARGES

The following non-stormwater 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.

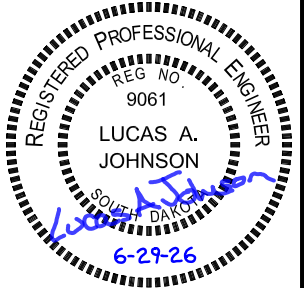
5.3 (11): INFEASIBILITY DOCUMENTATION

If it is determined to be infeasible to comply with any of the requirements of the Stormwater Permit, the infeasibility determination must be thoroughly documented in the SWPPP.

7.0: 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 release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to SDDANR immediately **if any one of the following** conditions exists:
 - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
 - The release or spill causes an immediate danger to human health or safety
 - The release or spill exceeds 25 gallons
 - The release or spill causes a sheen on surface water
 - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
 - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
 - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
 - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.
- To report a release or spill, call SDDANR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDANR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDANR within 14 days of the discharge.



5.4: SWPPP 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.



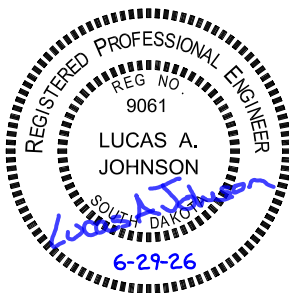
Authorized Signature (See the General Permit, Section 7.4 (1))

➤ 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

The following personnel are duly authorized representatives and have signatory authority for modifications made to the SWPPP:

➤ Contractor Information:

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

➤ Erosion Control Supervisor

- Name: _____
- 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: _____

➤ SDDANR Contact Spill Reporting

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

➤ SDDANR Contact for Hazardous Materials.

- (605) 773-3153

➤ National Response Center Hotline

- (800) 424-8802.

➤ SDDANR Stormwater Contact Information

- SDDANR Stormwater (800) 737-8676
- Surface Water Quality Program (605) 773-3351

5.5: REQUIRED SWPPP MODIFICATIONS

➤ 5.5 (1): Conditions Requiring SWPPP Modification

The SWPPP must be modified, including the site map(s), in response to any of the following conditions:

- When a new operator responsible for implementation of any part the SWPPP begins work on the site.
- When changes to the construction plans, sediment and erosion control measures, or any best management practices on site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered by inspections.
- To reflect areas on the site map where operational control has been transferred (including the date of the transfer) or has been covered under a new permit since initiating coverage under this general permit.
- If inspections by site staff, local officials, SDDANR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with the Stormwater Permit.
- To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.
- If approved by the Secretary, to reflect any changes in chemical water treatment systems or controls, including the use of a different water treatment chemical, age rates, different areas, or methods of application.

➤ 5.5 (2): Deadlines for SWPPP Modification

Any required revisions to the SWPPP must be completed within 7 calendar days following any of the items listed above.

➤ 5.5 (3): Documentation of Modifications to the Plan

All SWPPP modification records are required to be maintained showing the dates of when the modification occurred. The records must include the name of the person authorizing each change and a brief summary of all changes.

➤ 5.5 (4): Certification Requirements

All modifications made to the SWPPP must be signed and certified as required in Section 7.4.

➤ 5.5 (5): Required Notice to Other Operators

If there are multiple operators at the site, the Contractor's Erosion Control Supervisor must notify each operator that may be impacted by the change to the SWPPP within 24 hours.

When modifications as described above occur, the SWPPP will be modified to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP using the DOT 298 form and drawings on the plan will be modified to reflect the needed changes. Copies of the DOT 298 forms and the SWPPP will be retained on site in a designated place for review throughout the course of the project. A copy of the DOT 298 form will be given to the Contractor Erosion Control Supervisor and a copy will be emailed to the SDDOT Environmental Section in accordance with the DOT 298 Form.

LEGEND

FOR BIDDING PURPOSES ONLY

BAI JOB # 24020.13



PROJECT

BRF-B 6127(10)

SHEET

18

TOTAL SHEETS

36

Plotting Date: 06/29/2026

Anchor	
Antenna	
Approach	
Assumed Corner	
Azimuth Marker	
BBQ Grill/ Fireplace	
Bearing Tree	
Bench Mark	
Box Culvert	
Bridge	
Brush/Hedge	
Buildings	
Bulk Tank	
Cattle Guard	
Cemetery	
Centerline	
Cistern	
Clothes Line	
Concrete Symbol	
Control Point	
Creek Edge	
Curb/Gutter	
Curb	
Dam Grade/Dike/Levee	
Deck Edge	
Ditch Block	
Doorway Threshold	
Drainage Profile	
Drop Inlet	
Edge Of Asphalt	
Edge Of Concrete	
Edge Of Gravel	
Edge Of Other	
Edge Of Shoulder	
Electric Transformer/Power Junction Box	
Fence Barbwire	
Fence Chainlink	
Fence Electric	
Fence Miscellaneous	
Fence Rock	
Fence Snow	
Fence Wood	
Fence Woven	
Fire Hydrant	
Flag Pole	
Flower Bed	
Gas Valve Or Meter	
Gas Pump Island	
Grain Bin	
Guardrail	
Gutter	
Guy Pole	
Haystack	
Highway ROW Marker	
Interstate Close Gate	
Iron Pin	
Irrigation Ditch	
Lake Edge	
Lawn Sprinkler	

Mailbox	
Manhole Electric	
Manhole Gas	
Manhole Miscellaneous	
Manhole Sanitary Sewer	
Manhole Storm Sewer	
Manhole Telephone	
Manhole Water	
Merry-Go-Round	
Microwave Radio Tower	
Miscellaneous Line	
Miscellaneous Property Corner	
Miscellaneous Post	
Overhang Or Encroachment	
Overhead Utility Line	
Parking Meter	
Pedestrian Push Button Pole	
Pipe With End Section	
Pipe With Headwall	
Pipe Without End Section	
Playground Slide	
Playground Swing	
Power And Light Pole	
Power And Telephone Pole	
Power Meter	
Power Pole	
Power Pole And Transformer	
Power Tower Structure	
Propane Tank	
Property Pipe	
Property Pipe With Cap	
Property Stone	
Public Telephone	
Railroad Crossing Signal	
Railroad Milepost Marker	
Railroad Profile	
Railroad ROW Marker	
Railroad Signs	
Railroad Switch	
Railroad Track	
Railroad Trestle	
Rebar	
Rebar With Cap	
Reference Mark	
Retaining Wall	
Riprap	
River Edge	
Rock And Wire Baskets	
Rockpiles	
Satellite Dish	
Septic Tank	
Shrub Tree	
Sidewalk	
Sign Face	
Sign Post	
Slough Or Marsh	
Spring	
Stream Gauge	
Street Marker	

Subsurface Utility Exploration Test Hole	
Telephone Fiber Optics	
Telephone Junction Box	
Telephone Pole	
Television Cable Jct Box	
Television Tower	
Test Wells/Bore Holes	
Traffic Sign Double Face	
Traffic Sign One Post	
Traffic Sign Two Post	
Traffic Signal	
Trash Barrel	
Tree Belt	
Tree Coniferous	
Tree Deciduous	
Tree Stumps	
Triangulation Station	
Underground Electric Line	
Underground Gas Line	
Underground High Pressure Gas Line	
Underground Sanitary Sewer	
Underground Storm Sewer	
Underground Tank	
Underground Telephone Line	
Underground Television Cable	
Underground Water Line	
Water Fountain	
Water Hydrant	
Water Meter	
Water Tower	
Water Valve	
Water Well	
Weir Rock	
Windmill	
Wingwall	
Witness Corner	

State and National Line	
County Line	
Section Line	
Quarter Line	
Sixteenth Line	
Easement Line	
Property Line	
Construction Line	
ROW Line	
New ROW Line	
Cut and Fill Limits	
Control of Access	
New Control of Access	
Proposed ROW	
(After Property Disposal)	
Drainage Arrow	
Remove Concrete Pavement	
Remove Concrete Driveway Pavement	
Remove Asphalt Concrete Pavement	
Remove Concrete Sidewalk	
Remove Concrete Median Pavement	
Remove Concrete Curb and/or Gutter	
Detectable Warning	
Pedestrian Push Button Pole	
and 30" x 48" Clear Space	
with 1.5% slope	

EROSION AND SEDIMENT CONTROL

BAI JOB # 24020.13



PROJECT

BRF-B 6127(10)

SHEET

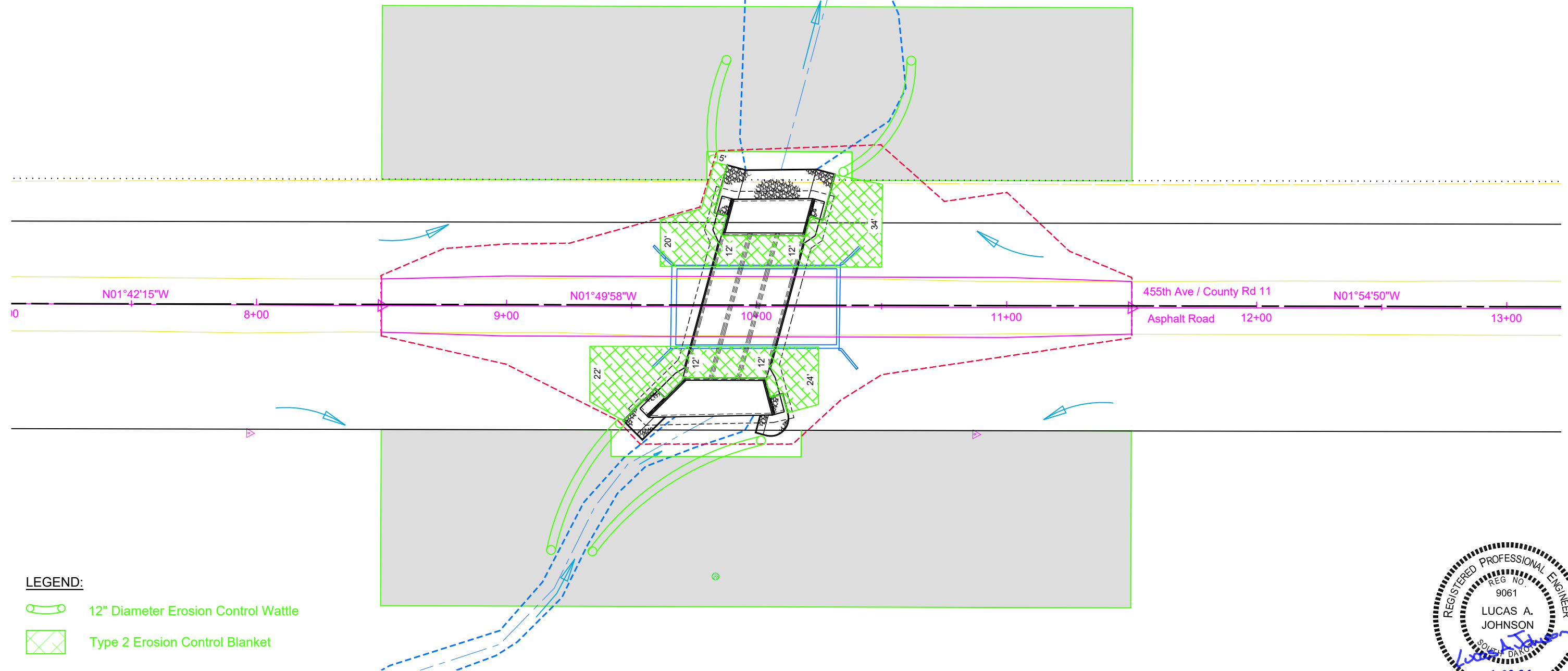
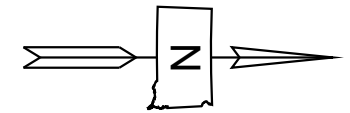
19

TOTAL SHEETS

36

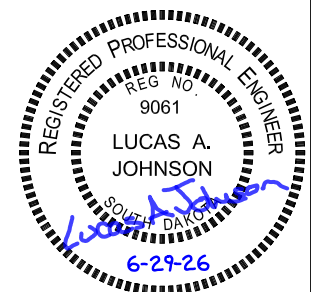
Plotting Date:

06/29/2026



LEGEND:

- 12" Diameter Erosion Control Wattle
- Type 2 Erosion Control Blanket



NOTES:

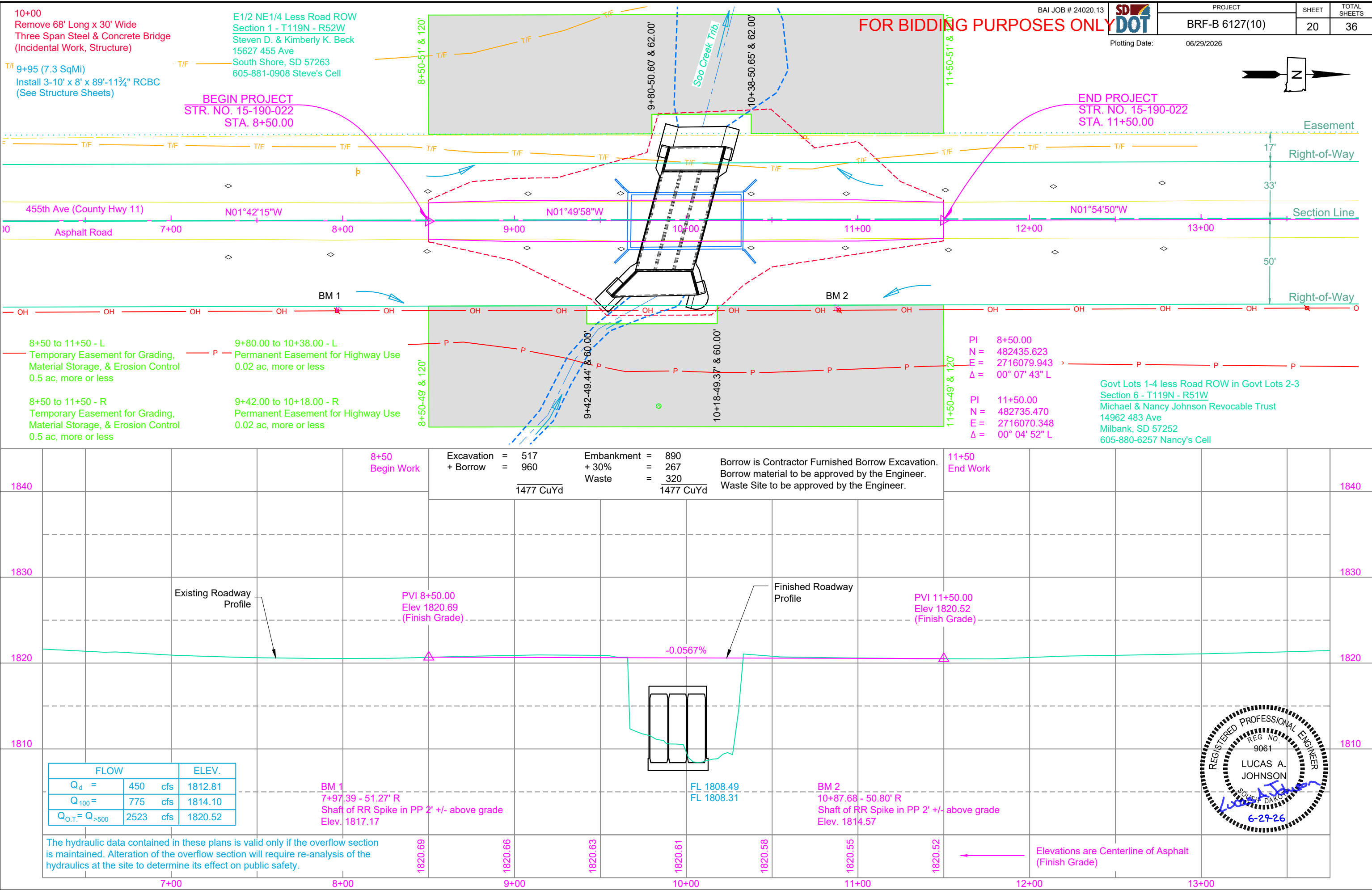
- Maintain as much existing vegetation as possible during construction.
- The Final Proposed Wattle placement is shown. Wattles will be installed during construction as determined by the Engineer. An additional 400 Ft is included in the quantities. Wattles will be installed per Standard Plate No. 734.06.
- Install Erosion Control Blanket as shown and as directed by the Engineer. Erosion Control Blanket will be installed as per Standard Plate No. 734.01.
- Wattles will remain in place and will be left to biodegrade.

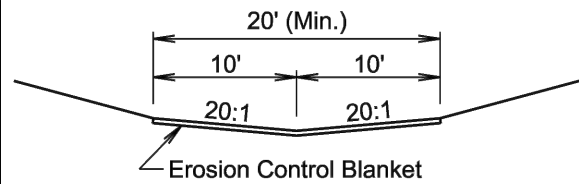
TABLE OF EROSION CONTROL WATTLE

Station	Location	Diameter (inch)	Quantity (Ft)
9+26 R	Top of Channel Bank	12	60
9+80 L	Top of Channel Bank	12	42
9+62 R	Top of Channel Bank	12	86
10+56 L	Top of Channel Bank	12	58
Additional Quantity:		12	400
Total:			646

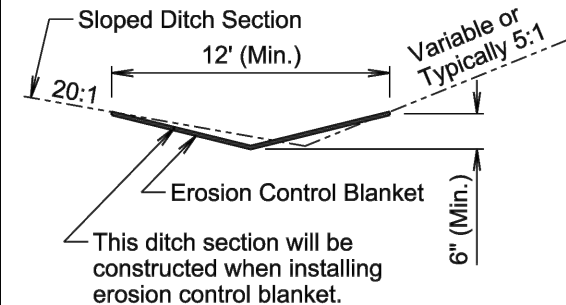
TABLE OF EROSION CONTROL BLANKET

Station	Location	Type	Quantity (SqYd)
9+34 to 10+25	- 16' to 46' R Road Inslope	2	193
9+62 to 10+50	- 16' to 58' L Road Inslope	2	220
Additional Quantity		2	50
Total Type 2 Erosion Control Blanket:			463

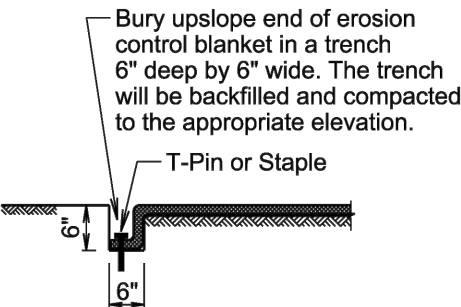




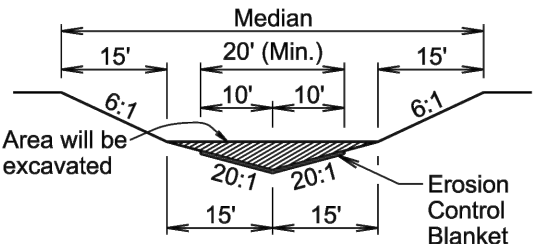
STANDARD DITCH SECTION



SLOPED DITCH SECTION

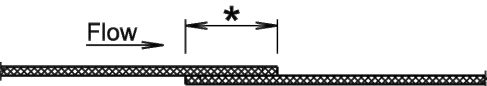


TRENCH DETAIL



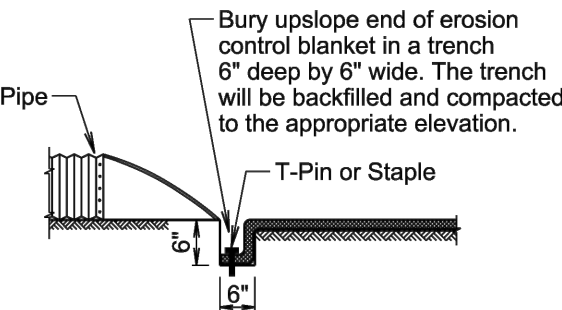
The median will be shaped to the limits shown in this detail where the erosion control blanket will be placed.

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



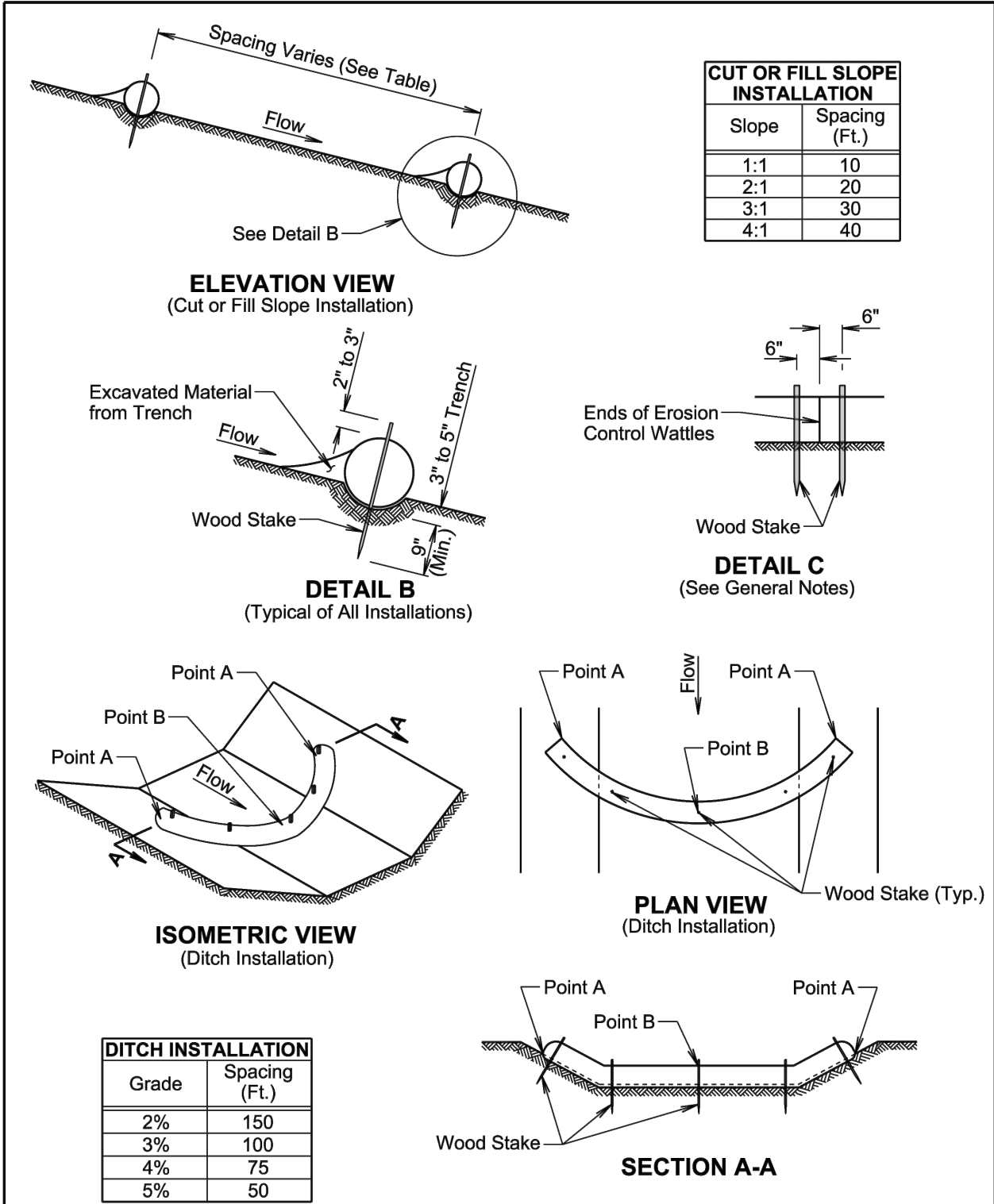
PIPE END DETAIL

GENERAL NOTES:

- Prior to placement of the erosion control blanket, the areas will be properly prepared, shaped, seeded, and fertilized.
- Erosion control blanket will 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 will be buried in a trench 6" wide by 6" deep. There will 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 will be pinned to the ground according to the manufacturer's installation recommendations.
- After the placement of the erosion control blanket, the Contractor will 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 will be shaped when installing the erosion control blanket. All costs for shaping the ditches will be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

February 14, 2020

Published Date: 2027	SD DOT	EROSION CONTROL BLANKET	PLATE NUMBER 734.01
			Sheet 1 of 1



GENERAL NOTES:

- At cut or fill slope installations, wattles will 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 will 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 will 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 will be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles will be 3' to 4'.
- Where installing running lengths of wattles, the Contractor will butt the second wattle tightly against the first and will not overlap the ends. See Detail C.
- The Contractor and Engineer will inspect the erosion control wattles in accordance with the storm water permit. The Contractor will remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.
- Sediment removal, disposal, or necessary shaping will be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping will 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 will be incidental to the contract unit price per foot for the corresponding erosion control wattle contract item.
- All costs for removing the erosion control wattle from the project including labor, equipment, and materials will be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

The elevations shown in these plans are based on the National Geodetic Survey (NGS) North American Vertical Datum 1988 (NAVD88).

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRF-B 6127(10)	23	36

-X028-
INDEX OF CULVERT SHEETS-

Sheet No. 1 - General Drawing and Quantities
Sheet No. 2 - Notes And Undercut Details
Sheet No. 3 - Inlet Details (A)
Sheet No. 4 - Inlet Details (B)
Sheet No. 5 - Outlet Details
Sheet No. 6 - Inlet and Outlet Apron Details
Sheet No. 7 - F5 Barrel Section Details (59' - 0") (A)
Sheet No. 8 - F5 Barrel Section Details (59' - 0") (B)
Sheet No. 9 - F5 Barrel Section Details (59' - 0") (C)
Sheet No. 10 - Riprap Details
Sheet No. 11 - Standard Plate No. 460.02 & 620.16

W.P.	STATION	OFFSET
"A"	10 + 22.22	43.30' Lt.
"B"	9 + 90.88	42.89' Lt.
"C"	10 + 19.64	29.49' Lt.
"D"	9 + 86.21	29.65' Lt.
"E"	10 + 03.83	29.49' Rt.
"F"	9 + 70.36	29.49' Rt.
"G"	10 + 06.41	43.30' Rt.
"H"	9 + 56.98	44.40' Rt.

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Incidental Work, Structure	LS	Lump Sum
Structure Excavation, Box Culvert	Cu. Yd.	98
Box Culvert Undercut	Cu. Yd.	307
Class A45 Concrete, Box Culvert	Cu. Yd.	214.8
Reinforcing Steel	Lb.	30,783
Class B Riprap	Ton	117.3
Type B Drainage Fabric	Sq. Yd.	171

≠ For estimating purposes only, a factor of 1.4 tons/cu.yd. was used to convert CuYds. to Tons.

HYDRAULIC DATA

Q_d	450 cfs
A_d	82 sq. ft.
V_d	5.49 fps
Q_f	450 cfs
Q_{100}	775 cfs
$Q_{O.T.fr.}$	2523 cfs
V_{MAX}	7.97 fps

Qd = Design discharge for the proposed culvert or bridge based on 25 year frequency. Elev. = 1812.81.

$Q_{O.T.fr.}$ = Overtopping discharge and frequency >500 year recurrence interval. Elev. = 1820.52. Location 180' north of bridge.

Q_f = Designated peak discharge for the basin approaching proposed project based on 25 year frequency.

Q_{100} = Computed discharge for the basin approaching proposed project based on 100 year frequency Elev. = 1814.10.

V_{MAX} = Maximum computed outlet velocity for the proposed culvert or bridge, based on a 100 year frequency.

The hydraulic data contained in these plans is valid only if the overflow section is maintained. Alteration of the overflow section will require re-analysis of the hydraulics at the site to determine its effect on public safety.

GENERAL DRAWING AND QUANTITIES

FOR

3 - 10' X 8' BOX CULVERT

OVER TRIB. TO SOO CREEK 15° LHF SKEW
STA. 9+95.00 SEC. 1/6-T119N-R52/R51W
STR. NO. 15-190-022 BRF-B 6127(10)
PCN 09MA HL-93

CODINGTON COUNTY

S. D. DEPT. OF TRANSPORTATION

JUNE 2026

1 OF 11

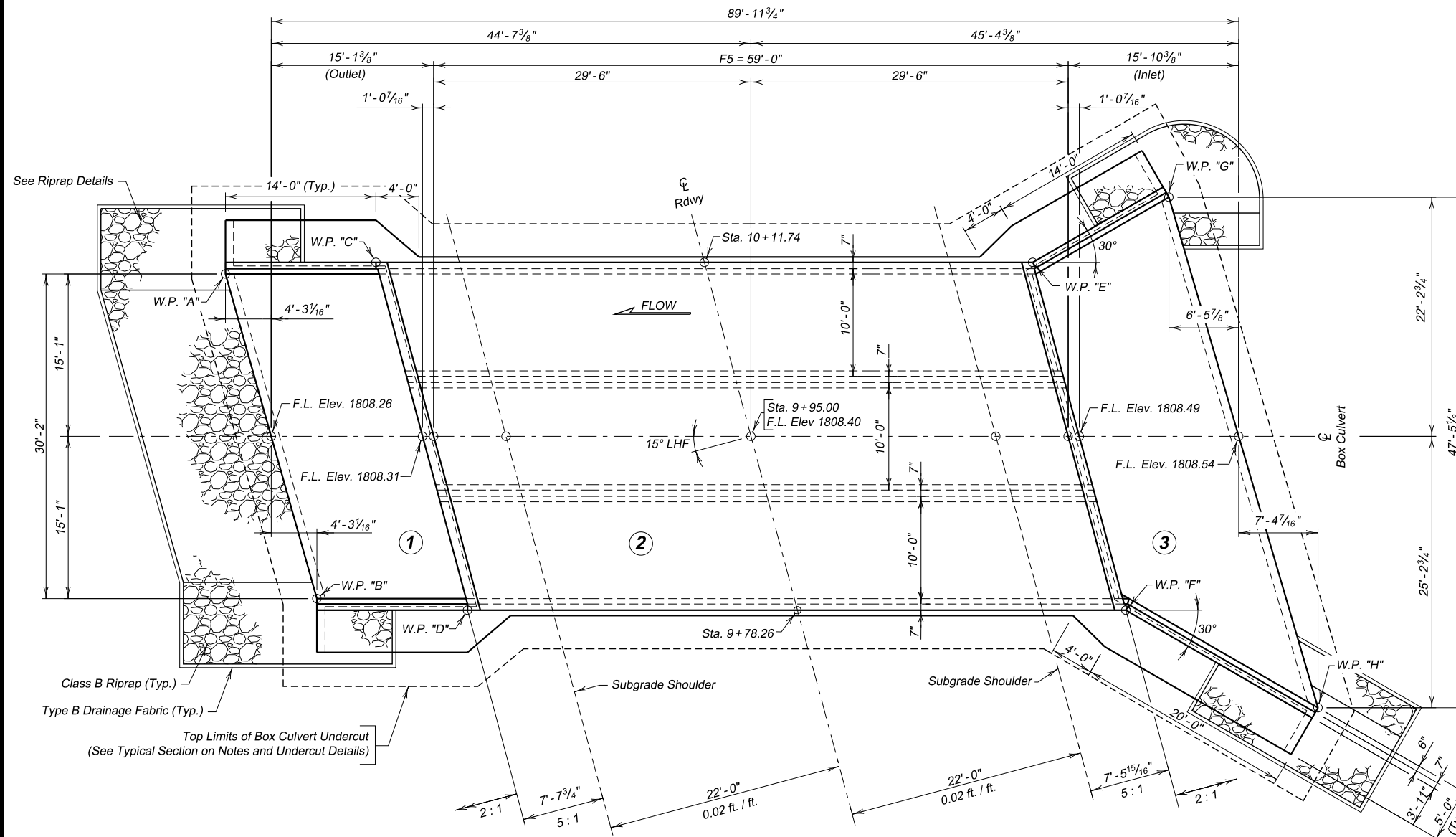
-X028-

DESIGNED BY
MJB

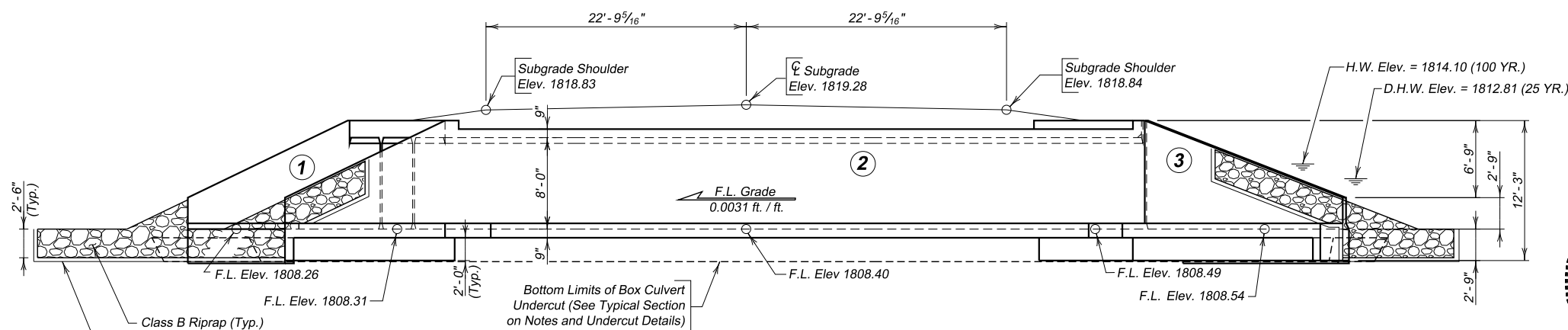
CK. DES. BY
CLH

	DRAFTED BY MJB
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BRIDGE ENGINEER



PLAN



ELEVATION

NOTE:
Box culvert flow line has been depressed 1'-0" below channel flow line to accommodate aquatic organisms. The 1'-0" depression will be allowed to fill in naturally over time.



Plans By:



BANNER
engineering a better community

DESIGNED BY
MJB

CK. DES. BY
CLH

	DRAFTED BY MJB
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SPECIFICATIONS

1. Design Specifications: AASHTO LRFD Bridge Design Specifications, 9th Edition.
2. Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 10-1-25 Version; Required Provisions, and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges are available for download and viewing at : <https://dot.sd.gov/doing-business/contractors/standard-specifications>

INCIDENTAL WORK, STRUCTURE

In place at station 9 + 65 to 10 + 33 is a 68' long x 30' wide (clear roadway) 3 - span existing bridge. The existing bridge consists of steel girders, concrete deck, concrete abutments, and concrete bents.

In place under the existing bridge are old abutments. The old abutments consist of reinforced concrete and steel piling.

The Contractor will remove and dispose of the entire existing bridge and old abutments. The existing bridge and old abutments will be removed to 1' below the bottom of the undercut.

The Contractor will prevent asphalt from falling into the creek. The quantity of asphalt on the bridge deck is included in the contract item "Remove Asphalt Concrete Pavement".

Before preparing a bid, it is the responsibility of the Contractor to make a visual inspection of the existing bridge and old abutments to verify the extent of the work involved.

All costs for labor, equipment, and materials in performing the foregoing work will be incidental to the contract lump sum price for "Incidental Work, Structure".

GENERAL NOTES

1. Design Live Load: HL-93. No construction loading in excess of legal load was considered.
2. The design of the barrel section is based on a minimum fill height of 2 feet and includes all subsequent fill heights up to and including the maximum fill height of 5 feet (F5).
3. Design Material Strengths:
Concrete $f_c = 4500$ p.s.i.
Reinforcing Steel $f_y = 60000$ p.s.i.
4. All concrete will be Class A45 conforming to section 460, with the following modifications: the type of cement will be either a Type V or a Type II with 20 to 25% Class F Modified Fly Ash substituted for cement in accordance with Section 605 of the Construction Specifications.
5. All reinforcing steel will conform to ASTM A615 Grade 60.
6. All lap splices shown are contact lap splices unless noted otherwise.
7. All exposed edges will be chamfered $\frac{3}{4}$ inch unless noted otherwise in plans.
8. Use 1-inch clear cover on all reinforcing steel EXCEPT as shown.
9. The Contractor will imprint on the structure the date of construction as specified and detailed on Standard Plate No. 460.02.
10. The Contractor will install fence anchors on the wingwalls as shown on Standard Plate No. 620.16.
11. Care will be taken to establish Working Points (W.P.) as shown on the wings.
12. Circled numbers in PLAN and ELEVATION views on the General Drawing are section I.D. Numbers (see SDDOT Materials Manual).
13. Cost of Prefomed Expansion Joint Filler used in apron construction will be incidental to other contract items.
14. Dewatering will be required to construct the box culvert. All cost incurred for dewatering will be incidental to other contract items.

SUBSURFACE CONDITIONS

Soils below the bottom of the proposed RCBC consist of clay sand.

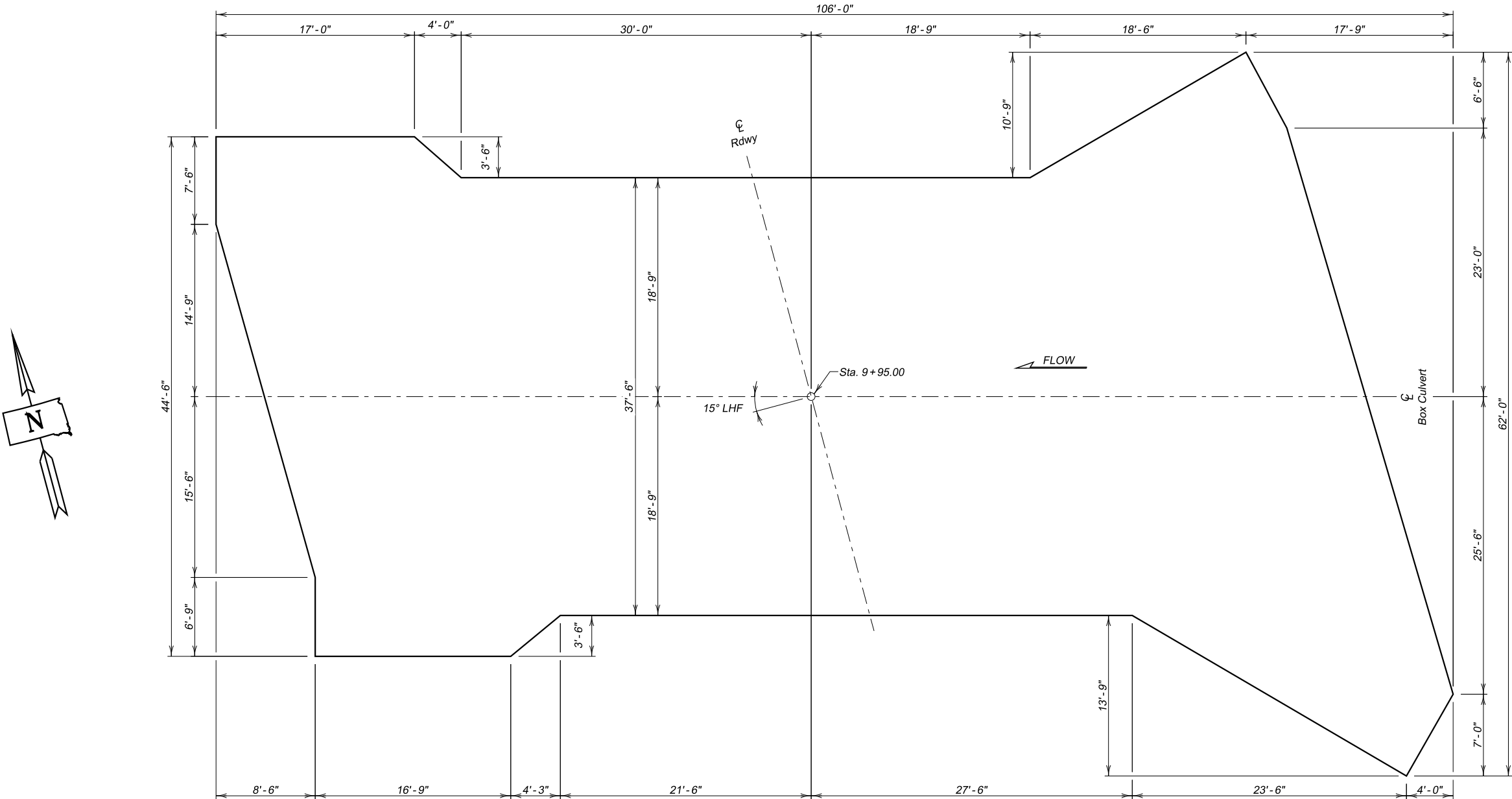
Groundwater was encountered in the borings at an elevation of 1810.8 feet during the subsurface investigation conducted in May 2024.

Compaction of earth embankment and box culvert backfill material will be governed by the Specified Density Method.

CLASS B RIPRAP

Riprap will be ledge rock.

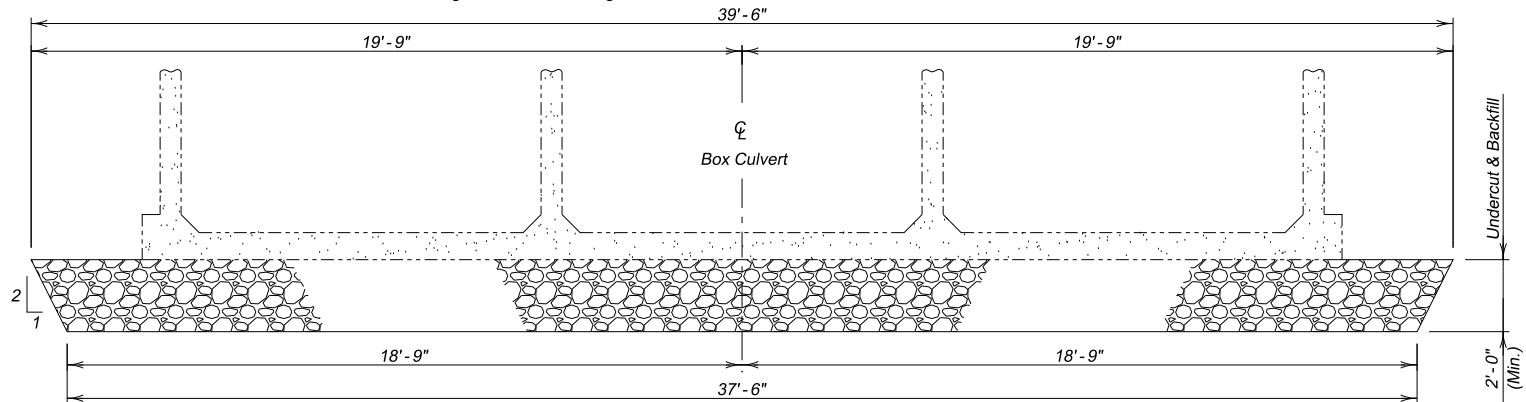
FOR BIDDING PURPOSES ONLY



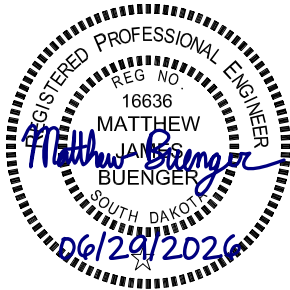
ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Box Culvert Undercut	Cu. Yd.	307

For payment, quantity is based on plan shown undercut dimensions and will not be measured unless the Engineer orders a change.

UNDERCUT LAYOUT
(Bottom Dimensions)



TYPICAL SECTION
(For Limits of Undercut)



NOTES AND UNDERCUT DETAILS
FOR
3 - 10' X 8' BOX CULVERT
OVER TRIB. TO SOO CREEK 15° LHF SKEW
STA. 9+95.00 SEC. 1/6-T119N-R52/R51W
STR. NO. 15-190-022 BRF-B 6127(10)
HL-93

CODINGTON COUNTY
S. D. DEPT. OF TRANSPORTATION
JUNE 2026

DESIGNED BY MJB	CK. DES. BY CJK	DRAFTED BY MJB	BRIDGE ENGINEER
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LEGEND FOR PLACING RE-STEEL	
O.F.W.W. - Outside Face of Wing Wall	
I.F.W.W. - Inside Face of Wing Wall	
W.P. - Working Point	

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	BRF-B 6127(10)	25	36

REINFORCING SCHEDULE					Bending Details	
Mk.	No.	Size	Length	Type		
a1	4	6	33'-0"	Str.		
b1	4	6	31'-3"	Str.		
c	4	5	4'-6"	1A		
c1	4	5	21'-0"	Str.		
c2	2	5	7'-0"	19B		
c3	4	5	15'-6"	Str.		
c4	2	5	7'-0"	19B		
d1	4	5	6'-6"	19B		
d2	4	5	6'-6"	19B		
e	32	4	7'-0"	S12		
e1	55	4	10'-3"	S12A		
f1	33	4	5'-3"	S6A		
g0	6	5	5'-0"	19B		
g1	7	4	28'-6"	19B		
g2	2	4	21'-9"	19B		
g3	6	5	5'-0"	19B		
g4	7	4	21'-0"	19B		
g5	2	4	15'-9"	19B		
h1	6	4	21'-9"	17A		
h2	1	4	14'-3"	17A		
h3	4	4	22'-0"	17A		
h4	1	4	14'-3"	17A		
k1	14	4	15'-0"	17A		
k2	1	4	10'-9"	17A		
k3	10	4	15'-6"	17A		
p6	10	6	7'-0"	Str.		
p7	5	4	22'-6"	Str.		
p8	2	4	22'-6"	Str.		
p9	2	4	24'-6"	Str.		
p10	2	4	26'-3"	Str.		
p11	5	4	16'-6"	Str.		
p12	2	4	16'-9"	Str.		
p13	2	4	18'-6"	Str.		
p14	2	4	20'-3"	Str.		

NOTES:
All dimensions are out to out of bars.
See cutting diagram.
Bend in field as necessary.

ESTIMATED QUANTITIES			
ITEM	Class A45 Concrete, Box Culvert	Reinforcing Steel	Structure Excavation, Box Culvert
UNIT	Cu. Yd.	Lb.	Cu. Yd.
Inlet	20.2	2,451	10.3

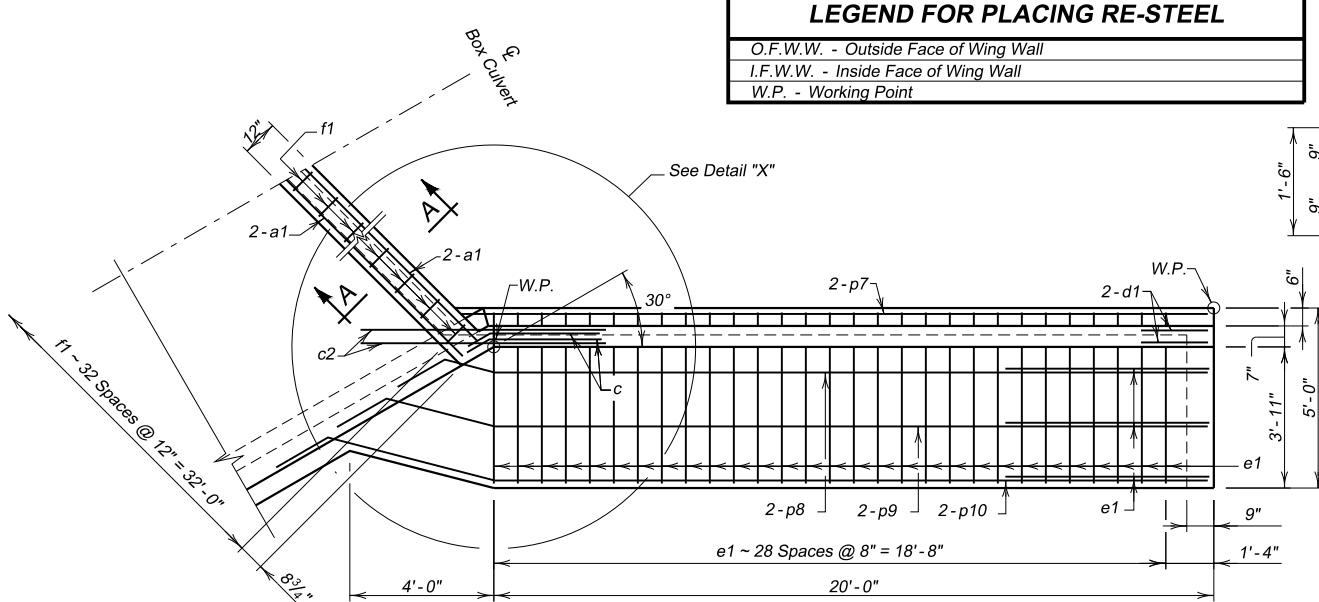


INLET DETAILS (A)
FOR
3- 10' X 8' BOX CULVERT
OVER TRIB. TO SOO CREEK 15° LHF SKEW
STA. 9+95.00 SEC. 1/6-T119N-R52/R51W
STR. NO. 15-190-022 BRF-B 6127(10)
HL-93

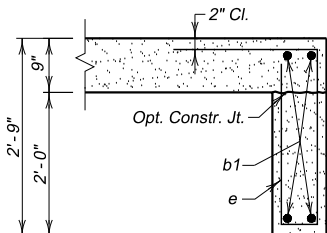
CODINGTON COUNTY
S. D. DEPT. OF TRANSPORTATION
JUNE 2026

DESIGNED BY MJB	CK. DES. BY CJK	DRAFTED BY MJB	
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BRIDGE ENGINEER

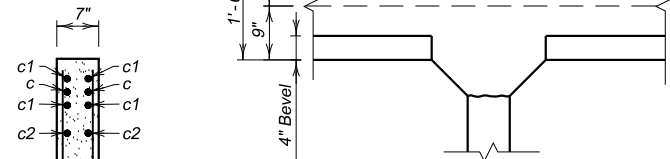


SEC. A - A
(At Top Slab)

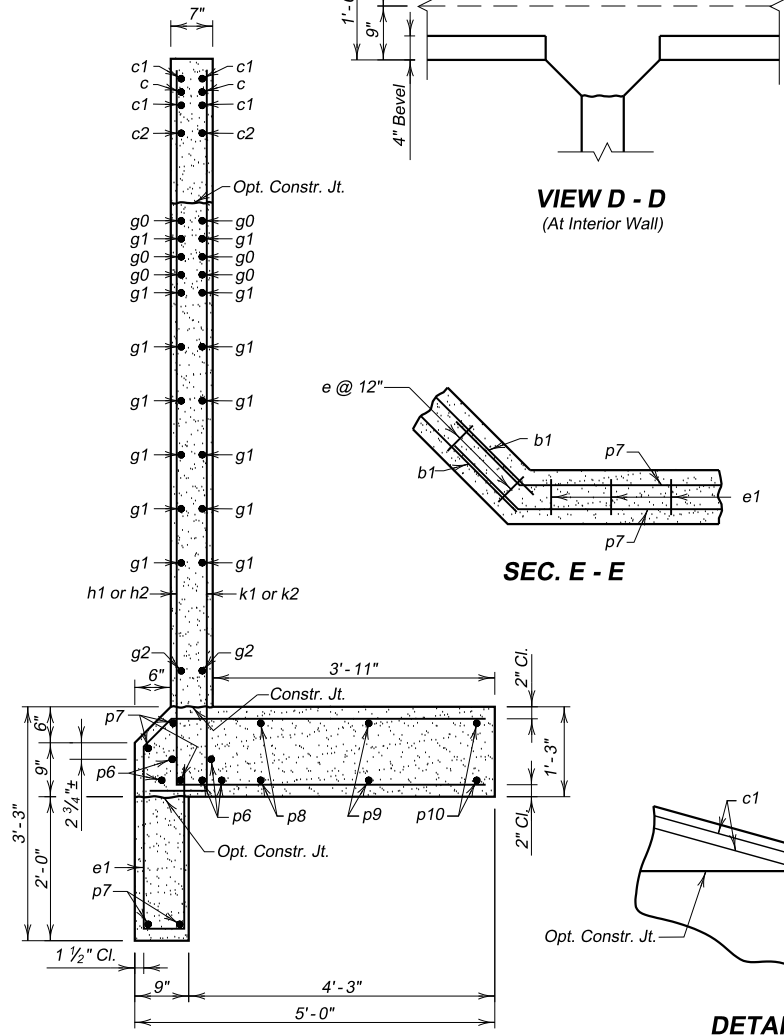


DETAIL "X"
(At Bottom Slab)

SEC. B - B
(At Bottom Slab)



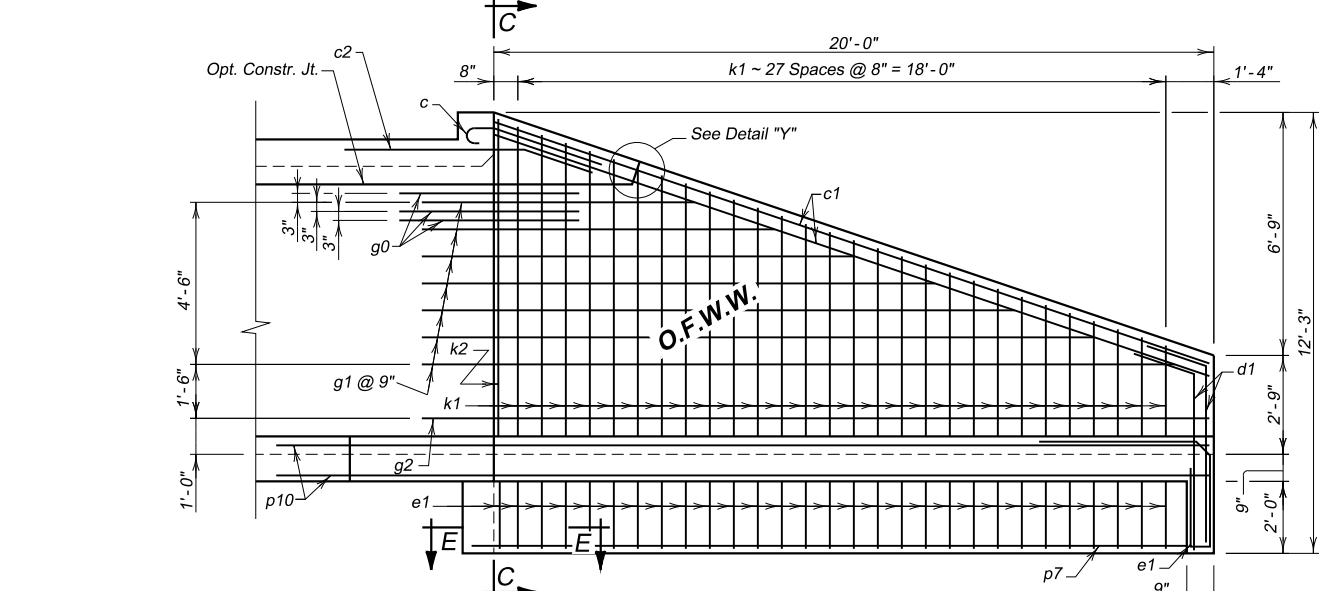
VIEW D - D
(At Interior Wall)



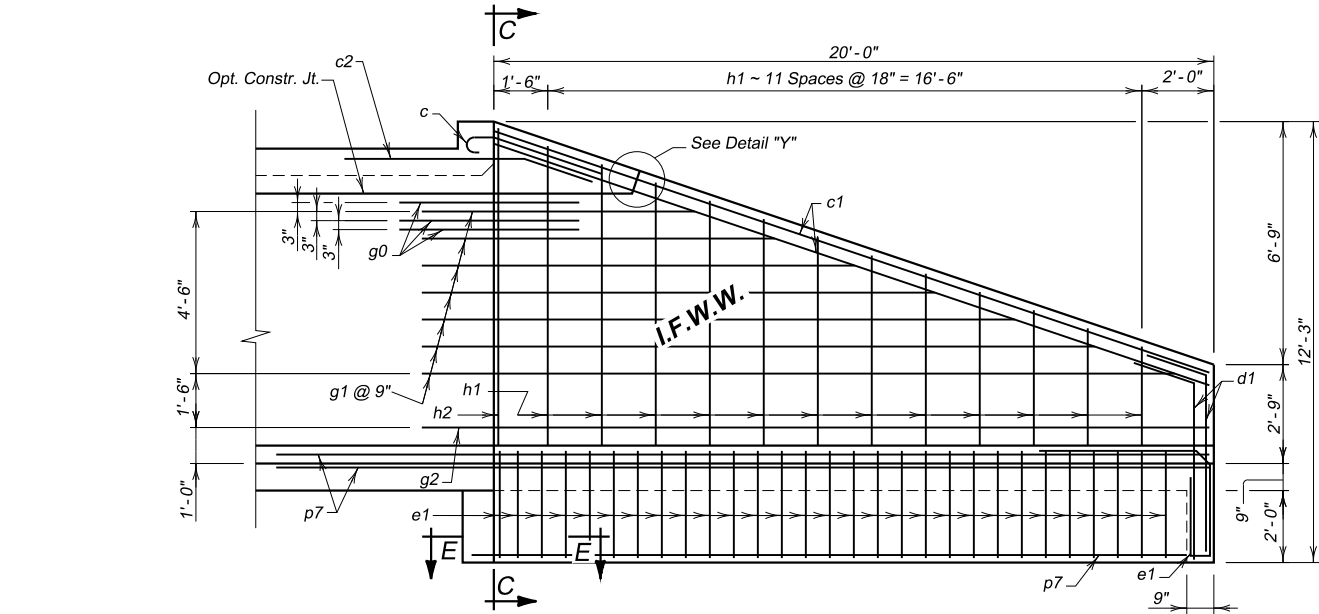
SEC. C - C

DETAIL "Y"

(c, c2, h1, and k1 bars not shown)



ELEVATION



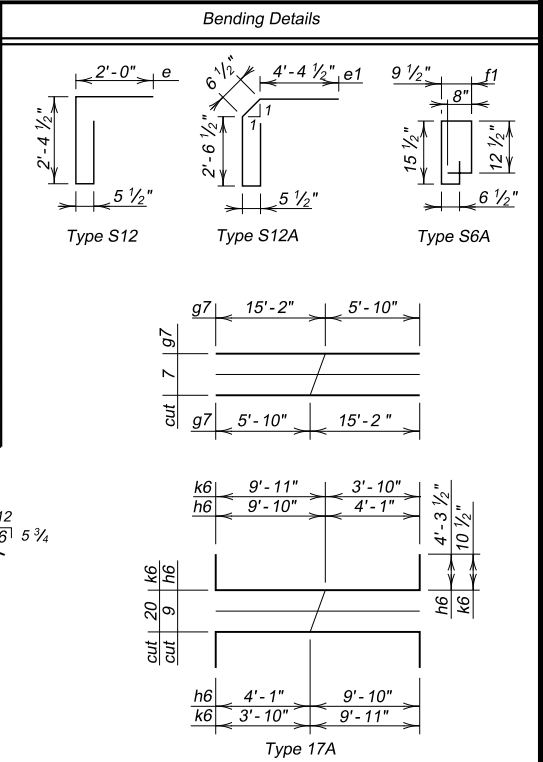
ELEVATION

FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	BRF-B 6127(10)	27	36

REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type
a1	4	6	33'-0"	Str.
b2	4	6	32'-3"	Str.
c	4	5	4'-6"	1A
c5	8	5	15'-6"	Str.
c6	4	5	7'-0"	19B
d3	8	5	6'-6"	19B
e	33	4	7'-0"	S12
e1	46	4	10'-3"	S12A
f1	33	4	5'-3"	S6A
g6	12	5	5'-0"	Str.
g7	14	4	21'-0"	Str.
g8	4	4	15'-9"	Str.
h6	9	4	22'-6"	17A
k6	20	4	15'-6"	17A
p6	10	6	7'-0"	Str.
p15	10	4	16'-6"	Str.
p16	4	4	17'-3"	Str.
p17	4	4	19'-3"	Str.
p18	4	4	21'-3"	Str.



NOTES:
All dimensions are out to out of bars.
See cutting diagram.
Bend in field as necessary.

ESTIMATED QUANTITIES

ITEM	Class A45 Concrete, Box Culvert	Reinforcing Steel	Structure Excavation, Box Culvert
UNIT	Cu. Yd.	Lb.	Cu. Yd.
Outlet	17.8	2,222	9.1

LEGEND FOR PLACING RE-STEEL

O.F.W.W. - Outside Face of Wing Wall
I.F.W.W. - Inside Face of Wing Wall
W.P. - Working Point

OUTLET DETAILS
FOR

3 - 10' X 8' BOX CULVERT

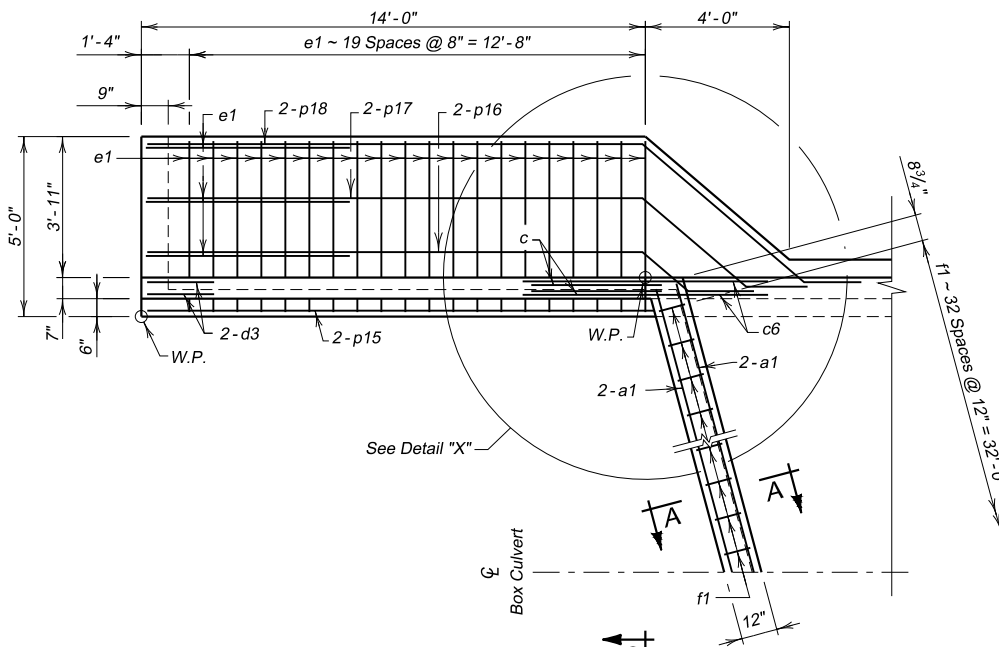
OVER TRIB. TO SOO CREEK 15° LHF SKEW
STA. 9+95.00 SEC. 1/6-T119N-R52/R51W
STR. NO. 15-190-022 BRF-B 6127(10)
HL-93

CODINGTON COUNTY
S. D. DEPT. OF TRANSPORTATION

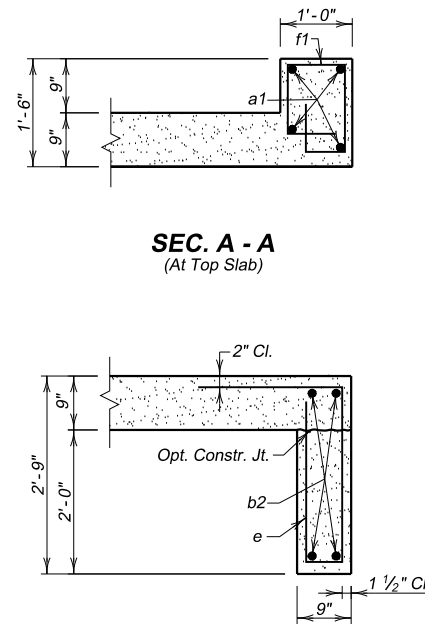
JUNE 2026

5 OF 11

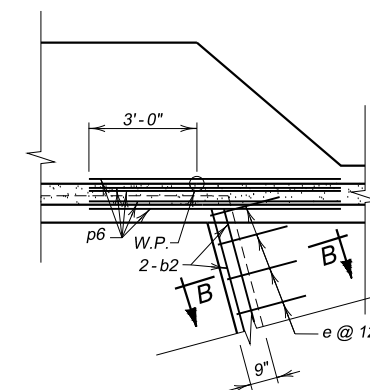
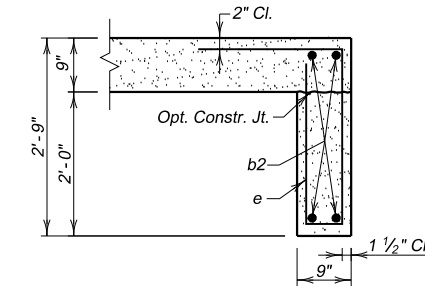
DESIGNED BY MJB	CK. DES. BY CJK	DRAFTED BY MJB	BRIDGE ENGINEER
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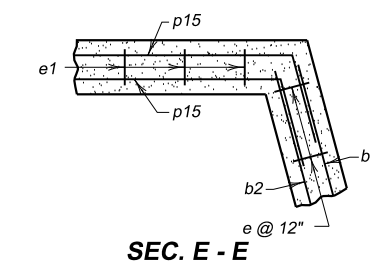
SEC. A - A
(At Top Slab)



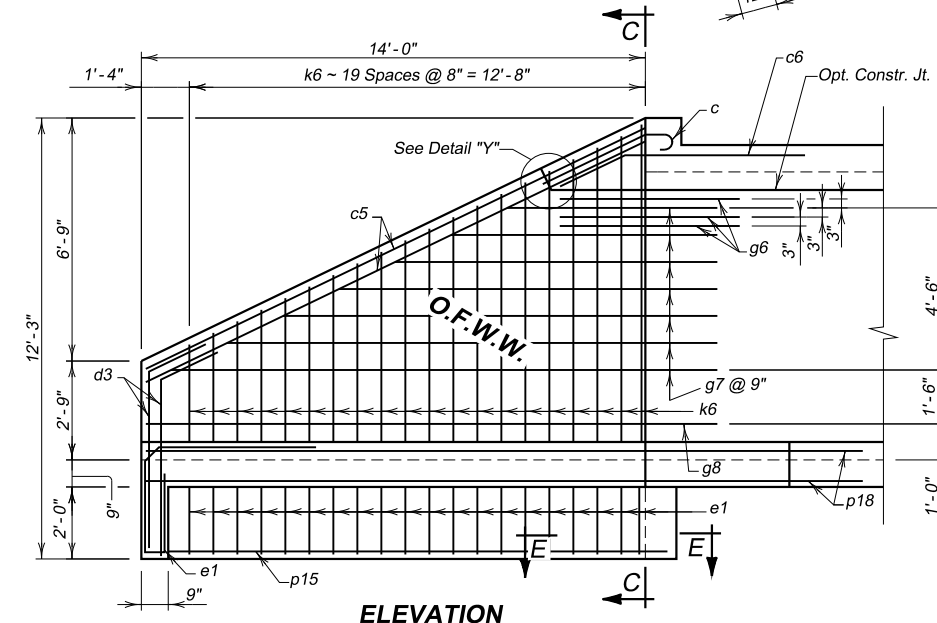
SEC. B - B
(At Bottom Slab)



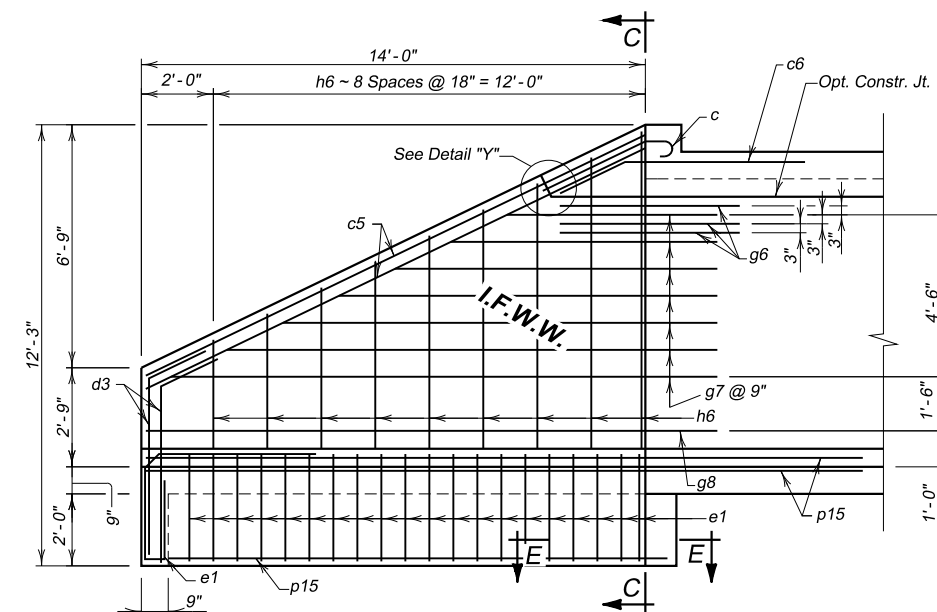
DETAIL "X"
(At Bottom Slab)



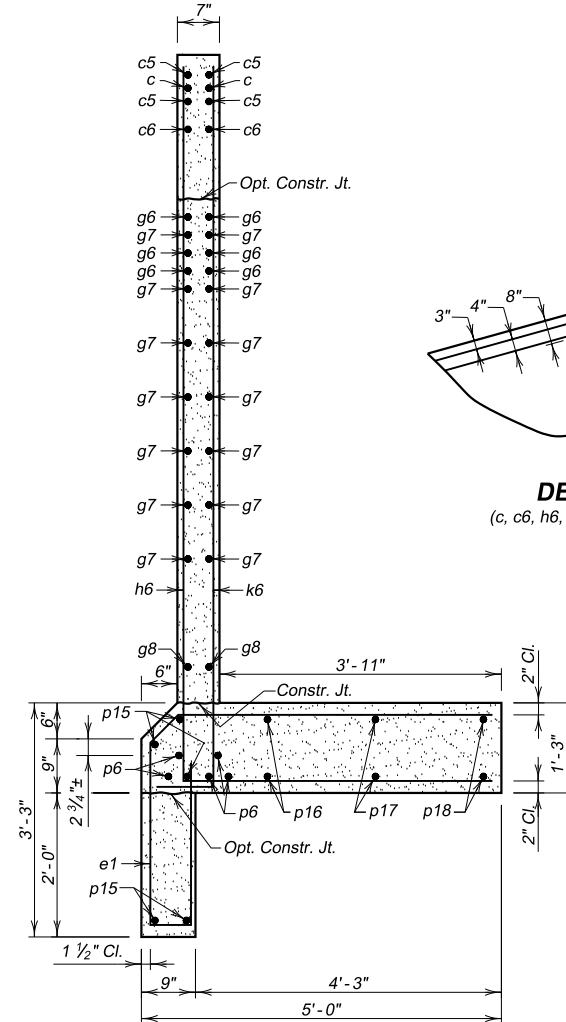
SEC. E - E



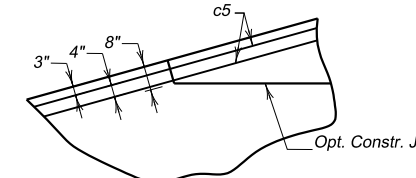
ELEVATION



ELEVATION



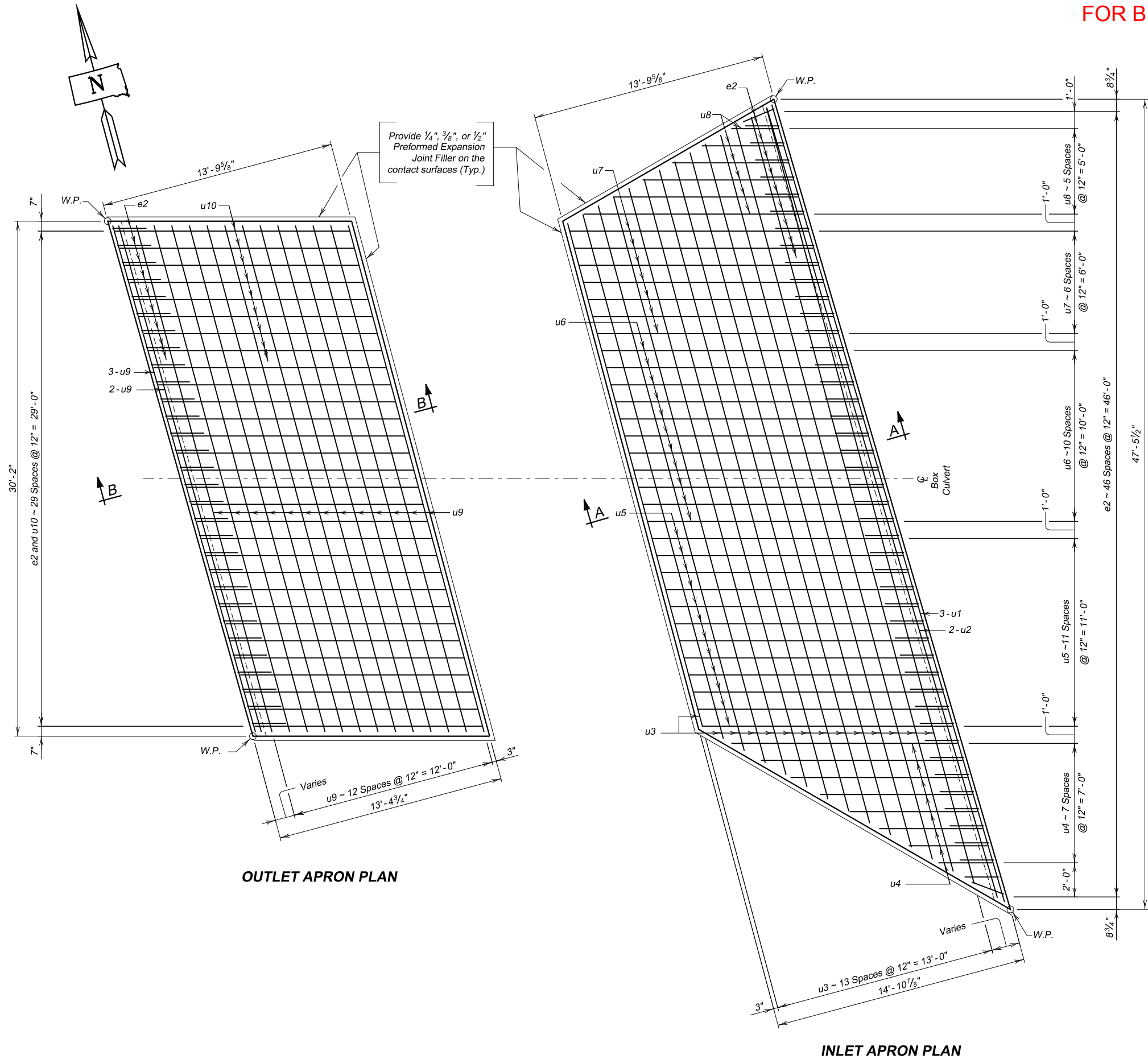
SEC. C - C



DETAIL "Y"
(c, c6, h6, and k6 bars not shown)



FOR BIDDING PURPOSES ONLY



STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRF-B 6127(10)	28	36

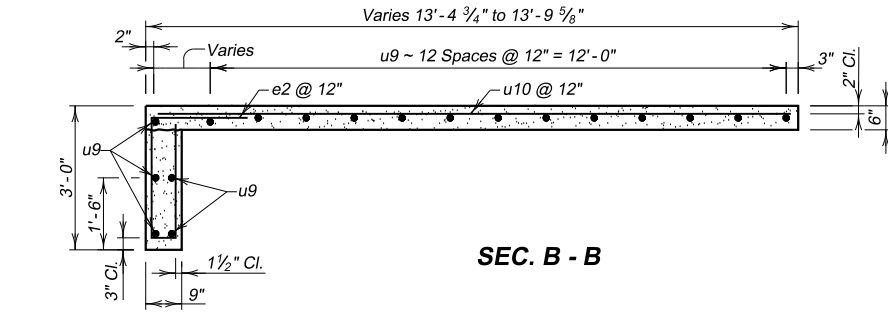
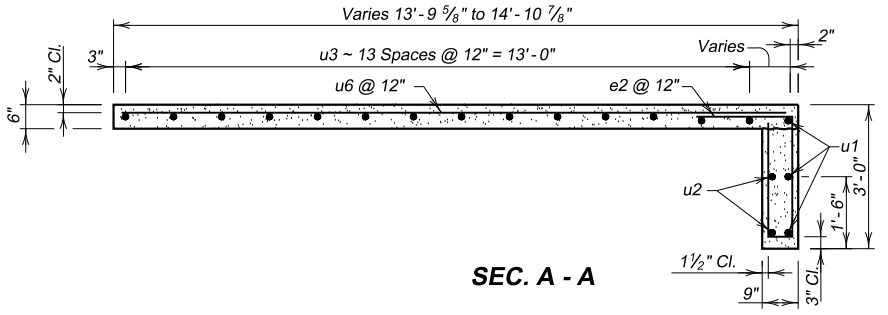
REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type	Bending Details										
Inlet Apron															
Ø	e2	47	4	7'-0"	S12										
	u1	3	4	48'-6"	Str.										
	u2	2	4	48'-3"	Str.										
	u3	7	4	77'-6"	Str.										
	u4	4	4	16'-6"	Str.										
	u5	12	4	14'-6"	Str.										
	u6	11	4	14'-3"	Str.										
	u7	7	4	14'-0"	Str.										
Ø	u8	3	4	15'-6"	Str.	Type S12									
	Outlet Apron														
	e2	30	4	7'-0"	S12										
	u9	18	4	30'-9"	Str.										
	u10	30	4	13'-6"	Str.										
NOTES:															

NOTES:
All dimensions are out to out of bars.
See cutting diagram.

ESTIMATED QUANTITIES

ITEM	Class A45 Concrete, Box Culvert	Reinforcing Steel	Structure Excavation, Box Culvert
UNIT	Cu. Yd.	Lb.	Cu. Yd.
Inlet Apron	14.0	1,106	14.0
Outlet Apron	10.0	781	10.0



INLET AND OUTLET APRON DETAILS

FOR

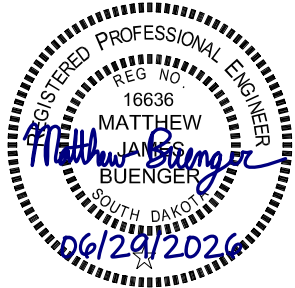
3- 10' X 8' BOX CULVERT

OVER TRIB. TO SOO CREEK 15° LHF SKEW
STA. 9+95.00 SEC. 1/6-T119N-R52/R51W
STR. NO. 15-190-022 BRF-B 6127(10)
HL-93

CODINGTON COUNTY

S. D. DEPT. OF TRANSPORTATION

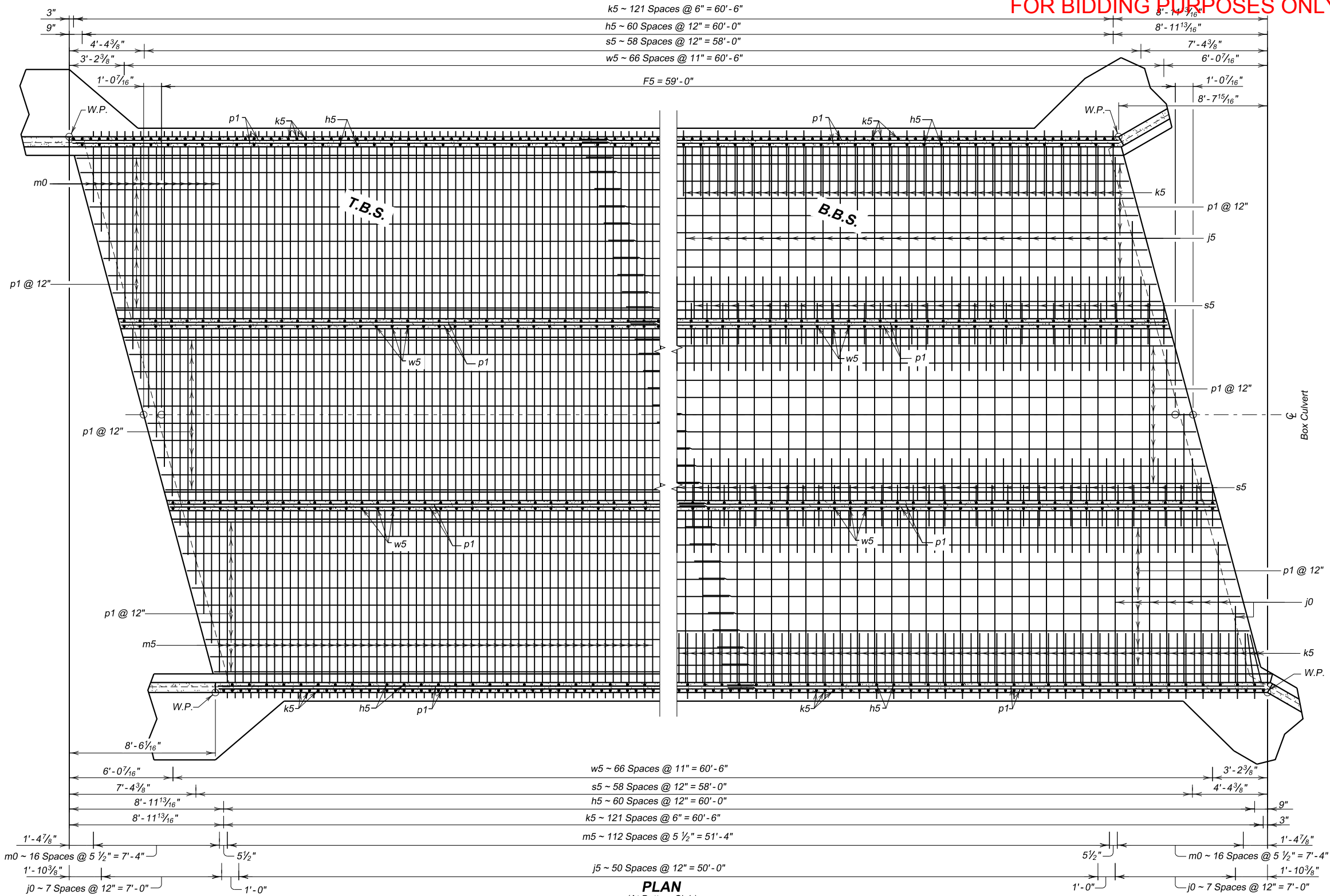
JUNE 2026



DESIGNED BY MJB	CK. DES. BY CJK	DRAFTED BY MJB	BRIDGE ENGINEER
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STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
	BRF-B 6127(10)	29	36
S.D.			

FOR BIDDING PURPOSES ONLY



LEGEND FOR PLACING RE-STEEL
T.B.S. - Top of Bottom Slab
B.B.S. - Bottom of Bottom Slab

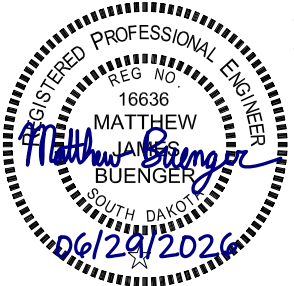
F5 BARREL SECTION DETAILS (A)
FOR

3 - 10' X 8' BOX CULVERT

OVER TRIB. TO SOO CREEK 15° LHF SKEW
STA. 9+95.00 SEC. 1/6-T119N-R52/R51W
STR. NO. 15-190-022 BRF-B 6127(10)
HL-93

CODINGTON COUNTY
S. D. DEPT. OF TRANSPORTATION
JUNE 2026

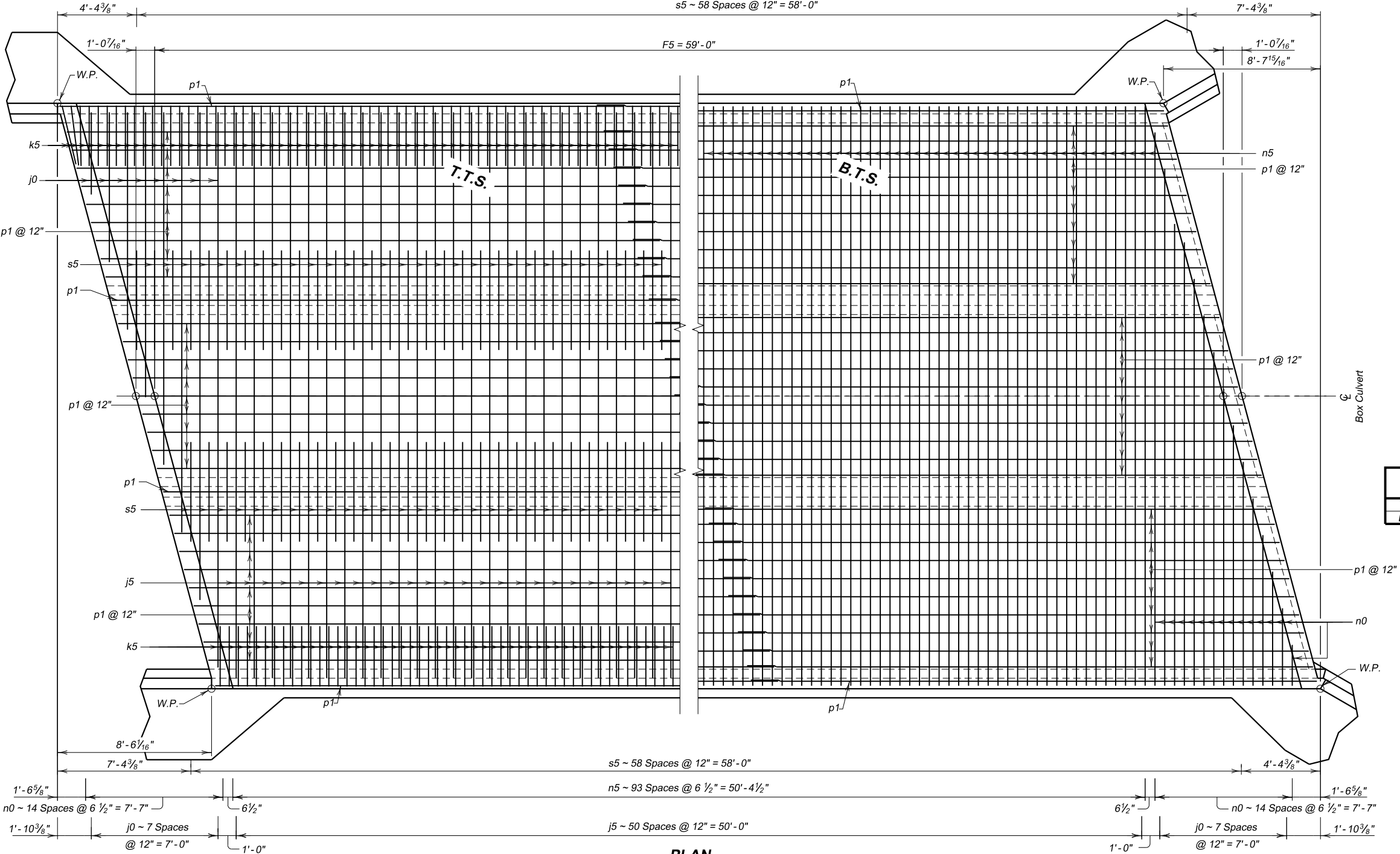
7 OF 11



DESIGNED BY MJB	CK. DES. BY CJK	DRAFTED BY MJB	BRIDGE ENGINEER
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FOR BIDDING PURPOSES ONLY

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRF-B 6127(10)	30	36



LEGEND FOR PLACING RE-STEEL
T.T.S. - Top of Top Slab
B.T.S. - Bottom of Top Slab

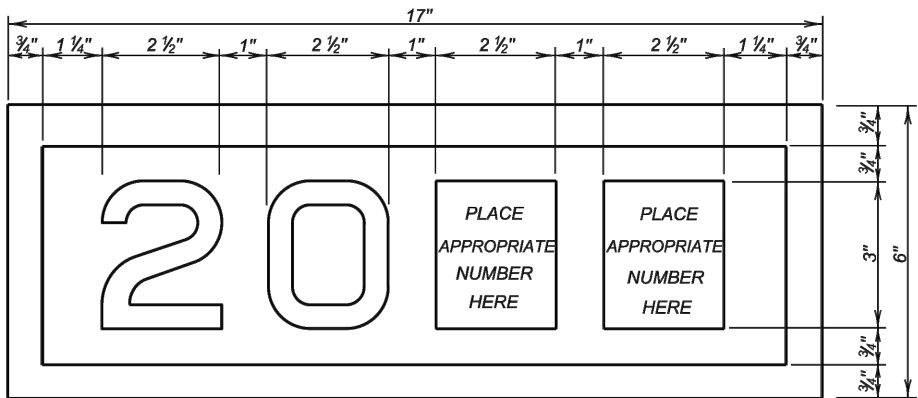
F5 BARREL SECTION DETAILS (B)
FOR
3 - 10' X 8' BOX CULVERT

OVER TRIB. TO SOO CREEK 15° LHF SKEW
STA. 9+95.00 SEC. 1/6-T119N-R52/R51W
STR. NO. 15-190-022 BRF-B 6127(10)
HL-93

CODINGTON COUNTY
S. D. DEPT. OF TRANSPORTATION
JUNE 2026



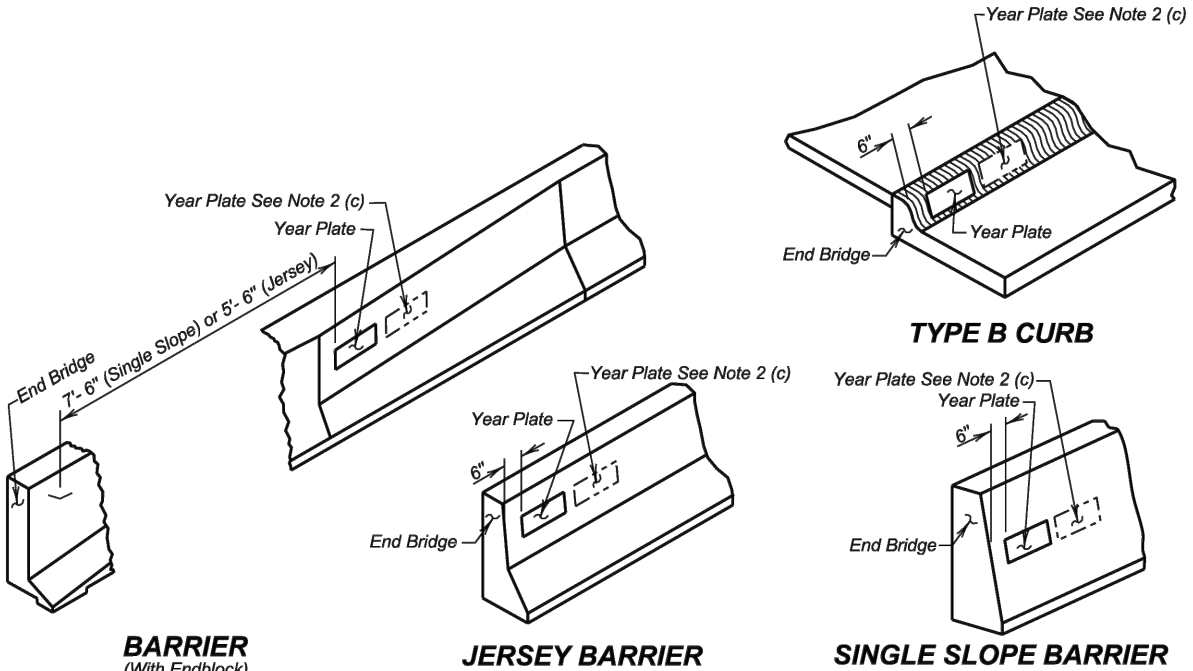
DESIGNED BY MJB	CK. DES. BY CJK	DRAFTED BY MJB	BRIDGE ENGINEER
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YEAR PLATE DETAILS

GENERAL NOTES:

- Year plates of the general dimensions shown will be constructed on all box culverts and bridges. The year plates will be constructed in reverse and attached to the forms in such a manner that the finished imprint in the concrete does not exceed one-half (1/2) inch in depth.
- Year plates will be located on structure(s) as follows:
 - On cast-in-place box culverts the year plates will be four and one - half (4 1/2) inches below the top of the upstream parapet wall and centered laterally on the upstream face. On precast box culverts the year plate will be centered laterally on the upstream face of the top slab. Where an extended interior wall interferes with this location, the year plate will be centered in an adjacent barrel.
 - On bridges with six (6) inch curbs, "Jersey" shaped barriers with no endblocks, or "Single Slope" shaped barriers with no endblocks, the year plate will be centered vertically on the curb face approximately six (6) inches from the end of the bridge, or as designated by the Engineer. On bridges with barrier endblocks, the year plate will be centered on the upper sloped portion of the barrier approximately 5'-6" for "Jersey" shaped barriers from the end of the bridge and 7'-6" for "Single Slope" shaped barriers from the end of bridge, or as designated by the Engineer. There will be one year plate at each end of the bridge on opposite sides.
 - When the plans specify that both the original date of construction and the date of reconstruction are to be shown, one date will be placed as listed above and the other located adjacent to it. Both year plates will be shown at each end of the bridge on opposite sides.
- There will be no separate measurement or payment made for year plates on box culverts and bridges. All costs for this work will be incidental to other contract items.



TYPE B CURB

BARRIER
(With Endblock)

JERSEY BARRIER

SINGLE SLOPE BARRIER

January 22, 2021

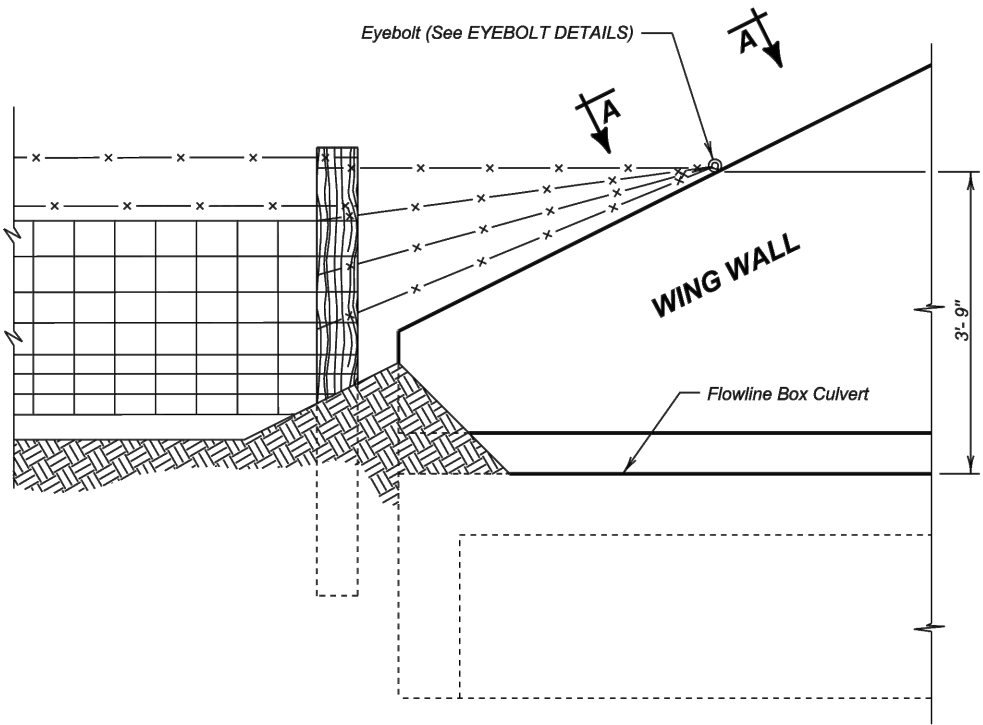
Published Date: 2027

S
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YEAR PLATE DETAILS

PLATE NUMBER
460.02

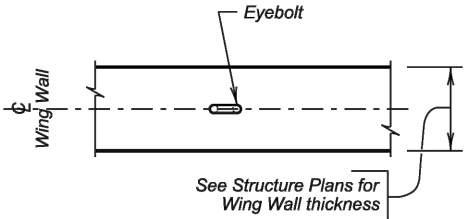
Sheet 1 Of 1



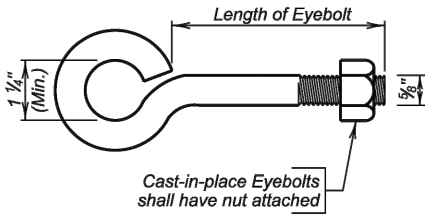
DETAIL FOR FENCE ANCHORS

GENERAL NOTES:

- The fence and post details shown are for illustrative purpose only. The fence shall be as specified elsewhere in the plans.
- Eyebolts shall be placed on all of the box culvert wing walls.
- Eyebolts shall be 5/8 inch diameter and shall conform to ASTM A307.
- Eyebolts, nuts, and concrete inserts shall be galvanized in accordance with AASHTO M232 (ASTM A153). Concrete inserts of corrosion resistant material need not be galvanized.
- Cast-in-place eyebolts shall have a nut attached, be 4 1/2 inches (Min.) in length and shall be embedded such that the eye of the bolt is flush with the concrete surface. (See Eyebolt Details) As an alternate, cast-in-place concrete inserts, capable of developing the full strength of the 5/8 inch diameter threaded eyebolt, may be used and shall be set in the concrete in accordance with the manufacturer's recommendations. The eyebolt shall be of sufficient length to develop its full strength. The eye of the eyebolt shall be flush with the concrete surface.
- The cost for furnishing and installing eyebolts and/or concrete inserts shall be incidental to various contract items.



VIEW A - A



EYEBOLT DETAILS

December 23, 2012

Published Date: 2027

S
D
D
O
T

FENCE ANCHORS FOR
BOX CULVERT WING WALLS

PLATE NUMBER
620.16

Sheet 1 of 1

3 - 10' X 8' BOX CULVERT

STR. NO. 15-190-022
JUNE 2026

FOR BIDDING PURPOSES ONLY

BAI JOB # 24020.13

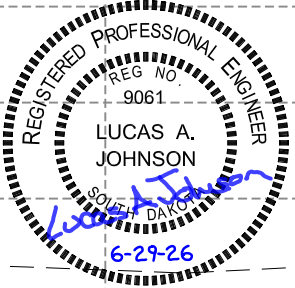
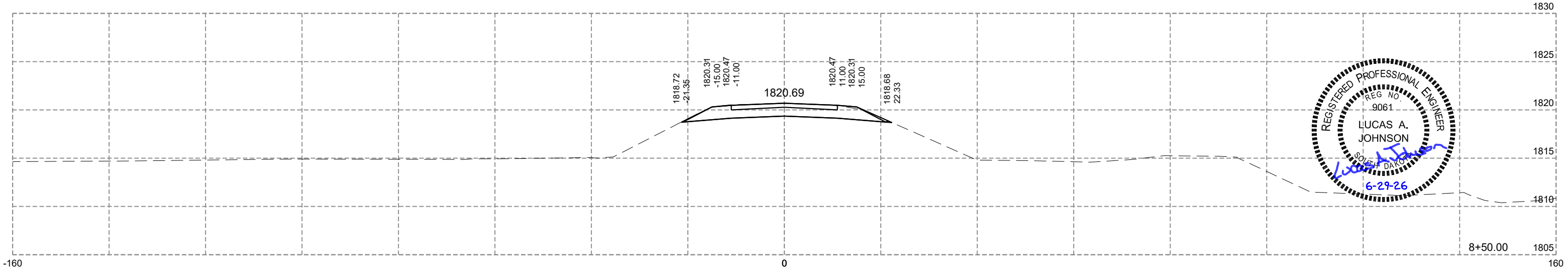
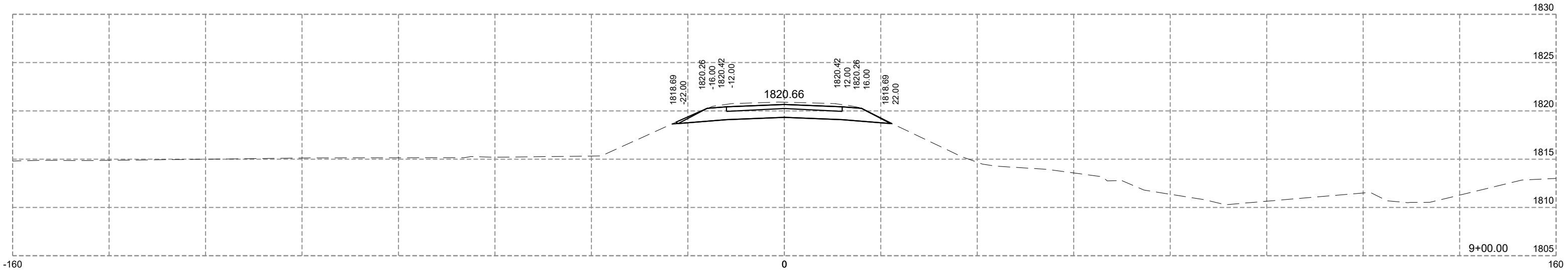
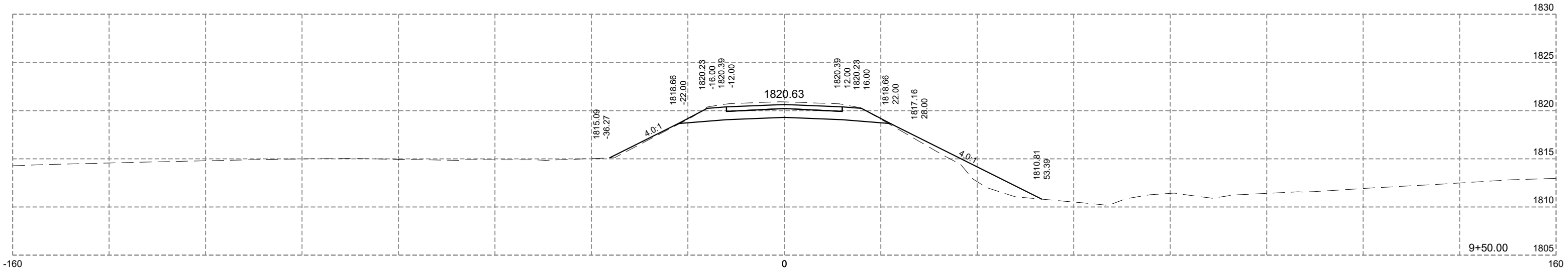


PROJECT	
BRF-B 6127(10)	

SHEET
34

TOTAL SHEETS
36

Plotting Date: 06/29/2026



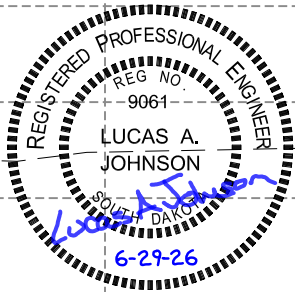
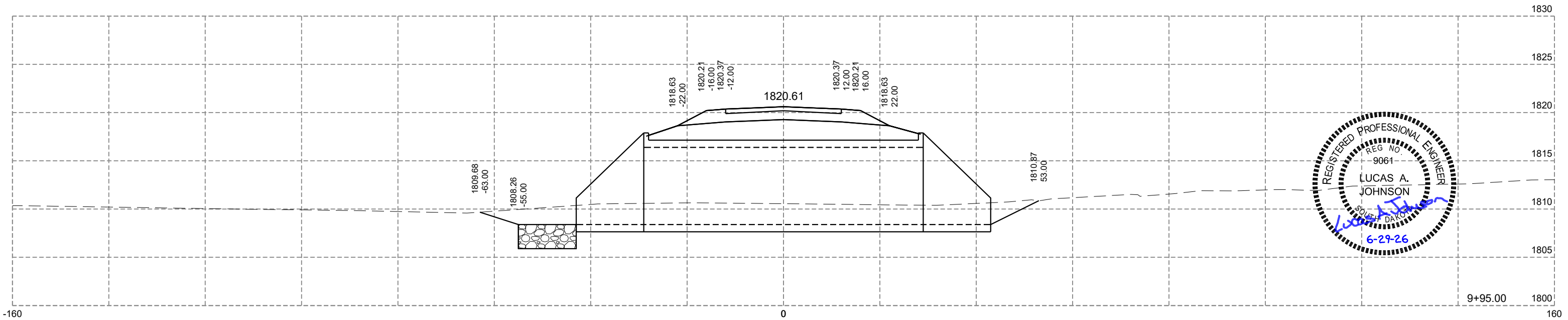
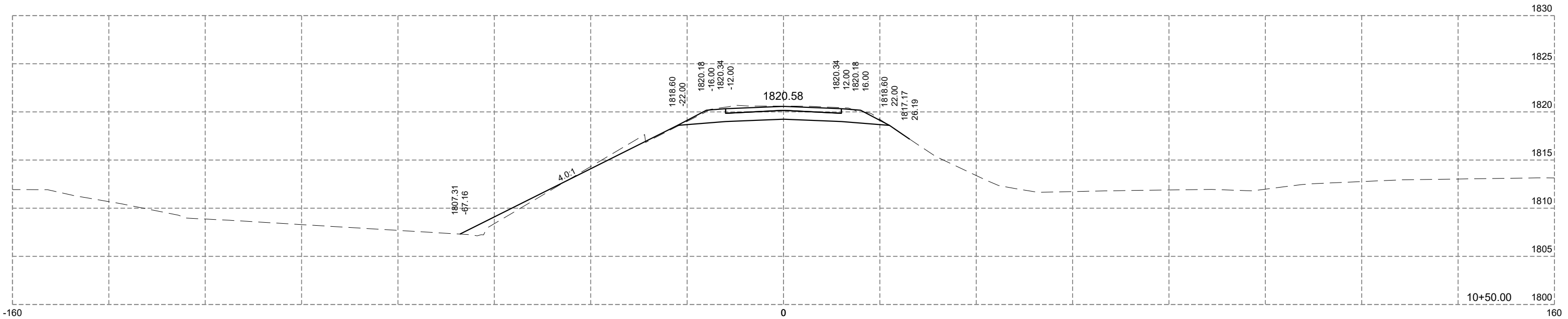


PROJECT	
BRF-B 6127(10)	

SHEET
35

TOTAL SHEETS
36

Plotting Date: 06/29/2026





PROJECT	
BRF-B 6127(10)	

SHEET
36

TOTAL SHEETS
36

Plotting Date: 06/29/2026

