Stormwater Pollution Prevention Plan

West Rapid City Substation, Storage Yard Improvements, Transmission Line Rebuild, and Sewer Extension Project

Pennington County, South Dakota

Quinn Construction

4404 Universal Dr.

Rapid City SD 57702

Prepared for Black Hills Energy by

Maria Garduna, PE – Environmental Professional II
Black Hills Energy
7001 Mt. Rushmore Road
Rapid City, SD 57702

SWPPP Preparation Date:

August, 2018

Estimated Project Dates:

Project Start Date: September, 2018
Project Completion Date: December, 2019

Contents

SWPPP APPENDICES

SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the **West Rapid City Substation, Storage Yard, Transmission Line and Sewer Extension Improvements** for Black Hills Energy. This SWPPP was prepared in accordance with good engineering, hydrologic and pollution control practices. Changes or additions may be required to address changes in conditions at the site.

The purpose of this SWPPP is to:

- Identify all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the facility;
- Describe the practices to be used to reduce the pollutants in stormwater discharges associated with construction activity at the facility;
- Ensure the practices are selected and described in accordance with good engineering practices, including the installation, implementation and maintenance requirements;
- Be implemented as written and updated, from commencement of construction activity until final stabilization is complete, as a condition of the permit.

Spill Prevention Control and Countermeasure (SPCC) Plan

An SPCC Plan is not planned for this project. Onsite oil storage associated with this construction project does not trigger 1320 gallons in containers 55 gallons or greater. If a spill of pollutant(s) threatens storm water or has the potential to discharge from the site, the Contractor is responsible for implementing cleanup measures in a timely manner to prevent the release of pollutants. Black Hills Energy Environmental Services should be notified immediately so the appropriate regulatory authorities are informed:

Maria Garduna, Black Hills Energy Environmental Services
Phone: (605) 415-9767
Email: maria.garduna@blackhillscorp.com

1.1 Project/Site Information

Project/Site Name: West Rapid City Substation, Storage Yard, Transmission Line, and Sewer Extension Improvements

Project Street/Location: 409 Deadwood Ave. **ZIP Code:** 57702

City: Rapid City **State:** SD

County or Similar Subdivision: Pennington County

Latitude/Longitude

Latitude: 44.087604 **Longitude:** -103.263880

Is the project located in Indian country? No

Is this project considered a federal facility? No

1.2 Contact Information/Responsable Parties (Permit Section 5.3.1)

Black Hills Energy SD Project Engineer

Contact: Ron Williams
Address: 7001 Mt. Rushmore Road
City, State, Zip Code: Rapid City, SD 57702
Telephone Number: (605) 721-2471
Email: ron.williams@blackhillscorp.com

Contractor

Company Name:Quinn Construction
Contact: Derek Suhr
Address: 4404 Universal Dr.
City, State, Zip Code: Rapid City, SD 57702
Telephone Number: 605-787-6500
Email: derek@quinnconstruction.org

Site Supervisor

Company Name: Input Name of Company
Contact: First and Last Name
Address: Input Company Address
City, State, Zip Code: City, State, Zip code
Telephone Number: XXX-XXX-XXXX
Email: input contact email

SWPPP Contact

Company Name: Black Hills Energy
Contact: Shannon Pollmiller
Address: 7001 Mt. Rushmore Road
City, State, Zip Code: Rapid City, SD 57702
Telephone Number: (719)-323-1729
Email: shannon.pollmiller@blackhillscorp.com

Stormwater Inspector

Company Name: Ferber Engineering
Contact: Dave Muck
Address: 729 Watertown St
City, State, Zip Code: Rapid City, SD 57701
Telephone Number: 605-343-3311
Email: davemuck@ferberengineering.com

1.3 Nature and Sequence of Construction Activity (Permit Section 5.3.3a and 5.3.3.g)

Describe the general scope of the work for the project:

New 230/69kV substation, 1.5 miles of new double circuit of 230kV transmission line from the Lange-SRC 230kV line (M-Hill area). New 69kV line to the Ben French 69kV switchyard, new gravel storage yard at the Black Hills Energy Service Center. New Sewer Line Extension project connecting Black Hills Energy's office to the city sewer.

Nature of Construction: Major soil disturbing activities include cutting and filling earthwork.

What is the function of the construction activity? Substation construction, storage yard improvements, associated transmission line, sewer line extension.

Estimated Project Start Date: September 2018 (site work activities Fall 2018)

Estimated Project Completion Date: December 2019 (substation and transmission line construction Spring – Winter 2019)

1.4 Soils, Slopes, Vegetation, and Current Drainage Patterns (Permit Section 5.3.3d-e)

Drainage Patterns (describe current drainage patterns and note any changes dues to grading or fill activities): No major changes to drainage patterns, see Appendix E for additional details.

Vegetation: 35% existing vegetative cover

Vegetative Buffers: Vegetative buffers exist at the future substation pad location and at proposed transmission line.

Soils: Silty sand with gravel

1.5 Construction Site Estimates (Permit Section 5.3.3b-c)

Total project area:	12 Acres
Construction site area to be disturbed:	7 Acres

1.6 Receiving Waters and TMDLs (Permit Section 5.3.3f)

Description of receiving waters: French Creek

Description of storm sewer systems: No impact to storm sewers.

Total Daily Maximum Loads (TMDLs): No direct impact is expected

1.7 Site Features and Sensitive Areas to be Protect

Site Sensitive Areas to Storm Water Runoff: No major stream crossings.

1.8 Potential Sources of Pollution (Permit Section 5.3.9a-b)

Potential sources of sediment to stormwater runoff:

- Un-vegetated areas eroding and discharging sediment into local drainage features and creeks.
- Trackout of sediment onto existing and proposed roads may occur.
- Stockpile erosion is anticipated to be minimal.

Potential pollutants and sources, other than sediment, to stormwater runoff:

- Small spills of oil typically less than 5 gallons from ruptures of vehicles used at the site.

1.9 Endangered Species Certification

Are endangered or threatened species and critical habitats on or near the project area? Special status species and likelihood of occurrence are listed in Appendix I.

1.10 Historic Preservation

Are there any historic sites on or near the construction site? Cultural resources are noted adjacent to the proposed transmission line. See Appendix I for additional details.

1.11 Applicable Federal, Tribal, State or Local Programs

The State of South Dakota and EPA Standard Specifications are applicable to this project site.

1.12 Maps (Permit Section 5.3.4)

The General Location Map is located in Appendix A.

SECTION 2: EROSION AND SEDIMENT CONTROL BMPS (Permit Section 5.3.5 – 5.3.7)

2.1 Minimize Disturbances

The Erosion Control Plan located in Appendix E shows the proposed grading to be accomplished by this project. The disturbed areas will be limited to what is shown on the approved plan.

2.2 Phase Construction Activity (Permit Section 5.3.3.h)

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

- Site grading activities for the substation and storage yard improvements (June 2019)
- Substation site construction complete (November 2019)
- Substation and transmission line construction start (November 2019)
- Substation and transmission line construction complete (November 2019)
- In-service (December 2019)

2.3 Controlling Stormwater Flow (Permit Section 5.3.5 – 5.3.7)

BMP Description: Erosion Control Wattles/Fiber Rolls – wattles/rolls will be used for restraining the flow of runoff and sediment and should be installed as shown in the erosion control wattle detail at locations shows on the plan sheet in Appendix E.	
Installation Schedule:	Installation will be prior to any grading operations, if needed.
Notes	Fiber rolls must be properly staked and trenched into the ground, as per the BMP details provided in Appendix E. Fiber rolls at the toe of slopes greater than 5:1 (H:V) should be a minimum of 20 inches in diameter, or installations achieving the same protection (i.e., multiple smaller diameter fiber rolls).
Maintenance and Inspection:	Inspections are to be performed on a weekly schedule. Split, torn, unraveling or slumping fiber rolls will be replaced. Sediment deposits will be removed when accumulation reaches one-half the height of the roll. After final stabilization, fiber rolls will be removed and remaining sediment deposits will be dressed to conform to the existing grade, prepared and seeded.
Responsible Staff:	The contractor will be responsible for maintenance.

2.4 Stabilize Soils (Permit Section 5.3.5 – 5.3.7)

BMP Description: Seed, Fertilize, Mulch, etc.	
Installation Schedule:	Stabilization measures shall be initiated as soon as possible and will occur as areas are completed and equipment is moved out. Any

	disturbed area not receiving hard surfacing will be fertilized, seeded and mulched, or covered with erosion control blanket.
Maintenance and Inspection:	Inspections are to be performed on a weekly schedule. Bare areas shall be reseeded immediately.
Responsible Staff:	The contractor will be responsible for maintenance.

2.5 Retain Sediment On-Site (Permit Section 5.3.5 – 5.3.7)

BMP Description: Vehicle Tracking control	
Installation Schedule:	NA
Maintenance and Inspection:	Inspections are to be performed on a daily schedule. Any trackout from the construction site will be cleaned at the end of each work day.
Responsible Staff:	The contractor will be responsible for maintenance.

2.6 Additional BMPs (Permit Section 5.3.5 – 5.3.7)

BMP Description*: Dust Control*	
Installation Schedule:	Use water truck or water tanks as needed
Maintenance and Inspection:	Inspections are to be performed on a weekly schedule until the soils are stabilized.
Responsible Staff:	The contractor will be responsible for maintenance.

BMP Description*: Perimeter Control – Temporary construction fencing and/or permanent fencing*	
Installation Schedule:	Use temporary orange construction fencing or permanent fencing adequate to prevent vehicle use outside of designated areas. This control will be evaluated for installation if vehicles begin causing damage to vegetative cover outside of the right of way or at laydown yards.
Maintenance and Inspection:	Inspections are to be performed on a weekly schedule. Replace damaged fencing when it no longer controls the flow of traffic.
Responsible Staff:	The contractor will be responsible for maintenance.

SECTION 3: GOOD HOUSEKEEPING BMPS

3.1 Material Handling and Waste Management (Permit Section 5.3.8.b)

Material Management

Housekeeping

- Only needed products will be stored on-site by the contractor.
- Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.
- Vegetation areas not essential to the construction project will be preserved and maintained.

Hazardous and Toxic Materials

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

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 - Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored off site while not in use. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

Concrete Trucks - No designated truck washout areas will be available or provided on the site. Trucks will be taken back to their plant to be cleaned.

Waste Management Procedures

Housekeeping

- Only needed products will be stored on-site by the contractor.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Trash and scrap metals will be placed in appropriate containers and disposed of at an approved landfill or recycler.
- Dumpsters will remain closed at all times when not adding waste material to containers.
- Liquid wastes will be placed in a container engineered for product it holds. In no instance may liquid waste be mixed with trash and other solid waste.
- If sediment or soils are removed from the site, it will be disposed of at an approved landfill that is permitted to receive construction-related wastes.
- Hazardous, toxic and sanitary waste will be stored in containers engineered to hold the material to be disposed and will be disposed at a landfill approved to receive these classifications of waste.

3.2 Establish Proper Material Staging Areas (Permit Section 5.3.4.o)

Material staging areas will be established along the project site at locations where the materials can be easily controlled.

3.3 Designate Washout Areas (Permit Section 5.3.4.p)

Truck washout areas are not allowed at the project site. Concrete will not be used associated with this project and as such concrete washouts will not be needed.

3.4 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices (Permit Section 3.20.2)

All major maintenance and refueling will occur off site. If on-site maintenance and repair of 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.

3.5 Control Equipment/Vehicle Washing (Permit Section 3.20.3)

If needed, vehicle washing will typically be performed off site. If vehicles or equipment require washing which may result in the accidental release of contaminants, it will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.

Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.

3.6 Spill Prevention and Control Plan (Permit Section 5.3.8.a)

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

Spill Response

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

- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If an 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 notifying Black Hills Energy Environmental Services who will complete the spill reporting form and report the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean-up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

Spill Notification

In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedure:

- Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to Black Hills Energy Environmental Services.
- **DO NOT LEAVE VOICEMAIL OR EMAIL REGARDING THE SPILL. MAKE SURE YOU SPEAK WITH A LIVE PERSON.**
- Environmental Services will immediately notify SDDENR.

Emergency Spill Notification Required by the General Permit:

1. Report a release or spill of a regulated substance (including petroleum and petroleum products) to SDDENR as soon as you become aware of it if any one of the following conditions exists:
    a. The release or spill threatens or is in a position to threaten waters of the state (surface water or ground water);
    b. The release or spill causes an immediate danger to human health or safety; c. The release or spill exceeds 25 gallons;
    c. The release or spill causes a sheen on surface water;
    d. The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01;
    e. The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01;
    f. The release or spill of any substance that harms or threatens to harm wildlife or aquatic life;
    g. The release or spill of crude oil in field activities under SDCL chapter 45-9 is greater than 1 barrel (42 gallons); or
    h. 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.
2. To report a release or spill, call SDDENR 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 SDDENR 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 shall be sent to SDDENR within 14 days of the discharge.

3.7 Allowable Non-Stormwater Discharge Management (Permit Section 5.3.10)

The following non-storm water discharges are anticipated during the course of this project:

- None

These non-stormwater discharges shall be kept free of contaminants.

3.8 Construction Dewatering (Permit Section 3.21)

Construction Dewatering is anticipated for the Sanitary Sewer extension portion of the project. Quinn Construction will obtain necessary coverage from the SD DENR.

Date water discharge will commence: 7/15/2019
Date water discharge will cease: 8/15/2019
Total volume of discharge (in gallons): 2500
Average flow rate of discharge (in gpm): 10
Source of water being withdrawn/discharged (in gpm): 10
Name of receiving waters" Unnamed tributary of Rapid Creek
Treatment process employed if any: Discharge into grassy field and wattles.

SECTION 4: INSPECTIONS (Permit Section 5.3.6)

4.1 Inspections *(Permit Section 5.3.6.a-c)*

1. *Inspection Personnel:*

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The site superintendent or designated agent will be in charge of all inspections required under this plan

2. *Inspection Schedule and Procedures:*

The inspection schedule will include inspection performed at the end of each week prior to the weekend. *When performing inspections on a weekly basis, there are no requirements for an onsite rain gauge or inspections after storm events.*

The Contractor will be responsible for correcting any deficiency noted in the inspection reports within 24 hours of the report.

The inspection report which will be used for this project is located in Appendix F.

4.2 Corrective Action Log *(Permit Section 5.3.6.d)*

4.2.1 Corrective Action Log

A copy of the Corrective Action Log is located in Appendix F. This log shall be filled out and retained for each corrective action taken.

4.2.2 Grading and Stabilization Log

A copy of the Grading and Stabilization Log is located in Appendix F. This log shall be filled out and retained for each instance of grading and will include stabilization measures taken to prevent erosion and sediment transport.

4.2.3 Spill Documentation Form

A copy of the Spill Documentation Form is located in Appendix F. This log shall be filled out and retained for spills that occurs.

SECTION 5: RECORDKEEPING AND TRAINING (Permit Section 5.3.2)

5.1 Recordkeeping (Permit Section 7.0 – 7.6)

Records will be retained for a minimum period of at least 3 years after the permit is terminated.

Date(s) when major grading and stabilization activities occur, when grading activities temporarily or permanently cease, and when an area is either temporarily or permanently stabilized: A Grading and Stabilization Activities Log is located in Appendix F.

1. You must maintain onsite, or make readily available to SDDENR, the following documents:
   a. The SWPPP, including all certificates, reports, records, or other information required by this general permit.
   b. A copy of the Notice of Intent (NOI) submitted to SDDENR, along with any correspondence related to coverage under this general permit.
   c. A copy of the authorization letter you receive from SDDENR granting coverage under this general permit.
   d. A copy of this general permit.
2. You must retain copies of the SWPPP, your inspection records, all reports required by this general permit, and records of the date you used to complete the NOI and NOT for a period of at least three (3) years from the date you terminate your coverage under the general permit. SDDENR may extend the time period for retaining your records with a written notification to you.
3. You must submit all reports and documents required to be submitted to SDDENR by this general permit by email (stormwater@state.sd.us), or to the address below:

   SD Department of Environment and Natural Resources
   Surface Water Quality Program
   523 East Capitol
   Pierre, SD 57501

5.2 Log of Changes to the SWPPP

Log of changes and updates to the SWPPP

A SWPPP Amendment Log is located in Appendix F.

Notify SDDENR of any planned changes to the project scope as soon as possible of any planned physical alterations or additions to your site. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged or could result in noncompliance with permit conditions.

1. **Conditions Requiring SWPPP Modification**. You must modify your SWPPP, including the site map(s), in response to any of the following conditions:
   a. When you have a new operator responsible for implementation of any part the SWPPP.
   b. When you make changes to your construction plans, sediment and erosion control measures, or any best management practices at your site that are no longer accurately reflected in your SWPPP. This includes changes made in response to corrective actions triggered by inspections.

c. To reflect areas on your 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.
d. If inspections by site staff, local officials, SDDENR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with this general permit.
e. To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.

5.3 Training (Permit Section 5.3.2)

Individual(s) Responsible for Training: Owner – Black Hills Energy
Company Name: Black Hills Energy

Describe Training Conducted:

- General stormwater and BMP awareness training for staff and subcontractors.
- Detailed training for staff and subcontractors with specific stormwater responsibilities:
  A Training Log is located in Appendix H. Training information is also provided describing information to be provided during general awareness and detailed training.

SECTION 6: FINAL STABILIZATION (Permit Section 5.3.5.g)

As grading operations are completed the disturbed areas will be seeded, fertilized and mulched. Final stabilization will be marked by SD DENR vegetation coverage requirements. The un-vegetated areas which remain after erosion control devices are removed shall be reseeded to establish permanent vegetation.

SECTION 7: CERTIFICATION AND NOTIFICATION (Permit Condition 5.5.4)

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 gathered and evaluated 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.

Name: Stuart Wevik Title: Group VP - Electric Utilities

Signature: Stuart Wevik Date: 8/7/18

APPENDICES

Appendix A – General Location Map

Appendix B – Construction General Permit

Appendix C – NOI and Acknowledgement Letter from the State

Appendix D – Signed Contractor Certifications

Appendix E – Erosion Control Plan & BMP Specifications/Maintenance

Appendix F – Example Reports

- F1 – Inspection Forms
- F2 – Corrective Action Log
- F3 – SWPPP Amendment Log
- F4 – Grading and Stabilization Activities Log
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Appendix G –Completed Inspections Reports

Appendix H – Training Information and Log

Appendix I – Critical Issues Analysis

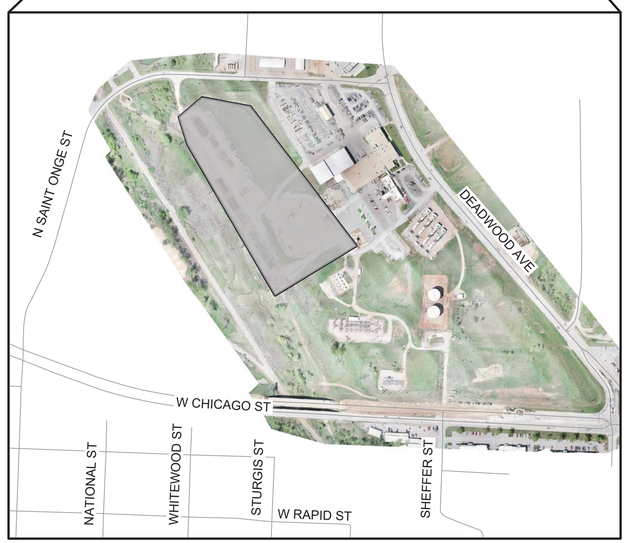
Appendix J – Federal, State and Local Permits and Authorizations

Appendix K – Geotechnical Report

Appendix A – General Location Map

WEST RAPID CITY SUBSTATION
SITE DEVELOPMENT
BLACK HILLS ENERGY
RAPID CITY, SOUTH DAKOTA

CITY OF RAPID CITY, SOUTH DAKOTA



N.T.S.

PROJECT LOCATION MAP NOT TO SCALE

INDEX OF SHEETS

▪ Civil Engineering
▪ Geospatial Solutions
▪ Water Resources
▪ Transportation
▪ Land Surveying

729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

ONE CALL
BEFORE DIGGING
1-800-781-7474

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION OF ITEM	QUANTITY	UNIT
1	MOBILIZATION	1	LS
2	INCIDENTAL	1	LS
3	CLEARING & GRUBBING	1	LS
4	REMOVE AC PAVEMENT	5000	SY
5	REMOVE & REPLACE CONCRETE	24	SY
6	REMOVE & SALVAGE FENCE	560	LF
7	SALVAGE, STOCKPILE, AND PLACE EXISTING BASE COURSE	4538	TON
8	EXCAVATION, UNCLASSIFIED	18706	CY
9	EXCAVATION, EXPLORATORY	40	HR
10	CRUSHED ROCK FOR SITE STABILIZATION	100	TON
11	TOPSOIL, PLACE	790	CY
12	SEEDING, FERTILIZING, & MULCHING	6200	SY
13	6" PVC SEWER	167	LF
14	6" PVC SEWER CLEANOUT	2	EA
15	CONNECT TO EXISTING MANHOLE/STORAGE TANK	2	EA
16	6" SANITARY 22.5 DEGREE BEND	1	EA
17	6" SANITARY 45 DEGREE BEND	2	EA
18	FIRE HYDRANT PROTECTION BOLLARDS	4	EA
19	15" STORM SEWER	84	LF
20	18" STORM SEWER	154	LF
21	24" STORM SEWER	475	LF
22	15" FLARED END	2	EA
23	18" FLARED END	1	EA
24	24" FLARED END	2	EA
25	18" STORM 90 DEGREE BEND	2	EA
26	24" STORM 90 DEGREE BEND	2	EA
27	24" X 12" STORM REDUCER	1	EA
28	24" X 24" X 18" STORM TEE	1	EA
29	24" X 24" X 24" STORM TEE	1	EA
30	CONNECT TO EXISTING STORM SEWER	1	EA
31	BEEHIVE FRAME AND GRATE	4	EA
32	CLASS I RIPRAP	113	TON
33	EROSION CONTROL BLANKET, TYPE 2	1394	SY
34	TURF REINFORCEMENT MAT, TYPE 2	238	SY
35	CONSTRUCTION ENTRANCE	2	EA
36	12" SEDIMENT CONTROL WATTLE	2500	LF
37	AGGREGATE BASE COURSE, 1"	2148	TON
38	WOVEN GEOTEXTILE SEPARATOR	3500	SY
39	AC PAVEMENT	3725	TON

Prepared For:
Black Hills Energy

Prepared By:

▪ Civil Engineering ▪ Geospatial Solutions ▪ Water Resources ▪ Transportation ▪ Land Surveying
729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8018
JOHN RAYMOND VAN BEEK
SOUTH DAKOTA
8/31/18

Scale:

Designed By:	Drawn By:
DAL	BDH/ERK
Design Date: JUNE 2018	Print Date: 08-31-18
Internal Job No: 18-123	
Surveyed By: JUB/KQH	Survey Date: MAY 2018

Revisions:

WEST RAPID CITY SUBSTATION
SITE DEVELOPMENT

BLACK HILLS ENERGY
RAPID CITY, SD

Sheet Title:
TITLE SHEET

Sheet:
C-100

08-31-18 P:\18-123\AutoCAD\PlanSheets\18-123 TITLE.dwg

West Rapid City Substation & 230 KV Transmission Line

N St Onge St
Deadwood Ave N
Kreas Dr
W Chicago St
Shafer St
Whitewood St
W Rapid St
W Main St
Corning Ave
445
44
Trail
Google Earth

ALTERNATE 1

PI#	STATION		NORTHING	EASTING
L1	0+00.00 4+06.79	N 30°42'40" W 406.79'	652571.04 652920.78	1198725.25 1198517.49
L2	4+06.79 5+12.05	N 21°50'26" W 105.26'	652920.78 653018.48	1198517.49 1198478.34
L3	5+12.05 8+09.40	N 33°19'11" W 297.35'	653018.48 653266.95	1198478.34 1198315.00
L4	8+09.40 10+81.50	N 36°50'15" W 272.11'	653266.95 653484.73	1198315.00 1198151.86
L5	10+81.50 13+43.83	N 7°54'28" W 262.33'	653484.73 653744.56	1198151.86 1198115.77

BASE BID

PI#	STATION		NORTHING	EASTING
L1	0+00.00 3+57.42	N 61°50'02" W 357.42'	651306.09 651474.80	1199612.50 1199297.41
L2	3+57.42 5+14.20	N 2°49'50" E 156.78'	651474.80 651631.39	1199297.41 1199305.15
L3	5+14.20 7+88.74	N 79°34'15" W 274.55'	651631.39 651681.09	1199305.15 1199035.14
L4	7+88.74 8+97.01	N 44°31'12" W 108.27'	651681.09 651758.29	1199035.14 1198959.23
L5	8+97.01 11+49.73	N 14°59'17" W 252.72'	651758.29 652002.41	1198959.23 1198893.87
L6	11+49.73 15+99.73	N 20°49'34" W 450.00'	652002.41 652423.00	1198893.87 1198733.88
L7	15+99.73 17+70.61	N 7°11'42" W 170.88'	652423.00 652592.54	1198733.88 1198712.48
L8	17+70.61 21+37.96	N 55°12'22" E 367.35'	652592.54 652802.16	1198712.48 1199014.15
L9	21+37.96 22+46.47	N 32°13'17" W 108.51'	652802.16 652893.95	1199014.15 1198956.30

CORC CP 2089
N=652465.07
E=1196504.38
ELEV=3393.74

CORC CP 2116
N=651028.79
E=1198692.19
ELEV=3340.39

EOP STA 13+43.83
PI STA 10+81.50
PI STA 8+09.40
ALTERNATE 1 ALIGNMENT
PI STA 5+12.05
PI STA 4+06.79
EOP STA 22+46.47
PI STA 21+37.96
PI STA 17+70.61
BOP STA 0+00.00
PI STA 15+99.73
BASE BID ALIGNMENT
PI STA 11+49.73
PI STA 8+97.01
PI STA 7+88.74
PI STA 5+14.20
PI STA 3+57.42
BOP STA 0+00.00

INDUSTRIAL AVE
CEMENT PLANT RD
N SAINT ONGE ST
RAPID CITY, PIERRE & EASTERN RAILROAD
DEADWOOD AVE
W CHICAGO ST (WEST BOUND)
W CHICAGO ST (EAST BOUND)
SHEFFER ST
SAINT ONGE ST
W MAIN ST

150 75 0 150

FOR BIDDING PURPOSES ONLY

THE COORDINATES SHOWN ON THIS SHEET ARE BASED ON THE SOUTH DAKOTA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE NAD 83(2011). THE ELEVATIONS SHOWN ON THIS SHEET ARE BASED ON NAVD 88.

02-19-19 P:\18-145\AutoCAD\PlanSheets\18-145ALIGN.dwg

Prepared For:
Black Hills Energy

Prepared By:
• Civil Engineering • Geospatial Solutions • Water Resources • Transportation • Land Surveying
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REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
6960
DAVID M. MUCK
SOUTH DAKOTA
02-19-19

Scale:	AS SHOWN
Designed By: DMM	Drawn By: BDH/ERK
Design Date: 2018	Print Date: 02-19-19
Internal Job No: J18-145	
Surveyed By: JUB	Survey Date: NOV 2018
Revisions:	

SANITARY SEWER EXTENSION
SHEFFER STREET TO CEMENT PLANT ROAD
BLACK HILLS ENERGY
RAPID CITY, SD

Sheet Title:
HORIZONTAL ALIGNMENT & SURVEY CONTROL

Sheet:
1.4

Appendix B – Construction General Permit

Permit Number: SDR100000

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

General Permit Authorizing Stormwater Discharges Associated with Construction Activities Under the South Dakota Surface Water Discharge System

In compliance with the provisions of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota (ARSD), Article 74:52, owners and operators of stormwater discharges from **construction activities**, located in the state of South Dakota are authorized to discharge in accordance with the conditions and requirements set forth herein.

This General Permit shall become effective on April 1, 2018.

General permit coverage for the [PERMITTEE] shall become effective [EFFECTIVE DATE].

This General Permit and the authorization to discharge shall expire at midnight, **March 31, 2023.**

Signed this **23rd** day of **March, 2018,**

Authorized Permitting Official

Steven M. Pirner
Secretary
Department of Environment and Natural Resources

Note: *This page will be replaced with a copy containing the assigned permit number once coverage has been authorized.*

TABLE OF CONTENTS

1.0 DEFINITIONS

ARSD – Administrative Rules of South Dakota.

Best Management Practices (**BMPs**) – the schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants from the construction site. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Borrow Areas – the areas where materials are dug for use as fill, either onsite or offsite.

Commencement of Construction Activities – the initial disturbance of soils (or 'breaking ground') associated with clearing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material).

Construction Site – the land or water area where construction activities will occur and where control measures will be installed and maintained. The construction site includes construction support activities, which may be located at a different part of the property from where the primary construction activity will take place, or on a different piece of property altogether. The construction site is often a smaller subset of the lot or parcel within which the project is taking place.

Construction Site Washout – as used in this general permit, refers to any wash waters derived from the cleaning of construction trucks and/or equipment including, but not limited to, concrete, mortar, grout, stucco, form release oils, paints, curing compounds, and other construction materials.

Construction Support Activity – a construction-related activity that specifically supports the construction activity and can include activities associated with concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, and borrow areas.

Construction Waste – discarded material including, but not limited to, packaging materials, scrap construction materials, masonry products, timber, steel, pipe, electrical cuttings, plastics, and Styrofoam.

Control Measures – as used in this general permit, refer to any best management practice or other method, including narrative effluent limits, used to minimize erosion and sedimentation, and thereby prevent or reduce the discharge of pollutants to surface waters of the state.

Corrective Action – as used in this general permit, refers to any action taken to (1) repair, modify, or replace any control measure used at the site; (2) clean up and dispose of spills, releases, or other deposits found on the site; or (3) remedy a permit violation.

Dewatering – the act of draining or pumping rain water, ground water, or surface waters from building foundations, vaults, trenches, and other areas of the construction site.

Discharge – the addition of any pollutant or combination of pollutants to surface waters of the state from any point source.

Earth-Disturbing Activities – as used in this general permit, means actions taken to alter the existing vegetation and/or underlying soil of a site.

Effective Operating Condition – as used in this general permit, means a control measure is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

Final Stabilization – on areas not covered by permanent structures, means either (1) vegetation has been established that provides a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the natural background vegetative cover, (2) permanent non-vegetative stabilization methods have been implemented to provide effective cover for exposed portions of the site, or (3) disturbed portions of a construction site on land used for agricultural purposes must be returned to pre-construction agricultural use.

Historic Property – any building, structure, object, district, area, or site that is significant in the history, architecture, archaeology, paleontology, or culture of the state, its communities or the nation as stated in SDCL 1-19A-2.

Infeasible – as used in this general permit, means not technologically possible or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale – a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. "One plan" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot.

Minimize – to reduce and/or eliminate to the extent achievable using control measures that are technologically available and economically achievable and practicable in light of best industry practices.

Municipal Separate Storm Sewer System – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the state or a municipality and is designed or used for collecting or conveying stormwater. This definition does not include combined sewers or conveyances that are part of a publicly-owned treatment works, as defined by ARSD 74:52:01:01(36).

Municipality – a city, town, county, district, sanitary district, or other public body created by or under state law with jurisdiction over the disposal of sewage, industrial wastes, or other wastes.

Natural Buffer – as used in this general permit, means an area of undisturbed natural cover surrounding surface waters within which construction activities are restricted. Natural cover

includes the vegetation, exposed rock, or barren ground that exists prior to commencement of construction activities.

Nonpoint Source – a source of pollution that is not defined as a point source.

Non-Stormwater Discharges – discharges that do not originate from runoff events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, construction washout water, paint wash water, irrigation water, or pipe testing water.

Notice of Intent or **NOI** – the form (electronic or paper) provided by the Secretary required for authorization of coverage under this general permit (Appendix A).

Notice of Termination or **NOT** – the form (electronic or paper) provided by the Secretary required for terminating coverage under this general permit (Appendix B).

Operator – as used in this general permit and in the context of stormwater discharges associated with construction activity means any party associated with a construction project that meets either of the following two criteria:

1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
2. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the general permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the general permit).

The operator, along with the owner, is responsible for ensuring compliance with all conditions of this general permit and with development and implementation of the stormwater pollution prevention plan.

Pesticide – any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pests, or any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Note: drugs used to control diseases of humans or animals (such as livestock and pets) are not considered pesticides; such drugs are regulated by the Food and Drug Administration. Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus are not pesticides. Biological control agents, except for certain microorganisms, are exempted from regulation as pesticides under FIFRA. (Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests, parasitic wasps, fish, etc.)

Point Source – any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharge. Construction sites disturbing one (1) or more acres are point sources. Therefore, any

water flowing off the construction site constitutes a discharge and must be covered by a Surface Water Discharge permit.

Pollutant-Generating Activities – at construction sites, as used in this general permit, means those activities that lead to or could lead to the generation of pollutants, either as a result of earth-disturbance or a related construction support activity. Some of the types of pollutants that are typically found at construction sites are:

1. Sediment;
2. Nutrients;
3. Heavy metals;
4. Pesticides and herbicides;
5. Oil and grease;
6. Bacteria and viruses;
7. Trash, debris, and solids;
8. Treatment polymers; and
9. Any other toxic chemicals.

Prohibited Discharges – as used in this general permit, means discharges that are not allowed under this general permit, see Section 2.3.

Qualified Local Program – a municipal program for stormwater discharges associated with construction sites that has been formally approved by SDDENR to act in lieu of the state program.

Regulated Substance – the compounds designated by the department under South Dakota Codified Law §§ 23A-27-25, 34A-1-39, 34A-6-1.3(17), 34A-11-9, 34A-12-1 to 34A-12-15, inclusive, 45-6B-70, 45-6C-45, 45-6D-60, and 45-9-68, including pesticides and fertilizers regulated by the Department of Agriculture; the hazardous substances designated by the federal Environmental Protection Agency pursuant to section 311 of the Federal Water Pollution Control Act and Clean Water Act (33 United States Code sections 1251 to 1387, inclusive), as amended to January 1, 2011; the toxic pollutants designated by Congress or the Federal Environmental Protection Agency pursuant to section 307 of the Toxic Substances Control Act (15 United States Code sections 2601 to 2671, inclusive), as amended to January 1, 2011; the hazardous substances designated by the Federal Environmental Protection Agency pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (42 United States code sections 9601 to 9675, inclusive), as amended to January 1, 2011; and petroleum, petroleum substances, oil, gasoline, kerosene, fuel oil, oil sludge, oil refuse, oil mixed with other wastes, crude oils, substances, or additives to be utilized in the refining or blending of crude petroleum or petroleum stock, and any other oil or petroleum substance. This term does not include sewage and sewage sludge.

Runoff Event – a precipitation event or snowmelt that results in a measurable amount of surface runoff.

SDDENR – the South Dakota Department of Environment and Natural Resources.

Secretary – the Secretary of the South Dakota Department of Environment and Natural Resources, or an authorized representative.

Section 303(d) List or 303(d) List – a list of South Dakota's water quality-limited surface waters requiring the development of Total Maximum Daily Loads (TMDLs) to comply with Section 303(d) Report is available on the SDDENR website. A link to a map of 303(d) listed waters, waters with approved TMDLs is available on the SDDENR stormwater webpage.

Stormwater – means, for the purpose of this general permit, stormwater runoff, snowmelt runoff, or surface runoff.

Stormwater Associated with Construction Activity – means a discharge of pollutants in stormwater to surface waters of the state from areas where construction site or construction support activities occur.

Stormwater Associated with Industrial Activity – means stormwater runoff, snow melt runoff, or surface runoff and drainage from industrial activities as defined in 40 C.F.R. Section 122.26(b)(14) (July 1, 2016).

Stormwater Pollution Prevention Plan or **SWPPP –** means a site-specific, written document that, among other things: 1) identifies potential sources of stormwater pollution at the construction site; 2) describes control measures to reduce or eliminate pollutants in stormwater discharges from the construction site; and 3) identifies procedures the owner or operator will implement to comply with the terms and conditions of this general permit. See Section 5.0 for details on the requirements for a SWPPP.

Surface Waters of the State – lakes, ponds, streams, rivers, wetlands, and any other body or accumulation of water on the land surface that is considered to be waters of the state, but not waste treatment systems, including treatment ponds, lagoons, leachate collection ponds, or stormwater retention ponds designed to meet the requirements of the federal Clean Water Act.

Surface Water Quality Standards – water quality standards adopted pursuant to South Dakota Codified Law §§ 34A-2-10 and 34A-2-11 or actual existing beneficial uses, whichever is higher, and effluent standards adopted pursuant to SDCL § 34A-2-13 or pursuant to the best professional judgment of the Secretary, whichever is applicable. If waters have more than one designated beneficial use and criteria are established for a parameter that is common to two or more uses, such as pH, the more restrictive criterion for the common parameter applies.

Temporary Stabilization – means a condition where exposed soils or disturbed areas are provided a temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb the area.

Total Maximum Daily Load or **TMDL** – means the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources, and natural background. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measures.

Upset – an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

U.S. EPA – the United States Environmental Protection Agency.

Waters of the State – all waters within the jurisdiction of this state, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.

Work Day – means, for the purpose of this general permit, a calendar day on which construction activities will take place.

2.0 COVERAGE UNDER THIS GENERAL PERMIT

2.1 Eligibility Requirements

This general permit shall apply to stormwater discharges from construction sites located within the state of South Dakota. Only those projects that meet all of the following eligibility requirements may be covered under this general permit:

1. You are the owner or operator of the construction project for which discharge will be covered under this general permit. The owner must obtain coverage under this general permit and all operators at the site must comply with the permit conditions.

2. Your project:

    a. Will disturb one (1) or more acres of land; or

    b. Will disturb less than one (1) acre of land but is part of a larger common plan of development or sale that will ultimately disturb one (1) or more acres of land; or

    c. Is less than one (1) acre, but has construction support activities required to be covered and the total area exceeds one (1) or more acres of land; or

    d. Has been designated by the Secretary or the United States Environmental Protection Agency (U.S. EPA) as needing a permit.

3. You have complied with all applicable requirements imposed by the applicable county, city, or other local government entities.

4. If your project will encroach, damage, or destroy a historic property included in the national register of historic places or the state register of historic places located in South Dakota, you must have approval from the South Dakota State Historic Preservation Office prior to submitting the Notice of Intent (NOI). You must attach an approval letter from the State Historic Preservation Office with the NOI.

2.2 Discharges Authorized

The following discharges shall be authorized under this general permit:

1. Stormwater discharges from projects detailed in Section 2.1.2.

2. Stormwater discharges from construction support activities provided:

    a. The support activity is directly related to the construction site required to have permit coverage;

    b. The support activity does not continue to operate beyond the completion of the construction activity at the project it supports. If the support activity continues past the initial permitted project, you must obtain a separate permit for those activities;

c. The support activity is included in the SWPPP as required by Section 5.0; and

d. Control measures are implemented for discharges from the support activity area.

3. Stormwater construction discharges combined with discharges from an industrial source, as long as:

   a. The industrial source is located on the same site as your construction activity; and

   b. You may not combine stormwater discharges from industrial and construction activities unless each source is covered by its own permit, or are not required to obtain permit coverage.

4. Discharges to waters for which there is a total maximum daily load (TMDL) allocation for sediment, suspended solids, and turbidity are covered only if you develop a SWPPP that is consistent with the assumptions, allocations, and requirements in the approved TMDL. If a specific numeric wasteload allocation has been established that would apply to discharges from construction activity, the permittee must incorporate that allocation into the SWPPP and implement necessary steps to meet that allocation.

2.3 Discharges Not Authorized

The following discharges are not authorized by this general permit:

1. **Post-Construction Discharges**. This general permit is not designed to address post-construction discharges after you have completed construction activities and achieved final stabilization at the site. Stormwater discharges associated with industrial activities must obtain coverage under a separate stormwater permit.

2. **Discharges Mixed with Non-Stormwater**. This general permit does not authorize discharges of non-stormwater.

3. **Discharges of Fill Material**. This general permit does not authorize you to discharge fill material into surface waters of the state. You are required to obtain a Section 404 federal Clean Water Act permit from the U.S. Army Corps of Engineers.

4. **Discharges Threatening Water Quality**. This general permit does not authorize your discharge from a construction site if the discharge will cause, or have the reasonable potential to cause or contribute to, violations of Surface Water Quality Standards. In such cases, the Secretary may deny you coverage under the general permit or require you to obtain an individual Surface Water Discharge permit.

5. **Discharges Threatening Endangered Species**. This general permit does not authorize your discharge from a construction site if the discharge will not ensure the protection of species that are federally-listed as endangered under the federal Endangered Species Act.

6. **Discharges of Regulated Substances**. This general permit does not authorize you to discharge regulated substances, hazardous substances, or oil resulting from onsite spills. You are subject to the federal reporting requirements of 40 CFR Part 110, Part 117, and Part 302 relating to spills or other releases of oils or hazardous substances. You must report spills in excess of the reportable quantities as required in Section 7.1.

2.4 Requesting Permit Coverage

To request coverage under this general permit, you must submit a complete and accurate Notice of Intent (NOI) (Appendix A) to SDDENR at least **15 calendar days** prior to the commencement of construction activities at the site. ***The NOI must be signed by the owner of the property where construction activities will occur.***

1. You must identify the person(s) responsible for day-to-day operations at the construction site, if different from the owner. A Contractor Authorization Form, included in Appendix C, must be submitted to SDDENR as soon as a contractor is identified if the contractor was not identified on the NOI.

2. You are not prohibited from submitting a late NOI. When you submit a late NOI, your authorization to discharge is only for discharges that occur after SDDENR grants coverage. SDDENR reserves the right to take appropriate enforcement action for any unpermitted discharges that may have occurred between the commencement of construction activities and the time authorization for your discharge is granted.

3. SDDENR will not process incomplete NOIs.

4. You must submit a completed and signed NOI to SDDENR by emailing the NOI to stormwater@state.sd.us, or mailing the NOI to SDDENR at the address in Section 7.3.

5. SDDENR will review each complete NOI and make a decision to grant or deny coverage or request additional information. You will receive an authorization letter from SDDENR if permit coverage is granted for your project.

6. Upon the effective date of this general permit, the Secretary will terminate the existing general permit.

    a. If you are authorized under the existing general permit and you have submitted the Notice of Intent for Reauthorization Form (found in Appendix E) prior to permit expiration date, your coverage will automatically continue under the new general permit. Once the new general permit is issued, you will receive an authorization letter from SDDENR notifying you of the continued coverage.

b. Projects covered under the existing general permit must be in compliance with the conditions in the new general permit by **October 1, 2018.** You must still maintain compliance with all requirements in the existing general permit during the grace period. SDDENR may grant additional time on a case by case basis if necessary. To obtain such an extension, you must request it from SDDENR in writing.

2.5 Transferring Permit Coverage

If a new owner purchases a construction site or a portion of the site covered under this general permit, you are responsible for notifying the new owner(s) of the general permit requirements and communicating the importance of achieving final stabilization on the site. You must transfer permit coverage to the new owner. Appendix D includes a form for transferring permit coverage for all or a portion of a project or development to a new owner.

2.6 Terminating Permit Coverage

Until the Secretary terminates your coverage under this general permit, you are required to comply with all conditions and effluent limits in this general permit. To terminate coverage, you are required to submit a complete and accurate Notice of Termination (NOT), found in Appendix B, and signed in accordance with Section 7.4. You must submit the NOT within **30 calendar days** of meeting any one of the following conditions.

1. You have completed all earth-disturbing activities at your site and, if applicable, all construction support activities covered by this general permit, and you have met all the following requirements:

    a. You have met the stabilization requirements listed in Section 3.19 and have reached final stabilization for any areas disturbed during construction and over which you had control during the construction activities;

    b. You have removed and properly disposed of all temporary construction materials, waste and waste handling devices, and have removed all equipment and vehicles that were used during construction, unless intended for long-term use on the site following termination of your general permit coverage;

    c. You have removed and properly disposed of all temporary control measures, including silt fence, and of which you installed and maintained during construction, except those that are intended for long-term use following termination of your general permit coverage; and

    d. You have removed all potential pollutants and pollutant-generating activities associated with construction.

2. You have obtained coverage under an individual or alternative general permit that addresses the discharges from the construction site.

2.7 Reporting Requirements

On October 22, 2015, the U.S. EPA published in the federal register a rule that has made electronic reporting of permit and compliance monitoring information mandatory for all National Pollution Discharge Elimination System (NPDES) permits. These are referred to as Surface Water Discharge (SWD) permits in South Dakota. The final rule became effective December 21, 2015.

Phase II of the final rule requires that authorized state NPDES programs begin electronically collecting, managing, and sharing construction stormwater permitting information by December 21, 2020. This includes general permit reports such as Notices of Intent (NOI), Notices of Termination (NOT), and all other remaining NPDES program reports. SDDENR is currently developing programs to meet this requirement and will notify facilities as they become available.

Electronic reporting will be required once SDDENR has fully developed an electronic reporting system. In the interim, all general permit reports must be submitted by email (stormwater@state.sd.us), or to the address listed in Section 7.3.

A hybrid approach will be available for owners/operators that do not expect to submit NOIs for multiple projects. This approach will provide users the ability to electronically submit the data for construction stormwater general permit reports without using the electronic signature verification process. Following electronic submittal of the reports, a hard copy of the Certification of Applicant with an original signature must be mailed to SDDENR.

2.8 Requiring an Individual Permit or an Alternative General Permit

SDDENR may either deny coverage or require you to apply for an individual Surface Water Discharge permit or an alternative general permit. In considering whether we deny coverage or require an alternative permit, the following will be taken into consideration:

1. You cannot comply with the conditions of this general permit;

2. There has been a change in the availability of demonstrated technologies or practices for the control or abatement of pollutants applicable to construction sites;

3. Effluent limitation guidelines are promulgated or revised for point sources covered by this general permit;

4. A water quality management plan is approved containing requirements applicable to your construction site;

5. Your discharge is a significant contributor of pollution to surface waters of the state or it presents a health hazard; or

6. You are discharging to an impaired water body and the best management practices are not sufficient to implement the assigned wasteload allocations in a Total Maximum Daily Load (TMDL) approved by the U.S. EPA.

2.9 Continuation of Coverage for Expired General Permit

If you wish to continue to be covered by this general permit after its expiration date, you must submit a Notice of Intent for Reauthorization (Appendix E). An expired general permit continues in full force and effect until a new general permit is issued. You will continue to have coverage under the current general permit until a new general permit is issued.

2.10 Requirement to Post Notice of Your General Permit Coverage

You must post a sign or other notice at a safe, publicly accessible location near the project site.

1. At a minimum, your notice must include the general permit tracking number (found on the cover page of your general permit and in the authorization letter) and a contact name and phone number for obtaining additional project information.

2. The notice must be located so that it is visible from the public road that is nearest to the active part of the construction site and must be readily viewed from a public right-of-way.

2.11 Property Rights

1. The Secretary's issuance of this general permit, adoption of design criteria, and approval of plans and specifications, does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties.

2. The State does not warrant that your compliance with this general permit, design criteria, approved plans and specifications, and operation under this general permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. You are solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, that may result from actions taken under this general permit.

2.12 Reopener Provisions

SDDENR may reopen and modify this general permit to include appropriate conditions (following proper administrative procedures) if state or federal statutes or regulations change.

2.13 Severability

If any portion of the general permit is found to be void or is challenged, the remaining permit requirements shall remain valid and enforceable.

2.14 Permit Actions

This general permit may be modified, revoked and reissued, or terminated by the Secretary for cause. Any request for such changes does not stay any permit condition.

3.0 EFFLUENT LIMITS

You are required to comply with the following effluent limits for discharges from your construction site and/or from construction support activities representing the degree of effluent reduction attainable through the best practicable control technology currently available to minimize the pollutants present in the discharges. In order to achieve compliance with the conditions of this permit, you are required to address the following effluent limits by developing a Stormwater Pollution Prevention Plan (SWPPP) as required in Section 5.0. If you determine any of the following limits are infeasible, you must document your rationale in your SWPPP.

Stormwater discharges regulated under this general permit that may discharge to a surface water with an approved TMDL for sediment, total suspended solids, or turbidity must be consistent with the TMDL and any associated wasteload allocation (WLA) for construction or stormwater related discharges. In most cases compliance with this permit will be considered adequate, unless otherwise notified by the Secretary. The Secretary may require an individual permit, as referenced in Section 2.8, should compliance with this general permit be deemed insufficient to meet relevant WLAs.

3.1 Proper Operation and Maintenance

You must properly operate and maintain all sediment and erosion controls, best management practices, treatment systems, and any other control(s) used to achieve compliance with the conditions of this general permit in accordance with manufacturer's specifications, good engineering practices, and design specifications of the SWPPP.

3.2 Erosion and Sediment Control Requirements

1. You must design, install, and maintain effective erosion and sediment controls to minimize soil erosion and the discharge of pollutants during earth-disturbing activities. The stormwater controls must be designed to function properly and withstand a 2-year, 24-hour precipitation event. See Appendix F for instructions to determine your construction site's precipitation for a 2-year, 24-hour event.

2. You must account for the following factors when designing your erosion and sediment controls:

    a. The nature of resulting stormwater runoff and run-on at the construction site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features. Controls must be able to control stormwater volume, velocity, and flow rates from a 2-year, 24-hour precipitation event across the construction site.

    b. Anticipated soil characteristics at the construction site, including soil type and range of particle sizes.

3.3 Installation Requirements

1. You must complete installation of down gradient erosion and sediment controls before any land disturbing activity takes place in order to control discharges.

2. You must install all other control measures planned for each phase of the project as described in your SWPPP as soon as conditions on the site allow.

3. You must install all control measures using good engineering practices and follow the manufacturer's specifications. Any departures from the manufacturer's specifications must reflect good engineering practices and must be explained in your SWPPP.

3.4 Perimeter Controls

You must have effective down gradient sediment controls, and controls for any side slope boundaries deemed appropriate for individual site conditions, to minimize pollutant discharges from the construction site.

3.5 Sediment Basins

If you use a sediment basin to control the discharge of sediment from the site, you must meet the requirements listed below.

1. Sediment basins must be designed, constructed, and operated in accordance with the requirements found in your local city or county drainage board.

2. Outlet structures must withdraw water from the surface of the sediment basin or impoundment to allow for proper sediment removal in the pond.

3. Erosion controls and velocity dissipation devices must be used to prevent erosion within the sediment basin as well as at inlets and outlets from the basin.

4. Sediment basins must be situated outside of surface waters and any natural buffers established under Section 3.10. The basins must be designed to avoid collecting water from wetlands and other water bodies.

3.6 Minimize Sediment Track-Out

You must minimize the track-out of sediment from the construction site where vehicles leave the site. To comply with this requirement, you must:

1. Restrict vehicle use to properly designated access points;

2. Use appropriate stabilization techniques at all construction site access point(s) so sediment removal occurs prior to vehicle exit.

3. Where sediment has been tracked out from your site onto offsite streets, other paved areas, and/or sidewalks, remove the deposited sediment by the end of the same work

day in which the track-out occurs. You must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into storm drain inlet, surface waters of the state, or any stormwater conveyance unless the conveyance is connected to a sediment basin, sediment trap, or similar effective control. You must obtain approval from the owner of the sediment traps before hosing or sweeping sediment into those controls.

3.7 Remove Offsite Accumulation

If sediment escapes the construction site, you must initiate removal of the offsite accumulations to minimize impacts by the end of the same work day. You must revise your SWPPP and implement controls to minimize further offsite accumulation.

3.8 Minimize Dust

You must minimize the generation of dust at the construction site to avoid pollutants from being deposited into surface waters of the state. This can be accomplished through the appropriate application of water or other dust suppression techniques.

3.9 Minimize Run-on

You must minimize run-on to your construction site.

3.10 Provide Natural Buffers

You must comply with the following requirements if disturbed portions of the construction site are within fifty (50) feet of 1) a lake assigned immersion recreation or limited contact recreational beneficial uses in ARSD 74:51:02:02 and listed in ARSD 74:51:02:04; or 2) a river or stream assigned any of the warmwater or coldwater fish life propagation beneficial uses in ARSD 74:51:03:02 and listed in ARSD 74:51:03:04 to 74:51:03:27, inclusive.

1. Provide and maintain a 50-foot undisturbed natural buffer.

    a. When the natural buffer between the disturbed area(s) and surface waters of the state is less than fifty (50) feet, you must provide a combination of undisturbed buffer and supplemental erosion and sediment controls that achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

    b. When no undisturbed buffer can be provided between the disturbed area(s) and surface waters of the state, you must provide erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

    c. Document in your SWPPP how any undisturbed natural buffer and the supplemented erosion and sediment controls achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

2. Direct surface runoff to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges.

3. Delineate and clearly mark all natural buffer areas with flags, tape, or other similar marking device. No construction or other activity should occur in the delineated buffer area.

4. **Exception.** You are not required to maintain a 50-foot undisturbed natural buffer or install additional controls if there is no discharge of stormwater to surface waters of the state through the area between your site and the surface waters. This includes situations where you have implemented control measures, such as a berm or other barrier, to prevent such discharges.

3.11 Preserve Topsoil

You must preserve native topsoil on your site, unless infeasible. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

3.12 Minimize Steep Slope Disturbance

You must minimize the disturbance of slopes that are greater than a three horizontal to one vertical (3:1) slope, unless infeasible.

3.13 Protect Storm Drain Inlets

1. You must protect all storm drain inlets that receive stormwater flows from the construction site by using appropriate best management practices during construction to minimize the discharge of pollutants from the site.

2. You must maintain the inlet protection until you have permanently stabilized all sources that have the potential to discharge pollutants to the inlet. If local officials require you to remove the inlet controls during the winter, you must install alternative controls to prevent sediment from entering the storm drain inlet.

3.14 Erosive Velocity Control

1. You must use erosion controls and velocity dissipation devices where necessary along the length of stormwater conveyance channels and outlets to minimize erosion of the channel, adjacent stream bank, slope, and downstream waters.

2. You must provide energy dissipation BMPs prior to connecting pipe or culvert outlets to surface water.

3. You must control the stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.

3.15 Minimize Soil Compaction

In areas of your site where final vegetative stabilization or infiltration will occur, you must either:

1. Restrict vehicle and equipment use in these locations to avoid soil compaction; or

2. Condition areas of compacted soil prior to seeding or planting to support vegetation growth.

3. **Exception.** You are not required to minimize soil compaction where the intended function of a specific area of the site dictates that soil be compacted.

3.16 Minimize Exposed Soil

You must schedule and sequence soil disturbing and stabilizing activities to minimize the amount and duration of soil exposure to erosion and sedimentation by wind, rain, surface runoff, and vehicle tracking. Consider factors such as high precipitation seasons when scheduling soil disturbing activities.

3.17 Protect Stockpiles

For any stockpiles or land clearing debris you must:

1. Locate the stockpiles and debris outside of any natural buffers established as required in Section 3.10 and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;

2. Protect the stockpiles debris from contact with stormwater run-on by using temporary sediment controls, berms, or other BMPs;

3. Properly maintain and position stockpiles to minimize dust generation and wind transport of sediment; and

4. Minimize stormwater runoff from the piles by properly positioning stockpiles and debris or installing effective sediment controls.

5. You are prohibited from placing stockpiles in surface waters of the state.

3.18 Stabilization Requirements

You are required to stabilize exposed portions of your site in accordance with the requirements of this section. You are responsible for implementing winter stabilization methods during frozen ground conditions if the site was not stabilized prior to the ground freezing.

1. **Deadline to Initiate Stabilization.** You must begin soil stabilization measures by the following work day whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site.

a. Earth-disturbing activities have permanently ceased when you complete clearing, grading, and excavation within any area of your site that will not include permanent structures.

b. Earth-disturbing activities have temporarily ceased when you cease clearing, grading, and excavation within any area for a period of at least **14 calendar days**, but will resume such activities in the future.

2. **Deadline to Complete Temporary Stabilization**. As soon as practicable, but no later than **14 calendar days** after initiating soil stabilization measures, you are required to have completed:

   a. All activities necessary to initially seed or plant the area to be stabilized for vegetative stabilization practices.

   b. The installation or application of all non-vegetative measures.

   c. As soon as practicable after seeding or planting, select, design, and install non-vegetative erosion controls (e.g., mulch or rolled erosion control products) to prevent erosion on the seeded or planted areas while vegetation establishes.

3. **Criteria for Final Stabilization**. To be considered as having reached final stabilization, you must meet the criteria below based on the type of cover you are using.

   a. **Vegetative Stabilization**. If you are seeding or planting vegetation to stabilize the site, you must meet the following requirements:

      i. Provide 70 percent or more of the density of coverage that was provided by vegetation prior to commencement of construction activities.

      ii. Provide perennial vegetative cover.

      iii. Minimize the presence of invasive species.

   b. **Non-Vegetative Stabilization**. If you are using non-vegetative controls for final stabilization at your site, the controls must provide effective cover to properly stabilize the exposed portions of your site.

   c. **Return to Pre-construction Agricultural Land Use.** For construction projects on land used for agricultural purposes, final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were not previously used for agricultural purposes, such as buffer strips immediately next to surface waters and areas not being returned to pre-agricultural use must meet the final stabilization criteria listed in (a) and (b) above.

4. **Site Specific Stabilization Requirements**. If you are constructing in the specific areas listed below, you must complete the following stabilization requirements as soon as practicable, but no later than the deadlines listed below after initiating soil stabilization measures:

    a. Stream diversions or drainage ditches that divert water around or drain water from your construction site must be stabilized with appropriate controls prior to connection with any surface water.

    b. For stockpiles that will be unused for 14 or more days, provide cover or appropriate temporary stabilization consistent with Section 3.18.

3.19 Maintenance Requirements

1. **Effective operating condition.** You must ensure that all erosion and sediment controls remain in effective operating condition until final stabilization is complete. At a minimum, you must:

    a. Remove sediment from sedimentation basins when the design capacity has been reduced by 50% or more.

    b. Remove sediment from sediment controls before the deposit reaches 50% of the above-ground height of the control.

    c. Repair vegetative buffers if they become silt-covered, contain rills, or are otherwise rendered ineffective.

    d. You must repair and stabilize eroded areas by the end of the same work day they are identified. If repair is infeasible, you must implement alternative control measures.

    e. Clean inlet protection devices when sediment accumulates, or when the filter becomes clogged, or performance is compromised.

    f. Ensure that all controls remain in effective operating condition and are protected from activities that would reduce their effectiveness.

    g. All nonfunctional BMPs must be repaired, replaced, maintained or supplemented with functional BMPs. If a nonfunctioning BMP is supplemented, the nonfunctional BMP shall be removed.

2. **Deadline for maintenance.** If you find a problem or if your inspections identify that control measures are not operating effectively, you must make the necessary repairs or modifications as follows:

    a. If you discover a problem that does not require repair or replacement, you must initiate work to fix the problem on the same day. If the problem is identified at a time in the work day when it is too late to complete the corrective actions, you must initiate work to fix the problem on the following work day or before the next anticipated runoff event, whichever comes first.

    b. If you need to install new erosion or sediment controls or need to complete repairs, you must complete the work before the next anticipated runoff event or by no later than seven (7) calendar days from the time the problem is discovered, whichever comes first.

    c. You must modify your SWPPP within seven (7) calendar days of completing the work. The SWPPP must address any changes to the controls and must detail the necessary steps to prevent similar damage in the future.

3.20 Pollution Prevention Procedures

You must design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants from the activities listed below. Spills must be reported as required in Section 7.1 of this general permit.

1. **Prohibited Discharges.** You are prohibited from discharging the following from your construction site:

    a. Wastewater from washout and cleanout of concrete, stucco, paint, form release oils, curing compounds, and other construction materials.

    b. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.

    c. Detergents, soaps, or solvents used in vehicle and equipment washing.

    d. Toxic or hazardous substances from a spill or other release.

    e. Waste, garbage, floatable debris, construction debris, and sanitary waste.

2. **Fueling and Maintenance of Equipment or Vehicles**. If you fuel or maintain equipment or vehicles at your site, you must minimize the discharge of spilled or leaked materials from the area where these activities take place.

3. **Washing of Equipment and Vehicles**. You must provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of washing. The washing must be limited to a defined area of the site and must be properly disposed.

4. **Management of Construction Products, Chemicals, Materials, and Wastes**. You must properly store, handle, and dispose of any construction products and materials, chemicals, landscape materials, and wastes in order to minimize the exposure to stormwater. Products or wastes that are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement. Requirements are as follows:

    a. You must cover or otherwise protect any materials that have the potential to leach pollutants in order to minimize contact with stormwater and prevent the discharge of pollutants.

    b. Clean up spills by the end of the same work day in which the spill occurred, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or continuation of an ongoing discharge.

    c. For registered pesticides and fertilizers, you must comply with all application and disposal requirements included on the label. Pesticides and fertilizers must be stored under cover or other effective means designed to minimize contact with stormwater. You must document any departures from the manufacturer's specifications for applying fertilizers and pesticides.

    d. Store all diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals and products in water-tight container.

    e. Hazardous or toxic wastes that may be present at construction sites include, but are not limited to, paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids, and alkaline materials. For these materials and wastes, you must:

        i. Separate hazardous or toxic wastes and materials from construction and domestic waste.

        ii. Store hazardous or toxic wastes and materials in sealed containers and provide secondary containment as applicable. These containers must be constructed of suitable materials to prevent leakage and corrosion. These containers must be labeled in accordance with the applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, or local requirements.

        iii. Dispose of hazardous or toxic wastes in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, and local requirements.

f. You must provide effective containment for all liquid and solid wastes generated by washout operations including, but not limited to, concrete, stucco, paint, form release oils, curing compounds, and other construction materials related to the construction activity. For these materials and wastes, you must comply with the following requirements:

   i. Designate areas to be used for washout and cleanout activities. The containment must be designed so that it does not result in runoff from washout operations or during runoff events;

   ii. Install signs adjacent to each washout facility directing site personnel to use the proper facilities for concrete disposal and other washout wastes;

   iii. Direct all wash water into a leak-proof container or leak-proof pit;

   iv. Do not dump liquid wastes in the storm sewers; and,

   v. Clean up and properly dispose of any accumulated wastes in designated waste containers.

g. You must provide proper waste disposal receptacles of sufficient size and number to handle construction wastes including, but not limited to, packaging materials, scrap construction materials, masonry products, timber, pipe, and electrical cuttings, plastics, Styrofoam®, concrete, and other trash or building materials.

   i. For sanitary waste, you must position portable toilets so they are secure and will not be tipped or knocked over. You must properly remove and dispose of wastes from the portable toilets.

3.21 Construction Dewatering

You are prohibited from discharging from dewatering activities, including discharges from dewatering of trenches and excavation, unless the discharges are managed by the following controls:

1. You shall not discharge toxic pollutants in toxic amounts.

2. Your discharge shall not impart a visible film or sheen to the surface of the receiving water or adjoining shoreline.

3. Your discharge shall not contain visible pollutants. You must visually monitor the discharge for suspended solids. If you observe suspended solids in the discharge, you must implement the following requirements:

   a. You must install additional best management practices and update your stormwater pollution prevention plan to reduce the visible solids.

b. You must sample the dewatering discharge for total suspended solids on a daily basis until there is no longer a discharge of visible solids. The samples must be analyzed in accordance with Title 40 of the Code of Federal Regulations, Part 136. If the total suspended solids value exceeds 53 mg/L in any sample or measurement, you must cease the dewatering discharge to surface waters of the state until you can demonstrate the additional best management practices are sufficient to eliminate the visible pollutants. You must also document this in your stormwater pollution prevention plan (SWPPP).

4. You must use best management practices to minimize or prevent stream channel scouring or erosion caused by dewatering discharges.

5. You cannot add chemicals to the discharge without prior approval from SDDENR.

6. You must obtain a Temporary Water Right. Contact SDDENR Water Rights Program at (605) 773-3352 for more information and to obtain a temporary water right.

4.0 INSPECTION REQUIREMENTS

You are required to conduct site inspections to determine the effectiveness of your control measures and your compliance with the conditions of the general permit.

4.1 Person(s) Responsible for Inspecting the Site

The person(s) inspecting your site may be a member of your staff or a third party you hire to conduct the inspections. You are responsible for ensuring the person who conducts the inspection is knowledgeable in the principles and practice of erosion and sediment controls and pollution, possesses the skills to assess conditions at the site that could impact stormwater quality, and is able to assess the effectiveness of any control measures selected and installed to meet the requirements of the general permit.

4.2 Frequency of Inspections

At a minimum, you must conduct a site inspection at the following frequencies:

1. Once every 7 calendar days; or

2. Once every 14 calendar days **and** within 24 hours of precipitation that exceeds 0.25 inches or snowmelt that generates runoff. You must keep a properly maintained rain gauge on your site.

4.3 Reduction of Inspection Frequency

You may reduce your inspection frequency from the requirements above under the following circumstances. You must document the beginning and ending dates of these periods in your inspection records.

1. **Partial final stabilization.** You may reduce the frequency of inspections to once per month on any portion of your site where you have reached final stabilization. If construction activity resumes in this portion at a later date, you must increase the frequency as required in Section 4.2 above.

2. **Frozen conditions.** If you are suspending earth-disturbing activities due to frozen conditions and all disturbed areas of the site have been temporarily or permanently stabilized as required in Section 3.19, you shall conduct inspections at least once per month. You must resume weekly inspections by no later than March 1st of each year until your site is permanently stabilized and you have submitted a Notice of Termination (NOT) in accordance with Section 2.6.

4.4 Areas that Need to Be Inspected

During your site inspections you must, at a minimum, inspect the following areas:

1. All areas that have been cleared, graded, or excavated and have not yet reached final stabilization;

2. All sediment and erosion control measures and best management practices, including inlet protection;

3. Vegetated buffers;

4. Stockpiles, chemical and fuel storage, fertilizer and pesticide storage and other material, waste, borrow, and/or equipment storage and maintenance areas;

5. All areas where stormwater typically flows within the site, including drainage ways designed to divert, convey, and/or treat stormwater;

6. All points of discharge from the site including surface waters, drainage ditches, and conveyance systems; and,

7. All dewatering activities at the site.

8. **Exception.** You are not required to inspect areas that, at the time of the inspection, are unsafe for your inspection personnel. A detailed description of the situation must be documented in your inspection records explaining the reason the site conditions prevented the inspection.

4.5 Requirements for Inspections

During your site inspections you must, at a minimum:

1. Check whether all erosion and sediment controls and best management practices are implemented and functioning to minimize pollutant discharges. Determine if you need to replace, repair, or maintain any controls.

2. Check for spills, leaks, or other accumulation of pollutants on the site, or for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on site. Determine if you need to install additional controls or take corrective actions to prevent the discharge of these pollutants.

3. Determine if site conditions have changed and if current controls are still effective in controlling pollutants from leaving your site. Identify any locations where new or modified control measures are necessary.

4. Check for signs of erosion, scour, and sediment deposits that have occurred on or off the construction site:

    a. Inspect the discharge points and, where applicable, the banks of any surface waters of the state flowing within your property boundaries or immediately adjacent to your property.

    b. Identify areas where you need to correct erosion and remove sediment.

c. Determine if you need controls to reduce the velocity of the discharge or prevent further erosion and sedimentation.

5. If a discharge is occurring during your inspection, you are required to:

   a. Identify all points of the property where there is a discharge;

   b. Observe and document the visual quality of the stormwater discharge and note the characteristics of the discharge, including color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollutants; and

   c. Document whether your control measures are operating effectively. Describe any controls that are not clearly operating as intended or are in need of maintenance.

6. Identify all incidents of noncompliance that you observe.

7. Based on the results of your inspection, you must initiate corrective action(s) where needed.

4.6 Inspection Report

You must complete an inspection report in conjunction with each site inspection.

1. Each inspection report must be maintained in accordance with the requirements in Section 7.3 and must include the following information;

   a. Date and time of the inspection.

   b. Names and titles of the personnel conducting the inspection.

   c. Date and amount of most recent precipitation event, as well as if runoff was flowing onsite and/or offsite at the time of the inspection.

   d. A summary of your inspection findings, covering, at a minimum, the observations you made as required in Sections 4.4. and 4.5;

   e. Specific locations where maintenance, additional best management practices, cleanup, or corrective action is needed;

   f. The results of the total suspended solids levels in any dewatering discharge, as required by Section 3.21; and

   g. A summary of any corrective actions taken in response to the inspection findings, including any changes made to the SWPPP.

2. If you have determined it is unsafe to inspect a portion of your site, you must describe the reason(s) you found it to be unsafe and specify the locations that were not inspected.

3. If an inspection does not identify any incidents of noncompliance, you must include a statement in the report that the site is in compliance with the SWPPP and the general permit.

4. You must sign and certify each inspection report in accordance with the signatory requirements found in Section 7.4.

5.0 STORMWATER POLLUTION PREVENTION PLAN

You must develop a stormwater pollution prevention plan, also referred to as a "SWPPP," to be covered under this general permit. Stormwater management documents developed under other regulatory programs may be included or incorporated by reference in the SWPPP, or used in whole as a SWPPP if it meets the requirements of this section.

5.1 SWPPP Deadlines

1. You must develop the SWPPP **prior** to the submittal of the NOI.

   Note: If you were covered under the February 1, 2010, general permit and reauthorized under this general permit, you must update your SWPPP to comply with the conditions of this general permit by **October 1, 2018**.

2. You must implement and maintain the SWPPP for any construction activity requiring this general permit until final stabilization is reached.

5.2 TMDL

For projects that discharge stormwater to a water body listed as impaired under section 303(d) of the Federal Clean Water Act due to sediment, suspended solids, or turbidity, you must identify the water body and impairment in the SWPPP. Your SWPPP must describe and conform to any Wasteload Allocation (WLA) for the water body as required in Section 2.2.4

5.3 SWPPP Contents

You must develop your SWPPP to ensure compliance with the effluent limits in Section 3.0. Your SWPPP must include the following information, at a minimum.

1. **Personnel**. Your SWPPP must identify those person(s), by name or position, who are knowledgeable and experienced in the application of erosion and sediment control BMPs and who are responsible for the development and implementation of any portion of the SWPPP, for any later modifications to the SWPPP, and for compliance with the requirements of this general permit.

2. **Staff Training**. The SWPPP shall outline how employees and responsible parties shall be trained on the implementation of the SWPPP. Training must be provided at least annually, as new employees or responsible parties are hired, or as necessary to ensure compliance with the SWPPP and this general permit. Employees and responsible parties include individuals who are responsible for conducting inspections or for the design, installation, maintenance, or repair of stormwater controls.

3. **Description of Construction Activities**. Your SWPPP must include a narrative description of the nature of your construction activities, including the following:

a. A description of the overall project and type of construction activities to occur on the site and a description of the final completed project;

b. The total size of the project and total area expected to be disturbed by construction activities;

c. The maximum area expected to be disturbed at any one time;

d. Description of the existing vegetation at the site and an estimate of the percent of vegetative ground cover;

e. A description of the soil within the disturbed areas;

f. The name of the surface waters or municipal separate storm sewer system at or near the disturbed area that could potentially receive discharges from the project site;

g. Any construction support activity areas; and,

h. The intended sequence and estimated dates of construction activity for the following:

i. Implementation of BMPs, including when they will be operational and an explanation of how you will ensure the control measures are installed by the time each phase of earth-disturbing activity begins.

ii. Commencement and duration of earth-disturbing activities, including clearing and grubbing, mass grading, site preparation (i.e., excavating, cutting and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization.

iii. Cessation, temporary or permanent, of construction activities on the site or in designated portions of the site.

4. **Site Map.** You must include a legible site map depicting the following features and boundaries of the project:

a. Pre-construction site conditions, including existing vegetative and non-vegetative cover (e.g. – forest, pasture, pavement, structures, etc.);

b. Locations where earth-disturbing activities will occur, noting any phasing of construction activities;

c. Approximate slopes before and after major grading activities. Note areas with a slope greater than three horizontal to one vertical (3:1);

d. Topography of the site;

e. Drainage patterns of stormwater and authorized non-stormwater flows from the site property before and after major grading activities. Mark the flow direction with arrows on the map.

f. Locations and names, where appropriate, of all surface waters of the state that exist within or in the immediate vicinity of the site and could potentially receive discharges from the project site.

g. Locations of any surface water crossings, noting areas where work near waterbodies is necessary;

h. Location of any stormwater conveyances including, but not limited to, sediment ponds, ditches, pipes, swales, stormwater diversions, culverts, and ditch blocks;

i. Discharge locations, including locations of any storm drain inlets on or in the immediate vicinity of the site that could potentially receive discharges from the project site;

j. Locations where stormwater or allowable non-stormwater will be discharged to surface waters of the state on or in the immediate vicinity of the site.

k. Locations where sediment, soil, or other construction materials will be stockpiled;

l. Designated site access points;

m. Locations of structures and other impervious surfaces upon completion of construction;

n. Natural buffer boundaries and widths;

o. Locations of fueling activity, vehicle and equipment maintenance areas, designated wash water collection areas, lubricant and chemical storage, paint storage, material storage, staging areas, and debris collection areas;

p. Locations of all activities that could potentially generate pollutants at the site, such as dumpsters, chemical storage, construction site washout, portable toilets, or equipment storage.

q. Location and types of all sediment and erosions controls, velocity dissipation devices, post-construction controls, and all other BMPs used on the site.

r. Locations of construction support activities covered by this general permit.

5. **Description and Maintenance of Control Measures.** Your SWPPP must include a narrative description of the erosion and sediment control measures that will be implemented during construction at your site to meet the conditions of this general permit. For each control measure you must provide a narrative on the following:

a. A timeframe for the installation, maintenance, and removal (if necessary) of all selected BMPs for each phase of construction activity;

b. Your rationale for the selection of all BMPs, including calculations as necessary;

c. Whether selected BMPs are temporary or permanent;

d. A description of maintenance specifications and procedures;

e. A description of structural diversion practices intended to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site;

f. A description of the removal of any temporary stormwater conveyance; and

g. A description of the temporary and final stabilization of areas of exposed soil where construction activities have been completed or temporarily ceased. Your SWPPP must describe the specific vegetative and/or non-vegetative practices you will use to comply with the stabilization requirements in Section 3.19, along with the reasons for choosing each practice.

6. **Procedures for Inspections.** The SWPPP must describe the procedures you will follow for conducting site inspections and, where necessary, taking corrective actions. The following information must also be included in your SWPPP:

   a. Personnel responsible for conducting inspections;

   b. Required frequency of inspections;

   c. Rationale for reduction of inspection frequency; and,

   d. Any inspection checklists or other forms that you will use.

7. **Post Construction Stormwater Management.** You must identify stormwater management practices that will be installed during the construction process to control pollutants in stormwater discharges occurring after construction operations have been completed. Maintenance for onsite stormwater management features is the responsibility of the permittee until the NOT is submitted or the feature is accepted by the party responsible for long term maintenance. The following information must be included in your SWPPP:

   a. An explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels;

   b. A description of structural stormwater management practices such as stormwater ponds, open vegetated swales, natural depressions to allow

infiltration of runoff onsite, and sequential systems that combine several practices or other post construction stormwater management features; and

c. The location of velocity and energy dissipation devices placed at discharge points and appropriate erosion protection for outfall channels and ditches.

8. **Pollution Prevention Procedures**

a. **Spill Prevention and Response Procedures**. Your SWPPP must describe the procedures you will follow to prevent and respond to spills and leaks, including:

i. Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. The SWPPP must identify the name or position of the employee(s) responsible for detection and response of spills and leaks;

ii. Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies as required by Section 7.1; and,

iii. Ways to prevent reoccurrence of such releases and steps to prevent any such releases from contaminating stormwater runoff. The SWPPP shall be modified and changes implemented as appropriate.

b. **Waste Management Procedures**. The SWPPP must describe procedures for how you will handle and dispose of all wastes generated at your site, including, but not limited to, clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

9. **Construction Site Pollutants**

a. You must include information in your SWPPP about all activities that could generate pollutants at your site. Examples of pollutant-generating activities include, but are not limited to: paving operations; concrete, paint, and stucco washout; solid waste storage and disposal; storage of fertilizers, pesticides, solvents, fuels, and soils. You must include in your SWPPP a description of the removal of construction equipment and vehicles and any cessation of any pollutant generating activities.

b. You must include an inventory of the pollutants and chemicals associated with your construction activity and consider where potential spills and leaks could occur.

c. If SDDENR approves the use of water treatment chemicals, your SWPPP must include:

i. A listing of all water treatment chemicals planned for use at the site and why these chemicals were selected;

ii. The proper dosage and method of application for all water treatment chemicals;

iii. All applicable Safety Data Sheets (SDS) for chemicals planned to be used;

iv. Schematic drawings of any controls or treatment system used for the application of the water treatment chemicals;

v. A description of how the chemicals will be stored;

vi. Copies of the applicable manufacturer's specifications regarding the use of the water treatment chemicals and chemical treatment systems;

vii. A description of the training that personnel who handle, apply, or store the chemicals have received or will receive prior to the use of water treatment chemicals and chemical treatment systems;

viii. A description of safe handling, spill prevention, and spill response procedures; and

ix. A copy of the approval letter from SDDENR, approving the use of the water treatment chemicals and/or chemical treatment system.

10. **Non-Stormwater Discharges.** You must identify in your SWPPP all sources of non-stormwater discharges.

11. **Infeasibility Documentation.** If you determine it is infeasible to comply with any of the requirements of this general permit, you must thoroughly document your rationale in your SWPPP.

5.4 SWPPP Certification

You must sign and date your SWPPP as required by Section 7.4.

5.5 Required SWPPP Modifications

1. **Conditions Requiring SWPPP Modification**. You must modify your SWPPP, including the site map(s), in response to any of the following conditions:

   a. When you have a new operator responsible for implementation of any part the SWPPP.

   b. When you make changes to your construction plans, sediment and erosion control measures, or any best management practices at your site that are no longer accurately reflected in your SWPPP. This includes changes made in response to corrective actions triggered by inspections.

c. To reflect areas on your 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.

d. If inspections by site staff, local officials, SDDENR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with this general permit.

e. To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.

f. 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, different dosage rates, or different areas or methods of application.

2. **Deadlines for SWPPP Modification**. You must complete the required revisions to the SWPPP within 7 calendar days following any of the items listed above.

3. **Documentation of Modifications to the Plan**. You are required to maintain records showing the dates of all SWPPP modifications. The records must include the name of the person authorizing each change and a brief summary of all changes.

4. **Certification Requirements**. All modifications made to your SWPPP must be signed and certified as required in Section 7.4.

5. **Required Notice to Other Operators**. If there are multiple operators at the site, you must notify each operator that may be impacted by the change to the SWPPP within 24 hours.

6.0 SPECIAL CONDITIONS

6.1 Qualified Local Programs

1. To receive approval as a qualified local program, SDDENR will review the local requirements to ensure they comply with both state and federal requirements. SDDENR may authorize minor variations and alternative standards in lieu of the specific conditions of the general permit based upon the unique comprehensive control measures established in the qualifying local program. SDDENR will review each qualifying local program for recertification during the renewal of its municipal separate storm sewer system permit.

2. If a construction site is within the jurisdiction of a qualifying local program, the operator shall submit a Notice of Intent (NOI) to SDDENR to be covered under the general permit and comply with all requirements of the qualifying local program. Compliance with the qualifying local program requirements is deemed to be compliance with this general permit. A violation of qualifying local program requirements is also a violation of this general permit.

3. At this time only the City of Sioux Falls is meeting SDDENR's minimum requirements. If additional municipalities are approved as a Qualifying Local Program in the future, a modification to this general permit will be offered for public comment in the municipality's local newspaper.

7.0 REPORTING AND RECORDKEEPING REQUIREMENTS

7.1 Emergency Spill Notification

1. You must report a release or spill of a regulated substance (including petroleum and petroleum products) to SDDENR as soon as you become aware of it if any one of the following conditions exists:

    a. The release or spill threatens or is in a position to threaten waters of the state (surface water or ground water);

    b. The release or spill causes an immediate danger to human health or safety;

    c. The release or spill exceeds 25 gallons;

    d. The release or spill causes a sheen on surface water;

    e. The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01;

    f. The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01;

    g. The release or spill of any substance that harms or threatens to harm wildlife or aquatic life;

    h. The release or spill of crude oil in field activities under SDCL chapter 45-9 is greater than 1 barrel (42 gallons); or

    i. 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.

2. To report a release or spill, call SDDENR 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 SDDENR 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 shall be sent to SDDENR within 14 days of the discharge.

7.2 Planned Changes

You must notify SDDENR as soon as possible of any planned physical alterations or additions to your site. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged, or could result in noncompliance with permit conditions. This notification also applies to pollutants that are not addressed by the effluent limits in Section 3.0.

7.3 Records Contents & Retention

1. You must maintain onsite, or make readily available to SDDENR, the following documents:

    a. The SWPPP, including all certificates, reports, records, or other information required by this general permit.

    b. A copy of the Notice of Intent (NOI) submitted to SDDENR, along with any correspondence related to coverage under this general permit.

    c. A copy of the authorization letter you receive from SDDENR granting coverage under this general permit.

    d. A copy of this general permit.

2. You must retain copies of the SWPPP, your inspection records, all reports required by this general permit, and records of the date you used to complete the NOI and NOT for a period of at least three (3) years from the date you terminate your coverage under the general permit. SDDENR may extend the time period for retaining your records with a written notification to you.

3. You must submit all reports and documents required to be submitted to SDDENR by this general permit by email (stormwater@state.sd.us), or to the address below:

    SD Department of Environment and Natural Resources
    Surface Water Quality Program
    523 East Capitol
    Pierre, SD 57501

7.4 Signatory Requirements

1. All applications submitted to SDDENR under this general permit must be signed by either a principal executive officer or ranking elected official.

2. All reports required by the general permit and other information requested by SDDENR shall be signed by the person described in Paragraph 1 above or by a duly authorized representative of that person. A person is a duly authorized representative if:

   a. The authorization is made in writing by a person described in Paragraph 1 above and submitted to SDDENR; and

   b. The authorized representative must have responsibility for the overall operation of the site, such as the superintendent, or have overall responsibility for environmental matters. A duly authorized representative may be either a named individual or any individual occupying a named position.

3. If the authorization under Paragraph 2 above is no longer accurate, you must submit a new authorization to SDDENR.

4. You must include the following certification statement with all documents signed under this section:

   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 qualified personal 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 there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

7.5 Duty to Provide Information

1. You must provide, within a reasonable period of time, any information SDDENR requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this general permit, or to determine compliance with the general permit.

2. You must provide to SDDENR, upon request, copies of the records required to be kept by this general permit.

3. You must make your SWPPP available to SDDENR, U.S. EPA, or your local storm sewer operator upon request.

4. If you become aware that you failed to submit any relevant facts or submitted incorrect information in your NOI, you must promptly submit such facts or information.

5. You must provide SDDENR with an updated point of contact including a mailing address.

7.6 Availability of Information

1. Except for data determined to be confidential under ARSD Section 74:52:02:17, all reports you prepare and submit in accordance with the terms of this general permit must be available for public inspection at the offices of SDDENR.

2. Your name and address, the NOI and NOT, your SWPPP, and your inspection records will not be considered confidential.

8.0 COMPLIANCE REQUIREMENTS

8.1 Duty to Comply

1. You must comply with all conditions of this general permit. Any permit noncompliance is a violation of the South Dakota Water Pollution Control Act and the federal Clean Water Act. A violation is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. If you violate a condition of the general permit or make any false statement, representation, or certification, you may be subject to enforcement action under South Dakota Codified Law, Chapter 34A-2.

3. You are responsible for complying with all local ordinance and requirements. Local governments may have additional or more stringent requirements than those included in this general permit.

8.2 Duty to Mitigate

You must take all reasonable steps to minimize or prevent any discharge of pollutants in violation of this general permit if it has a reasonable likelihood of adversely affecting human health or the environment.

8.3 Need to Halt or Reduce Activity Not a Defense

It is not a defense for you in an enforcement action that it would have been necessary to halt or reduce your construction activity to maintain compliance with the conditions of the general permit.

8.4 Upset Conditions

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limits if the requirements of Paragraph 2 of this section are met. You will have an opportunity for a judicial determination on any claim of an upset only if SDDENR or U.S EPA bring an enforcement action for noncompliance with technology-based effluent limits.

2. If you wish to establish an affirmative defense of any upset, you must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

    a. An upset occurred and you can identify the cause of the upset;

    b. You were properly operating the pollution controls at your site;

c. You notified SDDENR within 24 hours of becoming aware of the upset. To report a release or spill, call SDDENR 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.

d. You complied with the mitigation measures required under Section 8.2.

3. In any enforcement proceeding, you have the burden of proof to establish and document that an upset occurred.

8.5 Removed Substances

Collected solids, sludge, grit, or other pollutants removed in the course of treatment shall be properly disposed of in a manner to prevent any pollutant from entering surface waters of the state or creating a health hazard.

8.6 Inspections and Entry

You must allow SDDENR, U.S. EPA, or the operator of a municipal separate storm sewer system receiving your discharges to:

1. Enter your construction site and enter areas where you keep the records required by the general permit;

2. Have access to and copy, at reasonable times, any records that you must keep under the conditions of the general permit;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated under this general permit; and

4. At reasonable times, sample or monitor any substances or parameters at any location for the purpose of ensuring permit compliance or as otherwise authorized by the South Dakota Water Pollution Control Act (SDCL 34A-2).

8.7 Oil and Hazardous Substance Liability

Nothing in this general permit shall relieve you from any responsibilities, liabilities, or penalties you may be subject to under Section 311 of the federal Clean Water Act.

8.8 Penalties for Violations of general permit Conditions

1. If you violate a condition of the general permit, you are in violation of the provisions of SDCL 34A-2-36 and subject to penalties under SDCL 34A-2-75. In addition to a jail sentence authorized by SDCL 22-6-2, you can be subject to a criminal fine not to exceed $10,000 per day per violation. You can also be subject to a civil penalty not to exceed $10,000 per day per violation, or for damages to the environment of this state.

2. Except as provided above in the Upset Conditions in Section 8.4, nothing in this general permit relieves you of the civil or criminal penalties for noncompliance.

8.9 Penalties for Falsification of Reports

1. If you knowingly make any false statement, representation, or certification in any record or other document submitted or required to be maintained under this general permit, you are in violation of the provisions of SDCL 34A-2-77 and subject to penalties under SDCL 34A-2-75.

2. If you falsify, tamper with, or knowingly render inaccurate any monitoring device or method required to be maintained under this general permit, you are in violation of the provisions of SDCL 34A-2-77 and is subject to penalties under SDCL 34A-2-75.

3. In addition to a jail sentence authorized by SDCL 22-6-2, you can be subject to a criminal fine not to exceed $10,000 per day per violation. You are also subject to a civil penalty not to exceed $10,000 per day per violation, or for damages to the environment of this state.

Appendix A

NOTICE OF INTENT (NOI) FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF INTENT (NOI)
to Obtain Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

I. Site Owner Contact Information:

Company Name: _____

Primary Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email Address: _____

Type of Ownership: ☐ Private ☐ Federal ☐ State ☐ Other (Municipal, County, etc.)
(any type not listed previously)

II. Contractor Information:

Will any contractors be responsible for erosion and sediment control practices: ☐ Yes ☐ No

(A contractor certification form must be submitted for each contractor that will have day to day responsibility for erosion and sediment control practices. If these contractors have not been identified at the time this NOI is submitted, the contracotr certification form may be submitted after they have been identified, but before they being construction work.)

III. Engineering Firm Contact Information (if applicable):

Contact Person: _____

Contact's Email Address: _____

IV. Construction Project Information:

Project Name: _____

Physical Project Address or Description of Construction Site Location: _____

_____

City: _____ State: _____ Zip Code: _____

On-Site Contact Person: _____

Contact's Email Address: _____

Contact's Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ County of Construction Site: _____

Latitude: _____ Longitude: _____ Source (GPS, Google, etc.): _____

Quarter(s): _____ Section(s): _____ Township(s): _____ Range(s): _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

Construction Project Information (Continued):

Is this project on Tribal Lands? ☐ Yes ☐ No

Total area disturbed by the project (in acres): _____

Will this project encroach, damage, or destroy one of the historic sites identified at the following wesites:

http://history.sd.gov/Preservation/nationalregisterofhistoricplaces.aspx ☐ Yes ☐ No

http://www.nps.gov/nhl/find/statelists/sd/SD.pdf ☐ Yes ☐ No

V. Stormwater Pollution Prevent Plan (SWPPP):

Has the SWPPP been developed as required? ☐ Yes ☐ No

(The plan must be developed **before** the NOI is submitted. DENR will not issue coverage before this has been developed.)

VI. Receiving Waters:

Please list all possible waters that may receive a discharge from this site. If discharging to a Municipal Storm Sewer System, indicate which municipality and the ultimate receiving water.

_____

_____

VII. Nature of Discharge:

Please include a brief description of the construction project:

_____

_____

Will construction dewatering be required? ☐ Yes ☐ No If yes, please complete section IX also.

VIII. Construction Dates:

Project Start Date (MM/DD/YYYY): _____

Estimated Completion Date (MM/DD/YYYY): _____

IX. Dewatering Activities (Complete this section if you answered yes in VII):

Date dewatering will commence (MM/DD/YYYY): _____

Date dewatering will end (MM/DD/YYYY): _____

Total volume of dewatering (gallons): _____ Average flow rate (gallons per minute): _____

Source of water to be discharged: _____

Receiving water: _____

Brief description of water treatment processes to be employed, if any: _____

_____

Will the dewatering discharge contain anything other than uncontaminated groundwater and stormwater: ☐ Yes ☐ No

NOTE: If there will be dewatering activities, please place points of withdrawal and discharge on a topographic map, or other map if a topographic map is unavailable. This map should extend to one (1) square mile beyond the property boundaries of the facility and each of its discharge facilities, and those wells, springs, and other surface water bodies, drinking water wells, and surface water intake structures listed in public records, or otherwise known to the applicant in the map area.

X. Other Information

List other information you feel should be brought to the attention of the SDDENR regarding coverage under this general permit. Attach additional sheets if necessary.

_____

_____

_____

STATE OF SOUTH DAKOTA

BEFORE THE SECRETARY OF

THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION OF	**)**	
	)	**CERTIFICATION OF**
_____	**)**	
	)	**APPLICANT**
STATE OF _____	**)**	
	)	
COUNTY OF _____	**)**	

I, _____, the applicant in the above matter after being duly sworn upon oath hereby certify the following information in regard to this application:

I have read and understand South Dakota Codified Law Section 1-40-27 which provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner, or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification,

consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to 1-40-27, that as an applicant, officer, director, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; (d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this _____ day of _____ , 20____ .

_____
Applicant (print)

_____
Applicant (signature)

Subscribed and sworn before me this _____ day of _____ , 20_____ .

_____
Notary Public (signature)

My commission expires: _____

(SEAL)

PLEASE ATTACH ANY ADDITIONAL INFORMATION NECESSARY TO DISCLOSE ALL FACTS AND DOCUMENTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION

Appendix B

NOTICE OF TERMINATION
(NOT) FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF TERMINATION (NOT)
of Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a discharge permit is no longer required or necessary. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

I. Permit Number: _____

II. Primary Contact Information:

Company Name: _____

Primary Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email Address: _____

III. Mailing Address for Facility/Site Location:

Project Name: _____

Primary Contact Person: _____

Contact's Email Address: _____

Contact's Mailing Address: _____

City: _____ State: _____ Zip Code: _____

I certify under penalty of law that all stormwater discharges associated with construction activity from the identified facility that are authorized by a SWD general permit have been eliminated. I understand that by submitting the Notice of Termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the state is unlawful under the federal Clean Water Act and the South Dakota Water Pollution Control Act if the discharge is not authorized by a SWD permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the South Dakota Water Pollution Control Act. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NOTE: Notice of Termination shall be signed by the authorized chief elective or executive officer of the applicant, or by the applicant, if an individual.

Name: _____ Title: _____

Signature: _____ Date: _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Letter Date: _____ Approved by: _____

Appendix C

CONTRACTOR AUTHORIZATION FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CONTRACTOR AUTHORIZATION FORM

for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a contractor will act as an operator and have day to day responsibility for erosion and sediment control measures. Submission of this form shall in no way relieve the permittee of permit obligations. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

Project Name: _____ Permit Number (if available): _____

Project Site Legal Location: _____

Contractor Company Name: _____

Responsible Contact Person: _____

Contact's Email Address: _____

Contractor Mailing Address: _____

City: _____ State: _____ Zip Code: _____ Phone Number: _____

The contractor(s) responsible for the day to day operation of the construction site shall certify the following:

"I certify under penalty of law that I understand and will comply with the terms and conditions of the Surface Water Discharge General Permit for Stormwater Discharges Associated with Construction Activities for the project identified above."

South Dakota Codified Laws Section 1-40-27 provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification, consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to SDCL 1-40-27, that as an applicant, officer, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this _____ day of _____, 20____.

_____

Applicant (print)

_____

Applicant (signature)

Subscribed and sworn before me this _____ day of _____, 20____.

_____

Notary Public (signature)

My commission expires: _____

(SEAL)

PLEASE ATTACH A SHEET DISCLOSING ALL FACTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION.

Appendix D

TRANSFER OF PERMIT COVERAGE FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
TRANSFER OF PERMIT COVERAGE FORM

for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when ownership of a construction project or an individual lot in a larger common plan of development has been transferred to a different owner. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

Project Name: _____ Permit Number: _____

Site (Lot) Legal Location: _____

Site (Lot) Description: _____

Previous Owner's Name: _____

New Owner's Name: _____

New Owner's Mailing Information:

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email: _____

Stabilization measures implemented prior to transfer: _____

_____

Date transfer of property responsibility and liability becomes effective: _____

****NOTE: Any change in location, operation, and/or coverage area requires that the Stormwater Pollution Prevention Plan be updated and revised to reflect all changes.**

The site (lot) described about is covered under the General Permit for Stormwater Discharges Associated with Construction Activity. Temporary or permanent stabilization has been established on the site, which has now transferred ownership/responsibility as indicated above. The new owners, or operators, have been made aware of the importance of site stabilization in an effort to control pollutant runoff and/or sedimentation.

The new owner assumes responsibility for implementing best management practices to reduce or eliminate a discharge of pollutants to waters of the state. The new owner is aware that permit coverage for the site is required until all soil-disturbing activities at the site have been completed and one of the following conditions have been met:

- **all portions of the site not covered by pavement or permanent structures have a uniform perennial vegetative cover over at least 70% of the site; or**
- **equivalent permanent stabilization measure have been employed, such as the use of riprap, gabions, or geotextiles.**

New Owner/Operator Signature: _____

Date: _____

Previous Owner/Operator Signature: _____

Date: _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

Appendix E

NOTICE OF INTENT
FOR
REAUTHORIZATION FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF INTENT (NOI) for REAUTHORIZATION
of Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

The following facility currently has coverage under the General Permit for Stormwater Discharges Associated with Construction Activities. ***This form must be submitted if you wish to continue coverage under the General Permit.*** Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

Update information below as needed. Please print or type information.

I. Permit Number: _____

II. Owner Information:

Company Name: _____

Primary Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email Address: _____

III. Construction Project Information:

Project Name: _____

Project Description: _____

On-Site Contact Person: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Total area disturbed by the project (in acres): _____

Project Start Date: _____ Estimated Completion Date: _____

IV. Signature of Applicant

By signing this form, you are requesting to continue permit coverage under the reissued General Permit. You are certifying you will comply with the new General Permit and update your Stormwater Pollution Prevention Plan if necessary to meet the reissued General Permit conditions.

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 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 revocation of the permit and the possibility of fine and imprisonment for knowing violations. In addition, I certify that I am aware of the terms and conditions of the General Stormwater permit and I agree to comply with those requirements.

NOTE: The NOI for Reauthorization must be signed by the authorized chief elective or executive offier of the applicant, or by the applicant, if an individual project.

Name (print): _____ Title: _____

Signature: _____ Date: _____

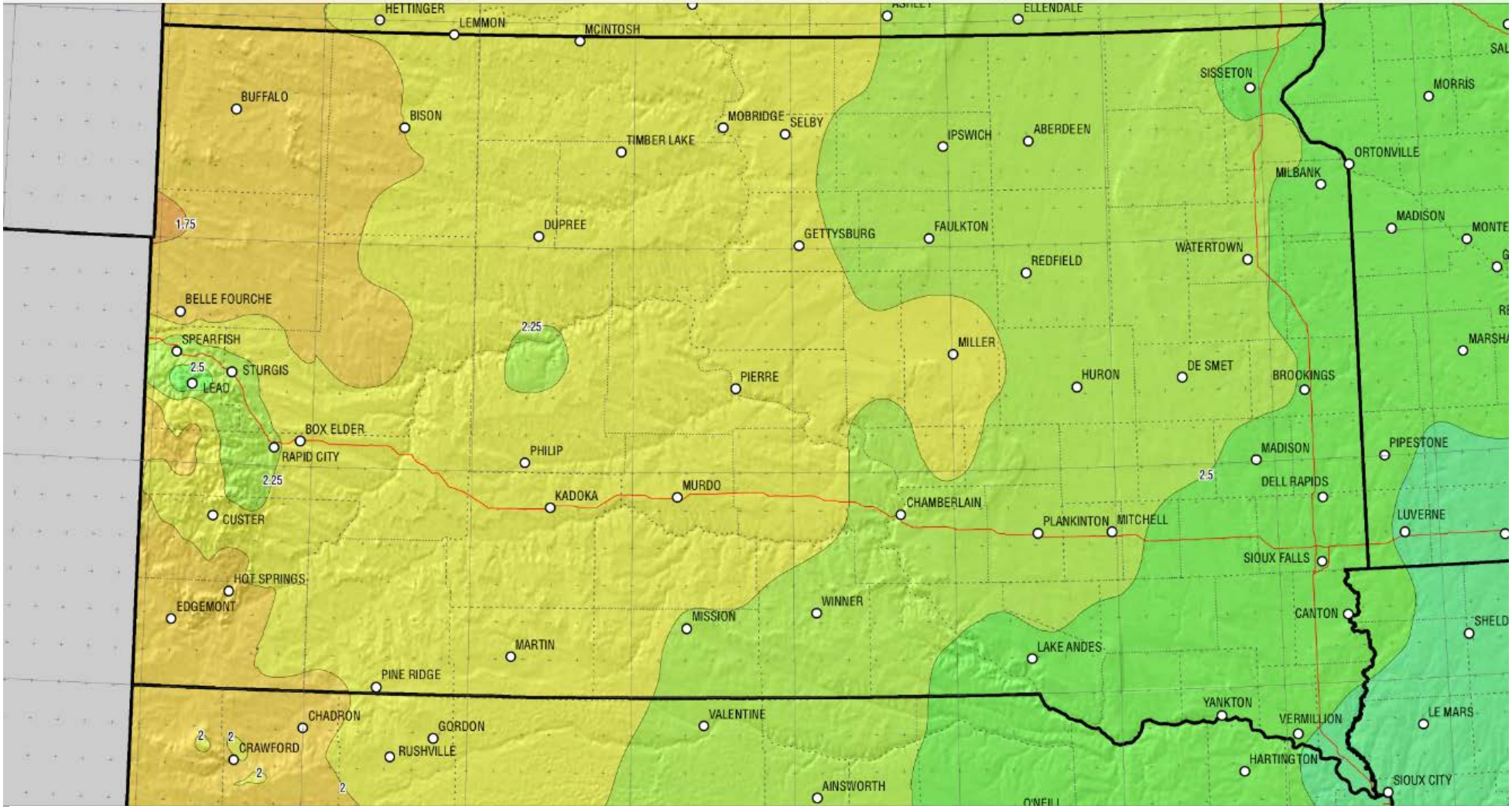
FOR DENR USE ONLY

Permit Number: _____ Date Reauthorized: _____ Approved by: _____

Appendix F

TWO YEAR, TWENTY-FOUR HOUR PRECIPITATION EVENT MAP

ftp://hdsc.nws.noaa.gov/pub/hdsc/data/mw/nd2y24h.pdf



NOAA Atlas 14, Volume 8, Version 2
Midwestern States

Prepared by U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE
OFFICE OF HYDROLOGIC DEVELOPMENT
HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2013

SOUTH DAKOTA

2-year 24-hour precipitation in inches

0.88 - 1.00	2.01 - 2.25	3.26 - 3.50	4.51 - 4.75
1.01 - 1.25	2.26 - 2.50	3.51 - 3.75	4.76 - 5.00
1.26 - 1.50	2.51 - 2.75	3.76 - 4.00	5.01 - 5.19
1.51 - 1.75	2.76 - 3.00	4.01 - 4.25	
1.76 - 2.00	3.01 - 3.25	4.26 - 4.50	

Legend based on entire Volume 8 project area

Appendix C – NOI and Acknowledgement Letter from the State

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF INTENT (NOI)
to Obtain Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

I. Site Owner Contact Information:

Company Name: Black Hills Energy

Primary Contact Person: Maria Garduna

Mailing Address: PO Box 1400

City: Rapid City State: SD Zip Code: 57709

Phone Number: (605) 721-4125 Email Address: maria.garduna@blackhillscorp.com

Type of Ownership: [x] Private [ ] Federal [ ] State [ ] Other (Municipal, County, etc.)
(any type not listed previously)

II. Contractor Information:

Will any contractors be responsible for erosion and sediment control practices: [x] Yes [ ] No

(A contractor certification form must be submitted for each contractor that will have day to day responsibility for erosion and sediment control practices. If these contractors have not been identified at the time this NOI is submitted, the contractor certification form may be submitted after they have been identified, but before they being construction work.)

III. Engineering Firm Contact Information (if applicable):

Contact Person: John Van Beek - Ferber Engineering Company

Contact's Email Address: johnvanbeek@ferberengineering.com

IV. Construction Project Information:

Project Name: Black Hills Energy West Rapid City Substation and Storage Yard Improvements

Physical Project Address or Description of Construction Site Location: 409 Deadwood Ave.

City: Rapid City State: SD Zip Code: 57702

On-Site Contact Person: Ron Williams

Contact's Email Address: ron.williams@blackhillscorp.com

Contact's Mailing Address: PO Box 1400

City: Rapid City State: SD Zip Code: 57709

Phone Number: (605) 721-2471 County of Construction Site: Pennington County

Latitude: 44.087604 Longitude: -103.263880 Source (GPS, Google, etc.): Google

Quarter(s): NE 1/4 SW 1/4 Section(s): 34 Township(s): 2N Range(s): 07E

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

Construction Project Information (Continued):

Is this project on Tribal Lands? ☐ Yes ☒ No

Total area disturbed by the project (in acres): +/- 6 acres

Will this project encroach, damage, or destroy one of the historic sites identified at the following wesites:

http://history.sd.gov/Preservation/nationalregisterofhistoricplaces.aspx ☐ Yes ☒ No

http://www.nps.gov/nhl/find/statelists/sd/SD.pdf ☐ Yes ☒ No

V. Stormwater Pollution Prevent Plan (SWPPP):

Has the SWPPP been developed as required? ☒ Yes ☐ No

(The plan must be developed **before** the NOI is submitted. DENR will not issue coverage before this has been developed.)

VI. Receiving Waters:

Please list all possible waters that may receive a discharge from this site. If discharging to a Municipal Storm Sewer System, indicate which municipality and the ultimate receiving water.

French Creek

VII. Nature of Discharge:

Please include a brief description of the construction project:

New 230/69kV substation, 1.5 miles of new double circuit of 230kV transmission line from Lange-SRC 230kV line (M-Hill area).

New 69kV line to the Ben French 69kV switchyard, new gravel storage yard at the Black Hills Service Center.

Will construction dewatering be required? ☐ Yes ☒ No If yes, please complete section IX also.

VIII. Construction Dates:

Project Start Date (MM/DD/YYYY): 09/01/2018

Estimated Completion Date (MM/DD/YYYY): 12/31/2019

IX. Dewatering Activities (Complete this section if you answered yes in VII):

Date dewatering will commence (MM/DD/YYYY): _____

Date dewatering will end (MM/DD/YYYY): _____

Total volume of dewatering (gallons): _____ Average flow rate (gallons per minute): _____

Source of water to be discharged: _____

Receiving water: _____

Brief description of water treatment processes to be employed, if any: _____

Will the dewatering discharge contain anything other than uncontaminated groundwater and stormwater: ☐ Yes ☐ No

NOTE: If there will be dewatering activities, please place points of withdrawal and discharge on a topographic map, or other map if a topographic map is unavailable. This map should extend to one (1) square mile beyond the property boundaries of the facility and each of its discharge facilities, and those wells, springs, and other surface water bodies, drinking water wells, and surface water intake structures listed in public records, or otherwise known to the applicant in the map area.

X. Other Information

List other information you feel should be brought to the attention of the SDDENR regarding coverage under this general permit. Attach additional sheets if necessary.

No additional notes.

STATE OF SOUTH DAKOTA

BEFORE THE SECRETARY OF

THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION OF Black Hills Energy	)	**CERTIFICATION OF APPLICANT**
STATE OF South Dakota	)	
COUNTY OF Pennington	)	

I, Stuart Wevik, the applicant in the above matter after being duly sworn upon oath hereby certify the following information in regard to this application:

I have read and understand South Dakota Codified Law Section 1-40-27 which provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner, or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification,

consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to 1-40-27, that as an applicant, officer, director, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; (d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this 7 day of August, 2018.

Stuart Wevik

Applicant (print)

Stuart Wevik

Applicant (signature)

Subscribed and sworn before me this 7th day of August, 2018.

Maria Garduna

Notary Public (signature)

My commission expires: May 22, 2021

(SEAL)

MARIA GARDUNA NOTARY SEAL PUBLIC STATE OF SOUTH DAKOTA

PLEASE ATTACH ANY ADDITIONAL INFORMATION NECESSARY TO DISCLOSE ALL FACTS AND DOCUMENTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION

Check Date: Aug/08/2018		Supplier Number: 0000062465				Check No: 0000703834
Invoice Number	**Invoice Date**	**Voucher ID**	**Gross Amount**	**Discount Taken**	**Late Charge**	**Paid Amount**
08011825000-SOSD	Aug/01/2018	00128276	250.00	0.00	0.00	250.00
WEST RAPID CITY SUBSTATION SOTRMWATER FEE						

Check Number	Date	Total Gross Amount	Total Discounts	Total Late Charge	Total Paid Amount
0000703834	Aug/08/2018	$250.00	$0.00	$0.00	$250.00

THE FACE OF THIS DOCUMENT HAS A MULTI-COLORED BACKGROUND ON WHITE PAPER, A VOID PANTOGRAPH AND MICROPRINTING. THE BACK OF THIS DOCUMENT HAS AN ARTIFICIAL WATERMARK.

BLACK HILLS POWER INC
PO BOX 8106
RAPID CITY SD 57709

Date Aug/08/2018

WELLS FARGO
115 HOSPITAL DRIVE
VAN WERT OH 45891

0000703834

56-382/412

9600117262

Pay ****TWO HUNDRED FIFTY AND XX/100 DOLLAR ****

Pay Amount
$250.00***

To The Order Of

STATE OF SOUTH DAKOTA
DEPT OF ENVIRONMENT & NATURAL RESOURCES
523 EAST CAPITOL
PIERRE SD 57501

Rich Kiely
Authorized Signature

⑈0000703834⑈ ⑆041203824⑆ 9600117262⑈

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.denr.sd.gov

August 14, 2018

Maria Garduna
Black Hills Energy
PO Box 1400
Rapid City, SD 57709

Dear Maria Garduna:

Thank you for submitting your Notice of Intent for the South Dakota General Permit for Stormwater Discharges Associated with Construction Activities. This letter grants you coverage under this general permit for the project listed below in Pennington County, SD. This coverage does not relieve you from complying with other state and local requirements or from obtaining other required permits. **All contractors who will be doing dirt work or who will be responsible for implementing sediment and erosion controls must submit a Contractor Authorization form identifying the contractor.** The contractor will then be considered a co-permittee and will also be responsible for complying with the general permit.

You must maintain your site in compliance with the permit conditions. Refer to Section 3.0 for effluent limits and Section 4.0 for Pollution Prevention Plan requirements. Your project's Permit Number is **SDR10J162**. Please refer to this number in all future correspondence.

Project Information (Please check to be certain this information is correct)**:**

Ron Williams – Project Site Contact Person
Black Hills Energy West Rapid City Substation & Storage Yard Improvements (PCN: N/A)
Section 4, Township 2N, Range 7E
Latitude 44.087604°; Longitude 103.263880°
Effective Date: **August 14, 2018**

Thank you for preserving the natural resources of South Dakota. If you have any questions or need any guidance, please contact me at 1-800-SDSTORM (1-800-737-8676).

Sincerely,

Katie Luce
Stormwater Program Assistant
Surface Water Quality Program
stormwater@state.sd.us

cc: Mary Bosworth, City of Rapid City
Ron Williams, 409 Deadwood Ave, Rapid City, SD 57702

Permit No.: SDR10J162
Project: Black Hills Energy West Rapid City Substation & Storage Yard Improvements

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

General Permit Authorizing Stormwater Discharges Associated with Construction Activities Under the South Dakota Surface Water Discharge System

In compliance with the provisions of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota (ARSD), Article 74:52, owners and operators of stormwater discharges from **construction activities**, located in the state of South Dakota are authorized to discharge in accordance with the conditions and requirements set forth herein.

This General Permit shall become effective on April 1, 2018.

General Permit coverage for Black Hills Energy shall become effective August 14, 2018.

This General Permit and the authorization to discharge shall expire at midnight, **March 31, 2023**.

Signed this **23rd** day of **March, 2018,**

Authorized Permitting Official

Steven M. Pirner
Secretary
Department of Environment and Natural Resources

Appendix D – Contractor Certifications

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CONTRACTOR AUTHORIZATION FORM
for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a contractor will act as an operator and have day to day responsibility for erosion and sediment control measures. Submission of this form shall in no way relieve the permittee of permit obligations. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

Project Name: BHE West Rapid City Substation Permit Number (if available): SDR10J162

Project Site Legal Location: Latitude 44.087604 Longitude 103.263880

Contractor Company Name: Site Work Specialists, Inc.

Responsible Contact Person: Chris Stout

Contact's Email Address: cstout@siteworkinc.com

Contractor Mailing Address: PO Box 7504

City: Rapid City State: SD Zip Code: 57709 Phone Number: 605-355-0933

The contractor(s) responsible for the day to day operation of the construction site shall certify the following:

"I certify under penalty of law that I understand and will comply with the terms and conditions of the Surface Water Discharge General Permit for Stormwater Discharges Associated with Construction Activities for the project identified above."

South Dakota Codified Laws Section 1-40-27 provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification, consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to SDCL 1-40-27, that as an applicant, officer, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this 8th day of April, 2019.

Doug Wilson
Applicant (print)

Applicant (signature)

Subscribed and sworn before me this 8th day of April, 2019.

Sarah R. Dinesen
Notary Public (signature)

My commission expires: 2/27/2020

SEAL SARAH R. DINESEN NOTARY PUBLIC State of South Dakota SEAL
(SEAL)

PLEASE ATTACH A SHEET DISCLOSING ALL FACTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION.

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CONTRACTOR AUTHORIZATION FORM

for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a contractor will act as an operator and have day to day responsibility for erosion and sediment control measures. Submission of this form shall in no way relieve the permittee of permit obligations. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

Project Name: BHE West Rapid City Substation Permit Number (if available): SDR10J162

Project Site Legal Location: Latitude 44.087604 Longitude 103.263880

Contractor Company Name: Ferber Engineering Company, Inc

Responsible Contact Person: John Van Beek, PE

Contact's Email Address: johnvanbeek@ferberengineering.com

Contractor Mailing Address: 729 E. Watertown St

City: Rapid City State: SD Zip Code: 57701 Phone Number: 605-343-3311

The contractor(s) responsible for the day to day operation of the construction site shall certify the following:

"I certify under penalty of law that I understand and will comply with the terms and conditions of the Surface Water Discharge General Permit for Stormwater Discharges Associated with Construction Activities for the project identified above."

South Dakota Codified Laws Section 1-40-27 provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CONTRACTOR AUTHORIZATION FORM

for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a contractor will act as an operator and have day to day responsibility for erosion and sediment control measures. Submission of this form shall in no way relieve the permittee of permit obligations. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

Project Name: BHE West Rapid City Substation Permit Number (if available): SDR10J162

Project Site Legal Location: Latitude 44.087604 Longitude 103.263880

Contractor Company Name: Quinn Construction, Inc

Responsible Contact Person: Ethan Peterson

Contact's Email Address: ethan@quinnconstruction.org

Contractor Mailing Address: 4404 Universal Dr.

City: Rapid City State: SD Zip Code: 57702 Phone Number: 605-787-6500

The contractor(s) responsible for the day to day operation of the construction site shall certify the following:

"I certify under penalty of law that I understand and will comply with the terms and conditions of the Surface Water Discharge General Permit for Stormwater Discharges Associated with Construction Activities for the project identified above."

South Dakota Codified Laws Section 1-40-27 provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification, consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to SDCL 1-40-27, that as an applicant, officer, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this 28 day of May, 20 19.

Ethan Peterson

Applicant (print)

Ethan Peterson

Applicant (signature)

Subscribed and sworn before me this 28 day of May, 20 19.

Diane DuBray

Notary Public (signature)

My commission expires: 1-27-2022

DIANE DUBRAY
SEAL NOTARY PUBLIC SEAL
SOUTH DAKOTA
(SEAL)

PLEASE ATTACH A SHEET DISCLOSING ALL FACTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION.

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification, consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to SDCL 1-40-27, that as an applicant, officer, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this 28th day of May, 2019.

John R Van Beek

Applicant (print)

Applicant (signature)

Subscribed and sworn before me this 28th day of May, 2019.

Notary Public (signature)

My commission expires: September 10, 2024

(SEAL)

DAVID M. MUCK NOTARY SEAL PUBLIC STATE OF SOUTH DAKOTA

PLEASE ATTACH A SHEET DISCLOSING ALL FACTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION.

Appendix E – Erosion Control Plan & BMP Specifications/Maintenance

STORMWATER POLLUTION PREVENTION NARRATIVE

EROSION AND SEDIMENT CONTROL PLAN PROJECT OWNER CERTIFICATION:
"THIS EROSION AND SEDIMENT CONTROL REPORT AND ATTACHED SITE CONSTRUCTION PLAN APPEAR TO FULFILL THE TECHNICAL CRITERIA AND THE CRITERIA FOR EROSION AND SEDIMENT CONTROL REQUIREMENTS OF THE CITY OF RAPID CITY. I UNDERSTAND THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE NEEDED IF UNFORESEEN EROSION OR SEDIMENT CONTROL PROBLEMS OCCUR OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED."

_____ _____ DATE
RON WILLIAMS, PE
BLACK HILLS ENERGY, INC.

PROJECT OWNER
BLACK HILLS ENERGY INC.
P.O. BOX 8106
RAPID CITY, SD 57709
OWNER REPRESENTATIVE: RON WILLIAMS
EMAIL ADDRESS: RON.WILLIAMS@BLACKHILLSCORP.COM
PHONE NUMBER: (605) 721-2471

PRIME CONTRACTOR
CONTRACTOR NAME
CONTRACTOR ADDRESS
RAPID CITY, SD 5770*
PROJECT MANAGER: _____
EMAIL ADDRESS: _____
PHONE NUMBER:

EROSION AND SEDIMENT CONTROL PLAN PREPARED BY:
JOHN VAN BEEK, P.E.
FERBER ENGINEERING COMPANY, INC.
729 EAST WATERTOWN STREET
RAPID CITY, SD 57701
PHONE (605) 343-3311
FAX (605) 343-3399

I CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF SOUTH DAKOTA.

_____
JOHN VAN BEEK, P.E. DATE

SITE DESCRIPTION
PROJECT DESCRIPTION:

GRADING/EARTHWORK IN PREPARATION FOR CONSTRUCTION OF A NEW SUBSTATION. CONSTRUCTION INCLUDES, STORM SEWER, SANITARY SEWER, AND ASPHALT & GRAVEL SURFACING.

PROJECT IS LOCATED IN SECTION 34, T2N, R7E, BHM, CITY OF RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA

PROJECT LIMITS: SEE PLAN SHEETS
SITE MAP(S): SEE PLAN SHEETS
MAJOR SOIL DISTURBING ACTIVITIES: CUTTING/FILLING EARTHWORK
TOTAL PROJECT AREA = 10.6 ACRES +/-
TOTAL AREA TO BE DISTURBED = 5.9 ACRES +/-
EXISTING VEGETATIVE COVER (%) 35
SOIL PROPERTIES: SILTY SAND WITH GRAVEL. REFER TO GEOTECHNICAL REPORT.
NAME OF RECEIVING WATER BODY/BODIES: FRENCH CREEK

EROSION AND SEDIMENT CONTROL CONSTRUCTION SITE PLAN
THE ATTACHED EROSION AND SEDIMENT CONTROL CONSTRUCTION SITE PLAN IS PROVIDED TO ESTABLISH A NUMBER OF EROSION CONTROL DEVICES FOR BIDDING PURPOSES AND TO PROVIDE INFORMATION TO THE CONTRACTOR TO AID IN THE PROCESS OF OBTAINING ALL ASSOCIATED CONSTRUCTION PERMITS. THE CONTRACTOR IS RESPONSIBLE FOR THE METHODS AND MEANS REQUIRED FOR IMPLEMENTING ANY AND ALL CONSTRUCTION ACTIVITIES TO BE IN COMPLIANCE WITH ALL PERMITS.

EROSION AND SEDIMENT CONTROL PERMIT
THE OWNER IS THE RESPONSIBLE PARTY FOR OBTAINING A CITY OF RAPID CITY EROSION AND SEDIMENT CONTROL PERMIT FROM THE CITY OF RAPID CITY.

STORMWATER POLLUTION PREVENTION PLAN AND PERMITS
THE OWNER IS THE RESPONSIBLE PARTY FOR PREPARING A NOTICE OF INTENT (NOI) FOR FILING FOR COVERAGE UNDER THE SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (SDDENR) TO OBTAIN COVERAGE UNDER THE GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

BLACK HILLS ENERGY IS THE PROJECT OWNER. RON WILLIAMS IS THE PROJECT MANAGER FOR BLACK HILLS ENERGY. THE NOI AND THE CONTRACTOR CERTIFICATION SHALL BE SUBMITTED TO THE PROJECT OWNER. THE OWNER SHALL SUBMIT NOI TO SDDENR.

THE OWNER IS THE RESPONSIBLE PARTY FOR PREPARING THE NOTICE OF TERMINATION (NOT) FOR THE SDDENR ONCE "FINAL STABILIZATION" HAS BEEN OBTAINED ON THE PROJECT. THE OWNER WILL SUBMIT THE NOT TO THE SDDENR. PLEASE REFER TO THE SDDENR GENERAL PERMIT FOR DEFINITIONS OF FINAL STABILIZATION.

THE CONTRACTOR SHALL AT ALL TIMES HAVE A COPY OF THE SDDENR NOI PERMIT LETTER, STORMWATER POLLUTION PREVENTION PLAN WITH ASSOCIATED EROSION AND SEDIMENT CONTROL PLAN DRAWINGS, AND INSPECTION REPORTS LOCATED WITHIN OR ADJACENT TO THE PROJECT LIMITS AVAILABLE FOR REVIEW. THE CONTRACTOR SHALL ENSURE THAT THIS INFORMATION IS LOCATED WITHIN A WEATHER TIGHT, SECURE ENCLOSURE AND CLEARLY LABELED.

MODIFICATIONS TO THE ESCP
THE ENGINEER MAY ORDER CHANGES TO THE ESCP AND/OR THE CONTRACTOR IS RESPONSIBLE TO REQUEST CHANGES TO THE ESCP IF UNFORESEEN CHANGES OCCUR, OR THE ESCP DOES NOT PERFORM AS INTENDED, OR TO IMPROVE THE EFFECTIVENESS OF THE ESCP, OR TO COMPLY WITH THE SDDENR PERMIT. THE ENGINEER WILL EVALUATE AND DETERMINE IF ANY CONTRACTOR REQUESTED CHANGES TO THE ESCP SHOULD BE MADE. THE CONTRACTOR IS RESPONSIBLE TO IMPLEMENT THESE CHANGES AS SOON AS PRACTICAL.

THE CONTRACTOR SHALL HAVE AVAILABLE, ON-SITE, THE ORIGINAL ESCP WITH ANY MODIFICATIONS IMPLEMENTED IDENTIFIED ON THE ESCP. MODIFICATIONS MUST BE DATED ON THE PLANS TO SHOW INSTALLATION AND/OR REMOVAL.

INSPECTIONS
THE OWNER SHALL ENSURE THAT QUALIFIED PERSONNEL PERFORM INSPECTIONS ON THE PROJECT AT THE FOLLOWING MINIMUM FREQUENCY UNTIL THE SITE HAS REACHED FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO THE SDDENR:

1. PRIOR TO REMOVAL OF ANY SURFACING OR TOPSOIL
2. ONCE EVERY SEVEN CALENDAR DAYS (MINIMUM). THE INSPECTIONS MAY BE REDUCED TO ONCE A MONTH ON ANY PORTION OF THE SITE ONCE THAT PORTION HAS ACHIEVED FINAL STABILIZATION.
3. WITHIN 24 HOURS OF EVERY RAINFALL 1/4 INCH OR GREATER.
4. AFTER A SNOW MELT THAT GENERATES RUNOFF.
5. WITHIN 24 HOURS OF A COMPLAINT BEING MADE TO THE CONTRACTOR OR PROJECT OWNER.

ITEMS NOTED AS BEING NON-COMPLIANT OR NEEDING MAINTENANCE AS A RESULT OF THE INSPECTIONS MUST BE CORRECTED AS SOON AS PRACTICAL. THE SITE SHALL CONTINUE TO BE CONSIDERED IN NON-COMPLIANCE UNTIL THE ISSUE HAS BEEN CORRECTED TO THE SATISFACTION OF THE ENGINEER.

NOTICE OF TERMINATION
THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE ESCP UNTIL A NOTICE OF TERMINATION (NOT) OF COVERAGE UNDER THE GENERAL PERMIT HAS BEEN ISSUED. THE NOTICE WILL BE PREPARED BY THE OWNER AND SUBMITTED TO THE SD DENR WHEN ALL STORM WATER DISCHARGES COVERED BY THE PERMIT ARE ELIMINATED AND FINAL STABILIZATION HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITEE IS RESPONSIBLE. FINAL STABILIZATION MEANS EITHER OR A COMBINATION OF:

1. ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OF THE NATIVE COVER FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES HAS BEEN ESTABLISHED, OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEO-TEXTILES) HAVE BEEN EMPLOYED; OR
2. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES, FINAL STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED AREA TO ITS PRE-CONSTRUCTION AGRICULTURAL USE. AREAS DISTURBED THAT WERE NOT PREVIOUSLY USED FOR AGRICULTURAL ACTIVITIES, SUCH AS BUFFER STRIPS IMMEDIATELY ADJACENT TO "WATERS OF THE STATE" AND AREAS WHICH ARE NOT BEING RETURNED TO THEIR PRE-CONSTRUCTION AGRICULTURAL USE MUST MEET THE FINAL STABILIZATION CRITERIA IN (1) ABOVE.

GOOD HOUSEKEEPING
NON-STRUCTURAL BMP'S USED AS GOOD HOUSEKEEPING MEASURES CAN, TO SOME DEGREE, PREVENT THE DEPOSITION OF POLLUTANTS ON THE URBAN LANDSCAPE OR REMOVE POLLUTANTS AT THEIR SOURCE. THE SOURCE OF POLLUTANTS FOR ASSIMILATION INTO STORM WATER IS THE LAND SURFACE ITSELF, ESPECIALLY THE IMPERVIOUS SURFACES IN THE URBAN AREA. THUS, IT IS EXPECTED THAT WHEN NON-STRUCTURAL MEASURES ARE EFFECTIVELY IMPLEMENTED, THEY WILL REDUCE THE AMOUNT OF POLLUTANTS BEING DEPOSITED ON THE LAND SURFACES FOR EVENTUAL CONTACT WITH STORM WATER AND TRANSPORTED TO THE RECEIVING WATER SYSTEM. THEREFORE, THE CONTRACTOR SHOULD EVALUATE AND DETERMINE WHICH APPROPRIATE GOOD HOUSEKEEPING MEASURES LISTED BELOW SHOULD BE USED.

OPERATIONS AND MAINTENANCE: TO ASSURE THAT EQUIPMENT AND WORK RELATED PROCESSES ARE WORKING WELL; THE FOLLOWING PRACTICES CAN BE IMPLEMENTED:

1. MAINTAIN DRY AND CLEAN FLOORS AND GROUND SURFACES BY USING BROOMS, SHOVELS, VACUUM CLEANERS, OR CLEANING MACHINES RATHER THAN WET CLEANUP METHODS.
2. REGULARLY PICK UP AND DISPOSE OF GARBAGE AND WASTE MATERIAL.
3. MAKE SURE ALL EQUIPMENT AND RELATED PROCESSES ARE WORKING PROPERLY AND PREVENTATIVE MAINTENANCE IS KEPT UP WITH ON BOTH.
4. ROUTINELY INSPECT EQUIPMENT AND PROCESSES FOR LEAKS OR CONDITIONS THAT COULD LEAD TO DISCHARGES OF CHEMICALS OR CONTACT OF STORM WATER WITH RAW MATERIALS, INTERMEDIATE MATERIALS, WASTE MATERIALS, OR PRODUCTS USED ON-SITE.
5. ASSURE ALL SPILL CLEANUP PROCEDURES ARE UNDERSTOOD BY EMPLOYEES. TRAINING OF EMPLOYEES ON PROPER CLEANUP PROCEDURES SHALL BE IMPLEMENTED.
6. DESIGNATE SEPARATE AREAS OF THE SITE FOR AUTO PARKING VEHICLE REFUELING, CONCRETE TRUCK WASH-OUT, AND ROUTINE MAINTENANCE.
7. CLEAN UP LEAKS, DRIPS, AND OTHER SPILLS IMMEDIATELY.
8. COVER AND MAINTAIN DUMPSTERS AND WASTE RECEPTACLES.

MATERIAL STORAGE PRACTICES: IMPROPERLY STORING MATERIAL ON-SITE CAN LEAD TO THE RELEASE OF MATERIALS AND CHEMICALS THAT CAN CAUSE STORM WATER RUNOFF POLLUTION. PROPER STORAGE TECHNIQUES INCLUDE THE FOLLOWING:

1. PROVIDE ADEQUATE AISLE SPACE TO FACILITATE MATERIAL TRANSFER AND EASE OF ACCESS FOR INSPECTION.
2. STORE CONTAINERS, DRUMS, AND BAGS AWAY FROM DIRECT TRAFFIC ROUTES TO PREVENT ACCIDENTAL SPILLS.
3. STACK CONTAINERS ACCORDING TO MANUFACTURER'S INSTRUCTIONS TO AVOID DAMAGING THE CONTAINERS FROM IMPROPER WEIGHT DISTRIBUTION.
4. STORE CONTAINERS ON PALLETS OR SIMILAR DEVICES TO PREVENT CORROSION OF CONTAINERS THAT RESULTS FROM CONTAINERS COMING IN CONTACT WITH MOISTURE ON THE GROUND.
5. STORE TOXIC OR HAZARDOUS LIQUIDS WITHIN CURBED AREA OR SECONDARY CONTAINERS.
6. ASSIGN RESPONSIBILITY OF HAZARDOUS MATERIAL INVENTORY TO A LIMITED NUMBER OF PEOPLE WHO ARE TRAINED TO HANDLE SUCH MATERIALS.

MATERIAL INVENTORY PRACTICES: AN UP-TO-DATE INVENTORY KEPT ON ALL MATERIALS (BOTH HAZARDOUS AND NON-HAZARDOUS) PRESENT ON-SITE WILL HELP TRACK HOW MATERIALS ARE STORED AND HANDLED ONSITE, AND IDENTIFY WHICH MATERIALS AND ACTIVITIES POSE THE MOST RISK TO THE ENVIRONMENT. THE FOLLOWING DESCRIPTION PROVIDES THE BASIC STEPS IN COMPLETING A MATERIAL INVENTORY:

1. IDENTIFY ALL CHEMICAL SUBSTANCES PRESENT AT THE WORK SITE. PERFORM A WALK-THROUGH OF THE SITE, REVIEW PURCHASE ORDERS, LIST CHEMICAL SUBSTANCES USED, AND OBTAIN MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL CHEMICALS.
2. LABEL ALL CONTAINERS. LABELS SHALL PROVIDE NAME AND TYPE OF SUBSTANCE, STOCK NUMBER, EXPIRATION DATE, HEALTH HAZARDS, HANDLING SUGGESTIONS, AND FIRST AID INFORMATION. THIS MATERIAL CAN ALSO BE FOUND ON THE MSDS.
3. CLEARLY MARK ON THE HAZARDOUS MATERIALS INVENTORY WHICH CHEMICALS REQUIRE SPECIAL HANDLING, STORAGE, USE, AND DISPOSAL CONSIDERATIONS. DECISIONS ON THE AMOUNTS OF HAZARDOUS MATERIALS THAT ARE STORED ON-SITE SHALL INCLUDE AN EVALUATION OF ANY EMERGENCY CONTROL SYSTEMS THAT ARE IN PLACE. ALL STORAGE AREAS SHALL BE DESIGNED TO CONTAIN ANY SPILLS.

TRAINING AND PARTICIPATION: FREQUENT AND PROPER TRAINING IN GOOD HOUSEKEEPING TECHNIQUES REDUCES THE POSSIBILITY OF CHEMICALS OR EQUIPMENT THAT WILL BE MISHANDLED. REDUCING WASTE GENERATION IS ANOTHER IMPORTANT POLLUTION PREVENTION TECHNIQUE. THE FOLLOWING ARE WAYS TO GET PEOPLE INVOLVED IN GOOD HOUSEKEEPING PRACTICES.

1. PROVIDE INFORMATION SESSIONS ON GOOD HOUSEKEEPING PRACTICES IN TRAINING PROGRAMS.
2. DISCUSS GOOD HOUSEKEEPING AT MEETINGS.
3. PUBLICIZE POLLUTION PREVENTION THROUGH POSTERS OR SIGNS.

SPILL PREVENTION AND RESPONSE
A SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN (SPCC) IDENTIFIES AREAS WHERE SPILLS CAN OCCUR ON-SITE, SPECIFIES MATERIALS HANDLING PROCEDURES, STORAGE REQUIREMENTS, AND IDENTIFIES SPILL CLEANUP PROCEDURES. THE PLAN IS INTENDED TO ESTABLISH STANDARD OPERATING PROCEDURES AND NECESSARY EMPLOYEE TRAINING TO MINIMIZE THE LIKELIHOOD OF ACCIDENTAL RELEASES OF POLLUTANTS THAT CAN CONTAMINATE STORM WATER.

STORM WATER CONTAMINATION ASSESSMENT, FLOW DIVERSION, RECORD KEEPING, INTERNAL REPORTING, EMPLOYEE TRAINING, AND PREVENTATIVE MAINTENANCE ARE ASSOCIATED BMP'S THAT CAN BE INCORPORATED INTO A COMPREHENSIVE SPILL PREVENTION PLAN.

EMERGENCY SPILL CLEANUP PLANS SHALL INCLUDE THE FOLLOWING INFORMATION:

1. A DESCRIPTION OF THE FACILITY INCLUDING THE NATURE OF THE FACILITY ACTIVITY AND GENERAL TYPES AND QUANTITIES OF CHEMICALS STORED AT THE FACILITY.
2. THE SITE PLAN SHOWING THE LOCATION OF STORAGE AREAS OF CHEMICALS. THE LOCTION OF STORM DRAINS, SITE DRAINAGE PATTERNS. FIREFIGHTING EQUIPMENT AND WATER SOURCE LOCATIONS, AND THE LOCATION AND DESCRIPTION OF ANY DEVICES USED TO CONTAIN SPILLS SUCH AS POSITIVE CONTROL VALVES.
3. NOTIFICATION PROCEDURES TO BE INPLEMENTED IN THE EVENT OF A SPILL SUCH AS PHONE NUMBERS OF KEY PERSONNEL AND APPROPRIATE REGULATRY AGENCIES.
4. INSTRUCTIONS REGARDING CLEANUP PROCEDURES.
5. DESIGNATED PERSONNEL WITH OVERALL SPILL RESPONSE CLEANUP RESPONSIBILITY.
6. QUICK NOTIFICATION OF LOCAL FIRE AND RESCUE FOR SPILLS THAT CANNOT BE HANDLED BY LOCAL SITE STAFF

METHODS OF ENSURING SURFACE WATER QUALITY
THE ONLY NON-STORM WATER DISCHARGE ALLOWED BY THE GENERAL PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES IS UNCONTAMINATED GROUND WATER OR WATERS, USED AS A BEST MANAGEMENT PRACTICE, TO WASH VEHICLES AND CONTROL DUST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A GENERAL PERMIT TO DISCHARGE UNDER THE SOUTH DAKOTA SURFACE WATER DISCHARGE SYSTEM FOR TEMPORARY DISCHARGE ACTIVITIES IN SOUTH DAKOTA (DEWATERING PERMIT) FOR ALL OTHER NON-STORM WATER DISCHARGES. ALL MONITORING, TESTING, AND OTHER REQUIREMENTS OF THE DEWATERING PERMIT ARE THE RESPONSIBILITY OF THE CONTRACTOR.

PUMPING (MECHANICALLY DISCHARGING) SEDIMENT LADEN WATER INCLUDING PONDED STORM WATER OR CONTAMINATED TRENCH DEWATERING INTO THE STORM SEWER OR OFF THE PROJECT SITE IS NOT COVERED UNDER THE GENERAL PERMIT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AND COMPLY WITH A DEWATERING PERMIT FOR THESE ACTIVITIES. THE ENGINEER MAY NOTIFY THE SD DENR IF THE CONTRACTOR IS OBSERVED PUMPING SEDIMENT LADEN WATER INTO THE STORM SEWER OR OFF SITE. PUMPING SEDIMENT LADEN STORM WATER THROUGH INLET PROTECTION IS NOT ALLOWED AS A BMP.

IN LIEU OF PUMPING SEDIMENT LADEN WATER THE FOLLOWING ARE SOME METHODS THE CONTRACTOR MAY USE TO CONTROL SEDIMENT LADEN WATER:

1. THE BEST METHOD IS FOR THE CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE DURING ALL PHASES OF THE PROJECT TO PREVENT WATER FROM PONDING ON THE PROJECT.
2. TREAT THE SEDIMENT LADEN WATER ON-SITE THROUGH THE USE OF FILTER BAGS, DEFLOCCULATING CHEMICALS, SEDIMENT BASINS, OR A PORTABLE CONTAINMENT SYSTEM.
3. PUMP OR DISCHARGE THE WATER TO OTHER PORTIONS OF THE SITE. THIS IS ALLOWED IF WATERS DO NOT LEAVE THE PROJECT LIMITS.

MODIFICATIONS OF EROSION AND SEDIMENT CONTROL DEVICES TO PREVENT PROPERTY DAMAGE
THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN DRAINAGE. IN THE EVENT THAT AN EROSION OR SEDIMENT CONTROL DEVICE IS OBSTRUCTING DRAINAGE AND DAMAGE TO PROPERTY IS POSSIBLE THE CONTRACTOR MAY TEMPORARILY MODIFY OR REMOVE THE DEVICE TO FACILITATE DRAINAGE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER TO DISCUSS AND IMPLEMENT ALTERNATIVES TO COMPLY WITH THE ESCP AND GENERAL PERMIT.

DURING THE COURSE OF CONSTRUCTION HEAVY RAINFALL EVENTS MAY OCCUR. THE CONTRACTOR SHALL MAKE SURE THAT THE STORMWATER RUNOFF WILL GO INTO THE INLETS, WHICH MAY REQUIRE REMOVING THE INLET PROTECTION TEMPORARILY. IN NO CASE SHALL THE INLETS BE SO PLUGGED AS TO ALLOW STORMWATER TO GET ONTO HOMEOWNERS PROPERTY OR INTO BASEMENTS. I.E. THE CONTRACTOR NEEDS TO HAVE PERSONNEL ON-SITE DURING RAIN EVENTS TO PULL INLET PROTECTION IF FLOODING OF PRIVATE PROPERTY BEGINS. DO NOT PULL PRIOR TO STORM EVENTS OR IF THE EVENT IS SMALL.

SOIL SURFACE STABILIZATION PRACTICES
AFTER CONSTRUCTION BEGINS, SOIL SURFACE STABILIZATION SHALL BE APPLIED WITHIN 14 DAYS TO ALL DISTURBED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR PERIODS LONGER THAN 21 CALENDAR DAYS. WITHIN 14 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE, PERMANENT OR TEMPORARY SOIL SURFACE STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS AND SOIL STOCKPILES. THE FOLLOWING TABLE LISTS THE AMOUNT OF TIME VARIOUS EROSION CONTROL MEASURES ARE APPLICABLE:

MAXIMUM TIME LIMITS OF LAND EXPOSURES FOR SELECTION OF EROSION CONTROLS

EROSION CONTROL METHOD	MAXIMUM ALLOWABLE PERIOD OF EXPOSURE (MONTHS)
SURFACE ROUGHENING	1
MULCHING	12
TEMPORARY RE-VEGETATION	12-24
PERMANENT RE-VEGETATION	24 OR MORE
SOIL STOCKPILE RE-VEGETATION	2
EARLY APPLICATION OF ROAD BASE	1

MAINTENANCE
THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND REPAIRING ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVICES UNTIL A NOTICE OF TERMINATION IS FILED. NO SEPARATE PAYMENT WILL BE MADE TO THE CONTRACTOR FOR MAINTAINING OR REPAIRING THESE ITEMS.

REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES
THE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL TEMPORARY EROSION CONTROL AND SEDIMENT CONTROL DEVICES WHEN THE SITE REACHES FINAL STABILIZATION. THE OWNER MAY ORDER SPECIFIC TEMPORARY EROSION CONTROL AND SEDIMENT CONTROL DEVICES TO REMAIN IN-PLACE PAST FINAL STABILIZATION. THE CONTRACTOR WILL NOT BE RESPONSIBLE TO REMOVE THESE ITEMS.

PERMANENT STABILIZATION MEASURES
PERMANENT SEEDING WILL BE USED FOR PERMANENT STABILIZATION OF ALL AREAS LOCATED THROUGHOUT THE PROJECT. AREAS WITH SLOPES EXCEEDING 3:1 WILL BE PROTECTED WITH EROSION CONTROL BLANKET.

EROSION AND SEDIMENT CONTROL SEQUENCE AND TIME SCHEDULE
THE FOLLOWING SEQUENCE AND TIME SCHEDULE ARE INTENDED TO PROVIDE A GUIDELINE TO THE CONTRACTOR FOR THE INSTALLATION AND IMPLEMENTATION OF THE EROSION CONTROL PLAN DURING CONSTRUCTION. THE SEQUENCE AND TIME SCHEDULE ARE FOR REFERENCE ONLY AND MAY CHANGE DEPENDING ON THE CONTRACTOR'S SEQUENCE OF OPERATIONS AND MUST BE APPROVED BY THE ENGINEER PRIOR TO MAKING CHANGES.

TIME SCHEDULE:

ANTICIPATED START DATE OF CONSTRUCTION IS _____ __, 2018
INSTALL PRELIMINARY EROSION CONTROL MEASURES SUCH AS SILT FENCE, SEDIMENT CONTROL WATTLES, INLET PROTECTION SEDIMENT TRAPS, AND VEHICLE TRACKING CONTROL PRIOR TO BEGINNING GRADING ACTIVITIES
ANTICIPATED COMPLETION DATE IS _____ __, 2018
PLACE SEED MIX AND SOD NO MORE THAN 14 DAYS AFTER FINAL GRADING WORK IS COMPLETE.
INSTALL EROSION CONTROL MEASURES SUCH AS SILT FENCE, MULCH, WATTLES, AND ANY OTHER MEASURES DEEMED NECESSARY BY THE ENGINEER UPON COMPLETION OF FINAL GRADING.

08-14-18 P:\18-123\AutoCAD\PlanSheets\18-123EROS.dwg

Prepared For: Black Hills Energy

Prepared By:
▪ Civil Engineering ▪ Geospatial Solutions ▪ Water Resources ▪ Transportation ▪ Land Surveying
729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
6018
JOHN RAYMOND VAN BEEK
SOUTH DAKOTA
8/31/18

Scale:

Designed By:	Drawn By:
DAL	BDH/ERK
Design Date:	Print Date:
JUNE 2018	08-31-18
Internal Job No:	
18-123	
Surveyed By:	Survey Date:
JUB/KQH	MAY 2018

Revisions:

WEST RAPID CITY SUBSTATION SITE DEVELOPMENT

BLACK HILLS ENERGY RAPID CITY, SD

Sheet Title:
EROSION CONTROL SWPPP

Sheet:
C-200

EROSION AND SEDIMENT CONTROL MEASURES

INSTALLATION OF TEMPORARY EROSION CONTROL MEASURES

THE CONTRACTOR SHALL NOT BEGIN THE REMOVAL OF SURFACING OR TOPSOIL WITHIN THE APPLICABLE WORK AREA UNTIL ALL APPLICABLE TEMPORARY EROSION CONTROL MEASURES ARE PLACED. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED AS NECESSARY AS CONSTRUCTION PROGRESSES AND THESE TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED WITHIN 24 HOURS AT LOCATIONS IDENTIFIED ON THE ESCP.

PERIMETER PROTECTION

PERIMETER PROTECTION SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, TO RETAIN SEDIMENT FROM BEING TRANSPORTED OFF THE PROJECT SITE. PERIMETER PROTECTION MAY BE CONSTRUCTED WITH SILT FENCE OR SEDIMENT CONTROL WATTLES. PERIMETER PROTECTION SHALL BE INSPECTED IN ACCORDANCE WITH THE SWPPP AND/OR EROSION SEDIMENT CONTROL PERMIT.

SEDIMENT CONTROL WATTLES (SCW)

SEDIMENT CONTROL WATTLES CAN BE USED FOR PERIMETER CONTROL, INLET PROTECTION, CHECK DAMS, SLOPE PROTECTION, ETC. AND SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON THE DRAWINGS AND AT LOCATIONS DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

THE CONTRACTOR SHALL PROVIDE CERTIFICATION THAT THE SEDIMENT CONTROL WATTLES DO NOT CONTAIN NOXIOUS WEED SEEDS. FOR COMPOST SOCKS THE CONTRACTOR SHALL ALSO PROVIDE CERTIFICATION THAT THE COMPOST USED IS FREE FROM NOXIOUS WEED SEEDS.

THE CONTRACTOR SHALL REMOVE SEDIMENT TRAPPED BY THE WATTLE WHEN THE SURFACE OF THE SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE EXPOSED WATTLE. DAMAGED AREAS SHOULD BE REPAIRED IMMEDIATELY UNTIL THE VEGETATION IS ESTABLISHED AND GROWING THROUGH THE MATERIAL.

THE SEDIMENT CONTROL WATTLE SHALL BE THE DIAMETER SHOWN ON THE DRAWINGS AND SELECTED FROM THE MANUFACTURERS LISTED BELOW; OR APPROVED EQUAL:

MANUFACTURER	PRODUCT NAME
AMERICAN EXCELSIOR COMPANY ARLINGTON, TX PHONE: 1-800-777-7645 WWW.AMEREXCEL.COM	CURLEX SEDIMENT LOG AND AEC PREMIER STRAW WATTLE
FLAXTECH LLC ROCKLAKE, ND PHONE: 701-266-5417 WWW.FLAXTECH.NET	BIOLOG FLAX STRAW WATTLE
DIOTEN ENGINEERING, INC. RAPID CITY, SD WWW.DIOTEN.COM	COMPOST FILTER SOCK
ASPEN RIDGE RAPID CITY, SD PHONE 605-415-0695 WWW.SILTSOCKSD.COM	SILT SOCK

THE CONTRACTOR SHALL INSTALL EROSION CONTROL WATTLES ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

EROSION CONTROL BLANKET (ECB)

EROSION CONTROL BLANKET SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON THE DRAWINGS AND AT LOCATIONS DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

EROSION CONTROL BLANKETS ARE PLACED INTO THE FOLLOWING CATEGORIES:

- TYPE 1 – USED FOR TEMPORARY STABILIZATION OF SLOPES OF LESS THAN 10H:1V, NOT ALLOWED IN CHANNEL APPLICATIONS;
- TYPE 2 – USED FOR TEMPORARY STABILIZATION OF SLOPES OF 3H:1V OR LESS, CAN BE USED IN LOW GRADIENT DITCHES AND CHANNELS;
- TYPE 3 – USED FOR TEMPORARY STABILIZATION OF SLOPES OF 2H:1V OR LESS, USED IN DITCHES AND CHANNELS; AND
- TYPE 4 – USED FOR TEMPORARY STABILIZATION OF SLOPES OF 1H:1V OR LESS, USED IN DITCHES AND CHANNELS.

THE EROSION CONTROL BLANKET SHALL BE SELECTED FROM THE MANUFACTURERS LISTED BELOW, OR APPROVED EQUAL:

MANUFACTURER	PRODUCT NAME
AMERICAN EXCELSIOR CO ARLINGTON, TX PHONE: 1-800-777-7645 WWW.AMEREXCEL.COM	TYPE 1: CURLEX NETFREE, CURLEX I; AEC PREMIER STRAW S TYPE 2: CURLEX II; AEC PREMIER STRAW 2 TYPE 3: CURLEX III; AEC PREMIER STRAW/COCONUT2 TYPE 4: AEC PREMIER COCONUT 2/NET
WESTERN EXCELSIOR MANCOS, CO PHONE: 1-800-833-8573 WWW.WESTERNEXCELSIOR.COM	TYPE 1 -SS2 RG TYPE 2 - SS2 TYPE 3 - S2 TYPE 4 - CC4

THE CONTRACTOR SHALL INSTALL EROSION CONTROL BLANKET ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

TURF REINFORCEMENT MAT (TRM)

TURF REINFORCEMENT MAT SHALL BE INSTALLED AT LOCATIONS AND AT THE WIDTHS SPECIFIED AS SHOWN ON THE DRAWINGS, AND AT ANY OTHER LOCATIONS DEEMED NECESSARY DURING CONSTRUCTION.

TURF REINFORCEMENT MATS ARE PLACED INTO THE FOLLOWING CATEGORIES:

- TYPE 1 – USED FOR PERMANENT STABILIZATION OF CHANNELS WITH MAXIMUM SHEAR STRESS OF 6 POUNDS PER SQUARE FOOT (LBS/SF);
- TYPE 2 – USED FOR PERMANENT STABILIZATION OF CHANNELS WITH MAXIMUM SHEAR STRESS OF 8 LBS/SF;
- TYPE 3 – USED FOR PERMANENT STABILIZATION OF CHANNELS WITH MAXIMUM SHEAR STRESS OF 10 LBS/SF. SHEAR STRESS OF GREATER THAN 10 LBS/SF REQUIRES THE USE OF OTHER EROSION CONTROL MATERIALS.

THE TURF REINFORCEMENT MAT SHALL BE SELECTED FROM THE MANUFACTURERS LISTED BELOW, OR APPROVED EQUAL:

MANUFACTURER	PRODUCT NAME
AMERICAN EXCELSIOR CO ARLINGTON, TX PHONE: 1-800-777-7645 WWW.AMEREXCEL.COM	TYPE 1: RECYCLEX TRM-V TYPE 2: RECYCLEX TRM TYPE 3: CURLEX ENFORCER
WESTERN EXCELSIOR MANCOS, CO PHONE: 1-800-833-8573 WWW.WESTERNEXCELSIOR.COM	TYPE 1 - PP5-8 TYPE 2 - PP5-10 TYPE 3 - PP5-12
PROPEX GEOTEXTILE SYSTEMS CHATTANOOGA, TN PHONE: 800-62-1273 WWW.PROPEXBRANDS.COM	TYPE 1 - LANDLOK 435 TYPE 2 - LANDLOK 450 TYPE 3 - PYRAMAT TAN/GREEN

THE CONTRACTOR SHALL INSTALL THE TURF REINFORCEMENT MAT ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

SHAPING FOR EROSION CONTROL BLANKET AND TURF REINFORCEMENT MAT

THE AREAS RECEIVING EROSION CONTROL BLANKET AND TURF REINFORCEMENT MAT SHALL BE SHAPED AS SPECIFIED IN MANUFACTURER'S RECOMMENDATIONS.

VEHICLE TRACKING CONTROL (VTC)

THE CONTRACTOR SHALL INSTALL VEHICLE TRACKING CONTROL MEASURES AT LOCATIONS AS SHOWN ON THE PLANS

THE CONTRACTOR SHALL MAINTAIN THE VEHICLE TRACKING CONTROL SUCH THAT MUD TRACKING AND SEDIMENT FLOW WILL NOT ENTER THE ROADWAY OR ADJACENT DRAINAGE AREAS. THE VEHICLE TRACKING CONTROL SHALL BE ROUTINELY INSPECTED AND THE CONTRACTOR SHALL REPAIR OR REPLACE MATERIAL AS DEEMED NECESSARY BY THE ENGINEER.

GRANULAR MATERIAL FOR VEHICLE TRACKING CONTROL

GRANULAR MATERIAL SHALL BE PLACED IN 6 INCH MAXIMUM LIFTS.

AGGREGATE FOR GRANULAR MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
3"	100%
2 ½"	90-100%
1 ½"	25-60%
¾"	0-10%
½"	0-5%

CONCRETE WASHOUT AREA (CWA)

CONCRETE WASHOUT AREA SHALL BE PROVIDED FOR CONCRETE TRUCKS AS NECESSARY.

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Prepared For:

Black Hills Energy

Prepared By:

▪ Civil Engineering ▪ Geospatial Solutions ▪ Water Resources ▪ Transportation ▪ Land Surveying

729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 6018
JOHN RAYMOND VAN BEEK
SOUTH DAKOTA
8/31/18

Scale:	
Designed By: DAL	Drawn By: BDH/ERK
Design Date: JUNE 2018	Print Date: 08-31-18
Internal Job No: 18-123	
Surveyed By: JUB/KQH	Survey Date: MAY 2018
Revisions:	

WEST RAPID CITY SUBSTATION SITE DEVELOPMENT

BLACK HILLS ENERGY RAPID CITY, SD

Sheet Title:

EROSION CONTROL NOTES

Sheet:

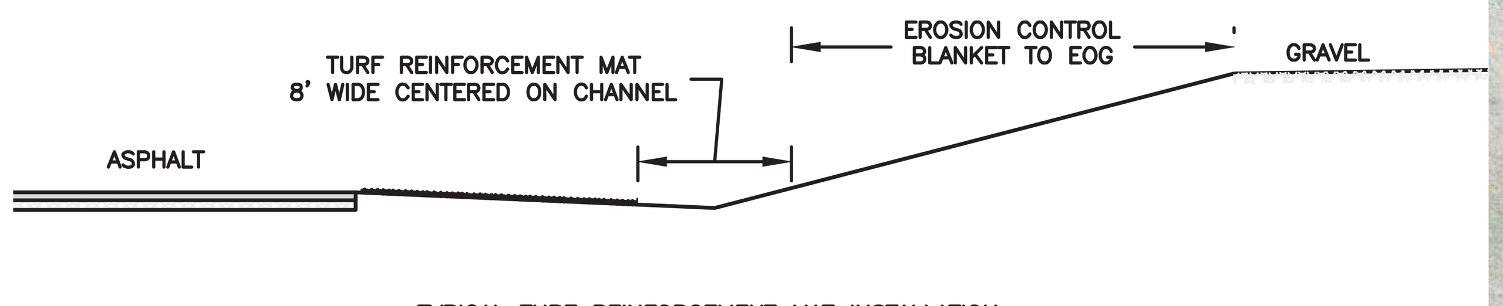
C-201

LEGEND

(arrow)		FLOW DIRECTION
(curve)	SCW	12" SEDIMENT CONTROL WATTLE
> · >	TSB	TOPSOIL BERM
(hatch)	ECB	EROSION CONTROL BLANKET (TYPE 2)
(pattern)	VTC	VEHICLE TRACKING CONTROL
(pattern)	TRM	TURF REINFORCEMENT MAT (TYPE 2)
(pattern)		RIPRAP

NOTE:

THE INTENT OF THIS EROSION CONTROL LAYOUT IS TO PROVIDE GUIDANCE FOR SWPPP PREPARATION AND TO AID IN THE PROCESS OF OBTAINING THE NECESSARY CONSTRUCTION PERMITS. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS REQUIRED FOR IMPLEMENTING ANY AND ALL CONSTRUCTION ACTIVITIES TO BE IN COMPLIANCE WITH THE SWPPP AND ASSOCIATED PERMITS.



TYPICAL TURF REINFORCEMENT MAT INSTALLATION

08-14-18 P:\18-123\AutoCAD\PlanSheets\18-123EROS.dwg

Prepared For: Black Hills Energy

Prepared By: FEC
• Civil Engineering
• Geospatial Solutions
• Water Resources
• Transportation
• Land Surveying
729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

REGISTERED PROFESSIONAL ENGINEER, REG. NO. 8019, JOHN RAYMOND VAN BEEK, SOUTH DAKOTA — 8/31/18

Scale:	
Designed By: DAL	Drawn By: BDH/ERK
Design Date: JUNE 2018	Print Date: 08-31-18
Internal Job No: 18-123	
Surveyed By: JUB/KQH	Survey Date: MAY 2018
Revisions:	

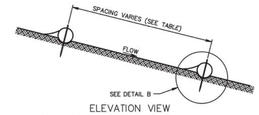
WEST RAPID CITY SUBSTATION SITE DEVELOPMENT

BLACK HILLS ENERGY RAPID CITY, SD

Sheet Title: EROSION CONTROL PLAN

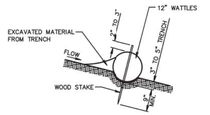
Sheet: C-202

SCW — SEDIMENT CONTROL WATTLE

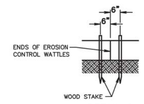


ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION

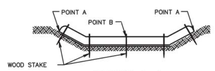
CUT OR FILL SLOPE * INSTALLATION	
SLOPE	SPACING (FT)
1:1	10
2:1	20
3:1	30
4:1	40



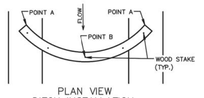
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C



SECTION A–A



PLAN VIEW
DITCH INSTALLATION

DITCH INSTALLATION	
GRADE	SPACING (FT)
2%	150
3%	100
4%	75
5%	50

GENERAL NOTES:

AT CUT OR FILL SLOPE INSTALLATIONS, WATTLES SHALL BE INSTALLED ALONG THE CONTOUR AND PERPENDICULAR TO THE WATER FLOW.

AT DITCH INSTALLATIONS, POINT 'A' MUST BE HIGHER THAN POINT 'B' TO ENSURE THAT WATER FLOWS OVER THE WATTLE AND NOT AROUND THE ENDS.

THE CONTRACTOR SHALL DIG A 3" TO 5" TRENCH, INSTALL THE WATTLE TIGHTLY IN THE TRENCH SO THAT DAYLIGHT CAN NOT BE SEEN UNDER THE WATTLE, AND THEN COMPACT THE SOIL EXCAVATED FROM THE TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. SEE DETAIL B.

THE STAKES SHALL BE 1"X3" OR 2"X2" WOOD STAKES, THE STAKES SHALL BE PLACED 6" FROM THE ENDS OF THE WATTLES AND THE SPACING OF THE STAKES ALONG THE WATTLES SHALL BE 3' TO 4'.

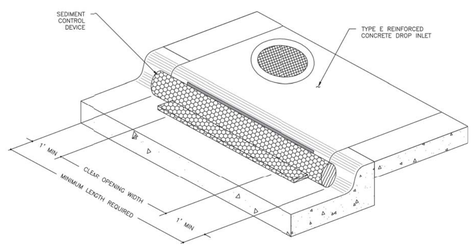
WHERE INSTALLING RUNNING LENGTHS OF WATTLES, THE CONTRACTOR SHALL BUTT THE SECOND WATTLE TIGHTLY AGAINST THE FIRST AND SHALL NOT OVERLAP THE ENDS. SEE DETAIL C

CITY OF RAPID CITY — PUBLIC WORKS DEPARTMENT

SEDIMENT CONTROL WATTLE

DATE: 2–16–12 — SEC. – SHT. 150–3

IP — INLET PROTECTION DEVICE



ISOMETRIC VIEW

GENERAL NOTES:

THE TYPE OF SEDIMENT CONTROL DEVICE SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY.

THE TYPE OF SEDIMENT CONTROL DEVICE USED SHALL BE ONE OF THE TYPES AS SPECIFIED IN THE PLANS.

THE SEDIMENT CONTROL DEVICE SHALL BE PLACED AT THE DROP INLETS ACCORDING TO THE MANUFACTURES' INSTALLATION INSTRUCTIONS.

THE SEDIMENT CONTROL AT INLET FOR TYPE 'S REINFORCED CONCRETE DROP INLET SHALL BE PLACED AT LOCATIONS STATED IN THE PLANS OR AT LOCATIONS DETERMINED BY THE ENGINEER.

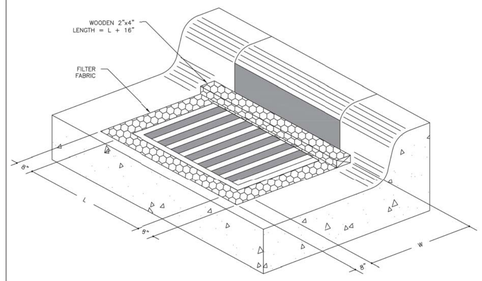
CITY OF RAPID CITY — PUBLIC WORKS DEPARTMENT

SEDIMENT CONTROL AT INLETS FOR TYPE E REINFORCED CONCRETE DROP INLETS

DATE: 2–12–16 — SEC. – SHT. 150–5

IPD — INLET PROTECTION DEVICE

L = LENGTH OF GRATE
W = WIDTH OF GRATE



ISOMETRIC VIEW

GENERAL NOTES:

THE GRATE AND CURB AND GUTTER SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY.

THE SEDIMENT CONTROL AT INLET WITH FRAME AND GRATE SHALL BE PLACED AT LOCATIONS STATED IN THE PLANS OR AT LOCATIONS DETERMINED BY THE ENGINEER.

THE FILTER FABRIC SHALL BE THE TYPE SPECIFIED IN THE PLANS.

THE FILTER FABRIC SHALL BE PLACED IN THE INLET OPENING PRIOR TO PLACING THE GRATE. APPROXIMATELY 18" OF EXCESS FILTER FABRIC SHALL BE WRAPPED AROUND THE 2"x4" AND STAPLED SECURELY TO THE 2"x4" AFTER THE GRATE HAS BEEN PLACED.

CITY OF RAPID CITY — PUBLIC WORKS DEPARTMENT

SEDIMENT CONTROL AT TYPE B

DATE: 2–12–16 — SEC. – SHT. 150–6

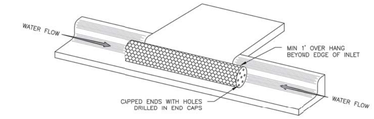
IPD — INLET PROTECTION

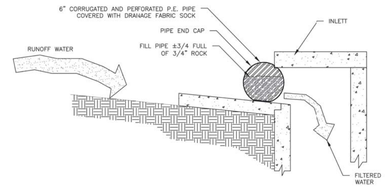
DEFINITION:

A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET.

PURPOSE:

TO REDUCE SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF DISTURBED AREAS.





SPECIFIC APPLICATION:

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AN UNPROTECTED AREAS. CLEAN OUT AS NECESSARY TO PREVENT BLOCKAGE OF RUNOFF CONVEYANCE.

CITY OF RAPID CITY — PUBLIC WORKS DEPARTMENT

CORRUGATED PIPE AND FABRIC INLET PROTECTION

DATE: 2–16–12 — SEC. – SHT. 150–7

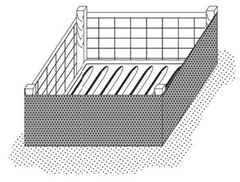
IP — INLET PROTECTION

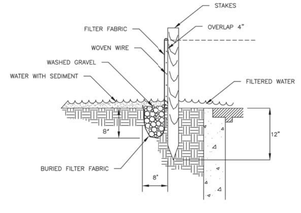
DEFINITION:

A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET.

PURPOSE:

TO REDUCE SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF DISTURBED AREAS.





1. SET POSTS
2. EXCAVATE AN 8"x8" TRENCH UPSLOPE ALONG THE POSTS
3. ATTACH A SUPPORTING WIRE FENCE TO THE POSTS
4. ATTACH FABRIC SANDWICH 4" FABRIC OVERLAP BETWEEN POSTS AND WIRE AND EXTEND INTO TRENCH
5. BACK FILL TRENCH. IF ROCKY TYPE SOILS ARE ENCOUNTERED, UTILIZE 30 TO 40 LB SANDBAGS BUTTED END TO END TO PREVENT UNDERFLOW
6. ATTACH FABRIC WITH HOG RINGS 12" MAXIMUM HORIZONTAL SPACING ON TOP AND BOTTOM OF THE WOVEN WIRE AND WITH STAPLES OR WIRE TIES AT 12" MAXIMUM VERTICAL SPACING ON THE POSTS

CITY OF RAPID CITY — PUBLIC WORKS DEPARTMENT

SILT FENCE DROP INLET PROTECTION DEVICE

DATE: 2–16–12 — SEC.–SHT. 150–8

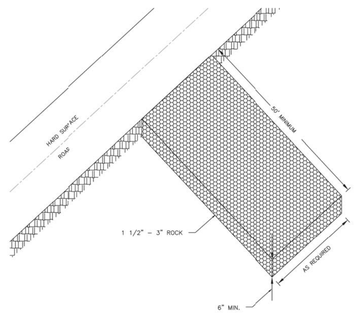
VTC — VEHICLE TRACKING CONTROL

DEFINITION:

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE

PURPOSE:

TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO ROADS BY MOTOR VEHICLES OR RUNOFF



CITY OF RAPID CITY — PUBLIC WORKS DEPARTMENT

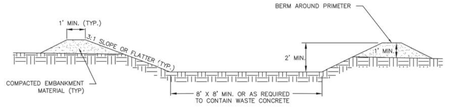
TEMPORARY VEHICLE TRACKING CONTROL

DATE: 2–16–12 — SEC.–SHT. 150–9

CWA — CONCRETE WASHOUT AREA

NOTES:

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE
2. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGE TO CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
3. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE
4. WHEN THE CONCRETE WASHOUT AREA IS REMOVE, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY THE ENGINEER



CROSS SECTIONAL VIEW

CITY OF RAPID CITY — PUBLIC WORKS DEPARTMENT

CONCRETE WASHOUT AREA

DATE: 2–16–12 — SEC. – SHT. 150–11

Prepared For:
Black Hills Energy

Prepared By:
▪ Civil Engineering ▪ Geospatial Solutions ▪ Water Resources ▪ Transportation ▪ Land Surveying
729 East Watertown St, Rapid City, SD 57701 ~ Phone: (605) 343-3311

REGISTERED PROFESSIONAL ENGINEER — REG. NO. 6018 — JOHN RAYMOND VAN BEEK — SOUTH DAKOTA — 8/31/18

Scale:	
Designed By: DAL	Drawn By: BDH/ERK
Design Date: JUNE 2018	Print Date: 08-31-18
Internal Job No: 18-123	
Surveyed By: JUB/KQH	Survey Date: MAY 2018
Revisions:	

WEST RAPID CITY SUBSTATION SITE DEVELOPMENT

BLACK HILLS ENERGY RAPID CITY, SD

Sheet Title:

EROSION CONTROL DETAILS

Sheet:

C-203

08–14–18 P:\18–123\AutoCAD\PlotSheets\18–123EROS.dwg

Appendix F – Example Reports

F1 – Inspection Forms

F2 – Corrective Action Log

F3 – SWPPP Amendment Log

F4 – Grading and Stabilization Activities Log

F5 – Spill Documentation Form

BMP INSPECTION & MAINTENANCE FORM

To be completed
Once every 7 days.

Submit weekly to Black Hills Energy Environmental Services

DATE OF INSPECTION: _____

TIME OF INSPECTION: _____ am / pm

NAME / TITLE OF INSPECTOR: _____

TYPE OF INSPECTION: ☐ Pre-Precipitation ☐ Post-Precipitation
☐ During Extended Storm Event ☐ Routine Inspection

WEATHER CONDITIONS: _____

DATE / AMOUNT OF MOST RECENT PRECIPITATION EVENT: _____

Inspection Frequency: Every 7 days. Per Permit Section 4.2.1 if inspections are performed every 7 days, a rain gauge is not required and storm event measurements are not required.

DESCRIPTION OF AREAS CURRENTLY DISTURBED BY CONSTRUCTION ACTIVITIES:

_____

_____

_____

_____

_____

_____

_____

BMP INSPECTION CHECKLIST			
YES	**NO**	**N/A**	**CONDITION**
			1. Are storm water control structures free of debris?
			2. Is there any evidence of erosion?
			3. Is there any evidence of ponding?
			4. Is there any evidence that mud or muddy water (or other measurable quantity of sediment) is leaving the site?
			5. Are all operational storm drain inlets protected from sediment inflow?
			6. Are soil stockpiles in approved areas?
			7. Are adequate drainage and erosion controls placed around soil stockpiles?
			8. Do any of the BMPs currently in place require maintenance or repair?
			9. Are additional BMPs required to control storm water pollution runoff?
			10. Are there spills, leaks, or other accumulation of pollutants on the site?
			11. Is a Corrective Action Plan required?

REQUIRED MAINTENANCE OR CORRECTIVE ACTIONS:

RECOMMENDED MODIFICATIONS TO SWPPP:

ADDITIONAL COMMENTS:

☐ **Check box if:** No incidents of non-compliance were found, and I certify that this inspection found the site to be fully in compliance with both the Stormwater Pollution Prevention Plan and the General Permit Authorizing Stormwater Discharges Associated with Construction Activities under the South Dakota Surface Water Discharge System.

Certification Statement: *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 qualified personal 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 there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

Signature:_____ Date: _____

Black Hills Energy has authorized the designated stormwater inspector to Sign and Certify inspection reports.

Corrective Action Log

Project Name:
SWPPP Contact:

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

SWPPP Amendment Log

Project Name:
SWPPP Contact:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Grading and Stabilization Activities Log

Project Name:
SWPPP Contact:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location

Spill Documentation Form

Name:

Position:

Date and Time of Spill:

Emergency Coordinator Phone Numbers:

Were Materials Discharged? (Y / N) Confidential? (Y / N)

Does Spill Meet Federal Obligations to Report? (Y / N)

Incident Description

Material Spilled:

Quantity and Concentration of Spill:

Location of Spill:

Material Contaminated:

Actions taken to correct, control, or mitigate incident:

Date Remedial Actions Completed:

Name of Person Responsible for Spill Remediation:

Position:

Impact

Number of injuries: _____ Number of deaths: _____

Were there evacuations? (Y / N) Number evacuated: _____

Was there any damage? (Y / N)

Potential hazards to health, safety and/or environment:

Additional Information

Any information about the incident that was not reported elsewhere in this form:

Caller Notification EPA (Y / N) USCG (Y / N) State (Y / N) Other:

Appendix G –Completed Inspections Reports

Appendix H – Training Log and Training Information

SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ Erosion Control BMPs
- ❑ Sediment Control BMPs
- ❑ Non-Stormwater BMPs
- ❑ Emergency Procedures
- ❑ Good Housekeeping BMPs

Specific Training Objective:_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name: West Rapid Substation + Sanitary Sewer Extension

Project Location: 409 Deadwood Ave.

Instructor's Name(s): Shannon Pollmiller

Instructor's Title(s): Environmental Professional

Course Location: Rapid City, SD Date: 6/4/19

Course Length (hours): 20mins

Stormwater Training Topic: *(check as appropriate)*

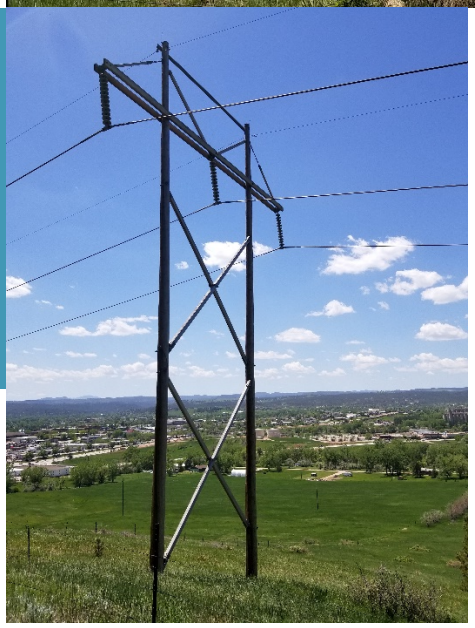
- ☑ **Erosion Control BMPs**
- ☑ **Sediment Control BMPs**
- ☑ **Non-Stormwater BMPs**
- ☑ **Emergency Procedures**
- ☑ **Good Housekeeping BMPs**

Specific Training Objective: Stormwater Plan.

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1	Jason Prestjohn	Quinn Con
2	Ethan Peterson	Quinn Con.
3	Mike Hollister	Besler, INC.
4	Mike Palmer	Three Sons Landscaping
5	Dave Mulck	Ferber Engineering Co
6	John Van Beck	Ferber Engineering Co
7	Derek Smith	Quinn Construction
8		
9		
10		

Appendix I – Critical Issues Analysis



Critical Issues Analysis

West Rapid City

230 kV

Rapid City, South Dakota

Prepared For:
Black Hills Corporation

Prepared By:
HDR Engineering, Inc.
703 Main Street
Suite 200
Rapid City, SD 57701

June 2018

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Introduction

Black Hills Corporation (BHC) is considering the construction of a double circuit 230 kV transmission line from an existing 230 kV line located east of the Black Hills Energy Service Center in Rapid City, South Dakota to a proposed substation on the west side of the Service Center. The proposed double circuit line will serve as an in and out. Construction is slated for spring of 2019, with energization by December 2019. This analysis summarizes the critical issues for the proposed approximate 0.8 mile double circuit 230 kV transmission line (the project) which will run from the existing line to the proposed substation.

HDR's critical issues analysis primarily included a desktop evaluation of the environmental characteristics of study area for the proposed transmission line. The analysis reviewed the following information:

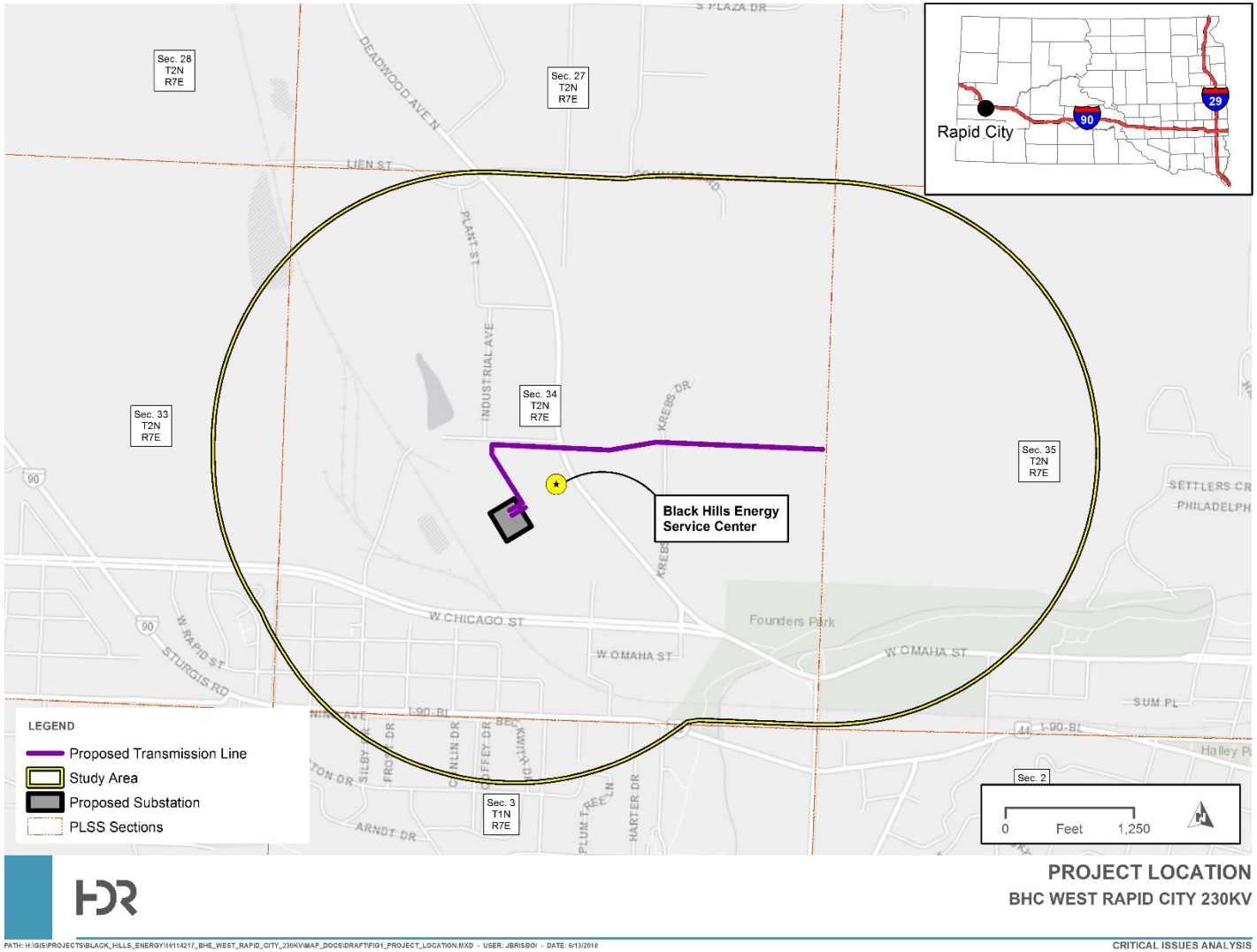
- Environmental Protection Agency (EPA) – Hazardous Waste "Enviromapper" Database (EPA, 2018a)
- U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey Geographic (SSURGO) data
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps
- USFWS county level species information
- U.S. Geological Survey (USGS) National Land Cover Dataset
- USGS topographic maps and digital elevation data
- Federal Emergency Management Agency (FEMA) Floodplain data
- National Hydrography Dataset (NHD)
- South Dakota Game, Fish, and Parks (SDGFP) – Threatened, Endangered, and Rare Species County Lists
- South Dakota Natural Heritage Program
- South Dakota online maps and available data for download: South Dakota Department of Environmental and Natural Resources (SDDENR) Storage Tanks, SDDENR Spills (SDDENR, 2018), SDGFP Interactive Atlas and Controlled Hunting Access Program
- ESRI Arc Geographic Information System (GIS) online aerial imagery, streets, and basemap information

HDR used these data to prepare this analysis summarizing environmental constraints in the study area, to prepare environmental maps, as well as to identify permits that may be necessary for construction of the Project. Publicly available data were utilized for this analysis. A site visit was also completed for the project on April 10, 2018.

Project Location

The study area is located in Rapid City, which is in Pennington County in western South Dakota. The study area for this analysis was established as a 1 mile corridor, with a ½ mile buffer on each side of the proposed transmission line (Figure 1).

Figure 1. Study Area



General Environmental Setting

Land Ownership

The study area is located primarily within undeveloped and industrial areas of Rapid City, South Dakota. There are no federal, state, or local publicly owned lands that would be crossed by the proposed transmission line as all lands are privately-owned. The transmission line would cross state of South Dakota right-of-way over Deadwood Avenue (SD 445).

Pennington County is ranked as the 2nd most populated county in the state with an estimated population of 109,372 in 2016. Rapid City is the county seat and has a population of 74,048 (US Census Bureau, 2017). It is considered the “Gateway to the Black Hills” and is the closest urban area to Mount Rushmore National Park and the Black Hills National Forest. Tourists traveling through the Black Hills and from the nearby cities such as Sturgis and Deadwood travel through and often stay in Rapid City. These cities, as well as the majority of their inhabitants, are generally located along the highways Interstate (I)-90, I-190, US-16, South Dakota (SD) 79 and SD 44 that cross the area.

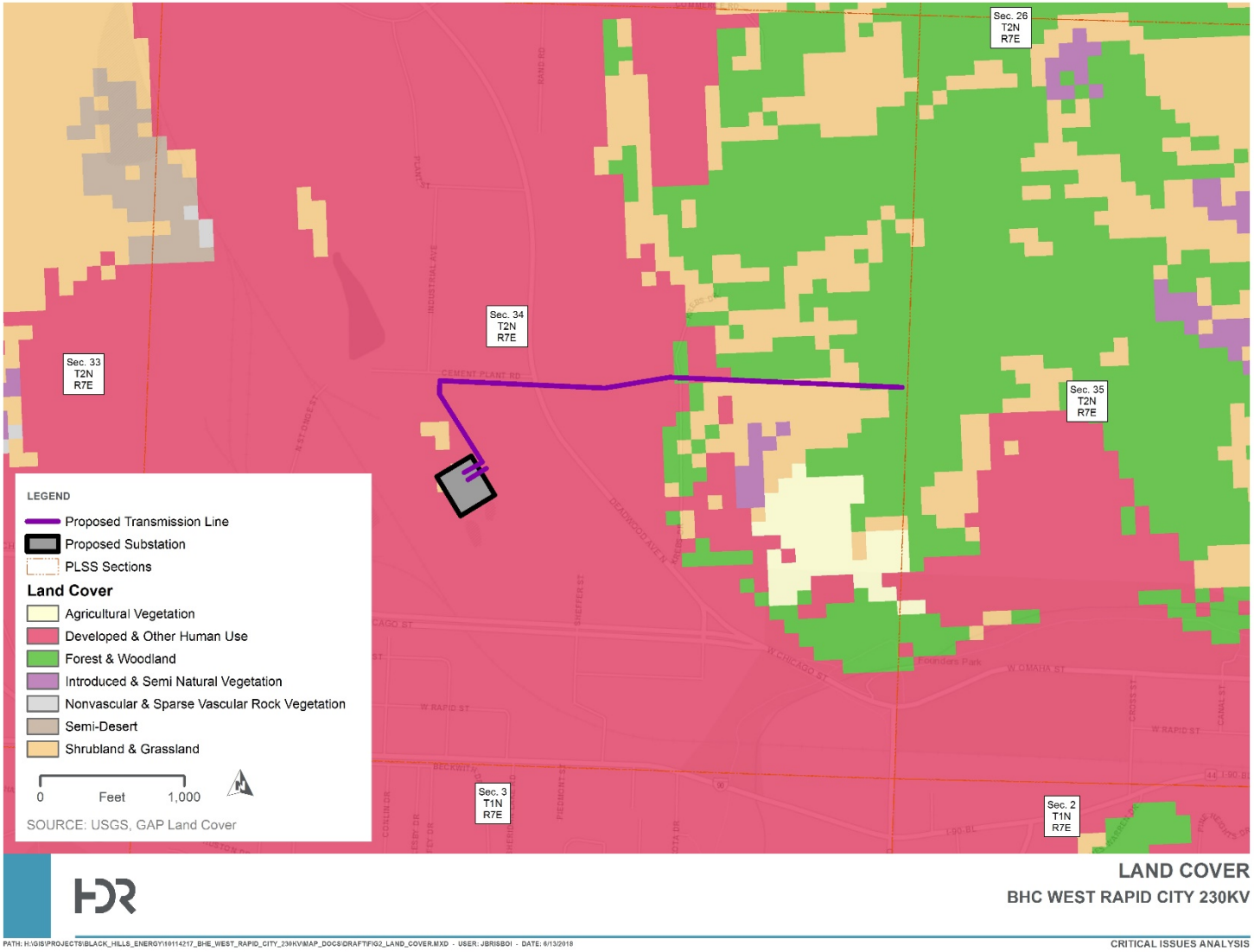
Land Use

The current land use in the study area ranges from undeveloped, to residential with commercial and industrial development interspersed. The Rapid City zoning for the parcels that the proposed transmission line would cross are: business park district, general agriculture, low density residential, light industrial, and heavy industrial (City of Rapid City, 2018) According to the Rapid City Comprehensive Land Use Plan adopted in 2014, the proposed transmission line crosses areas with the future land use designations of light and heavy industrial, employment, and low density neighborhood (City of Rapid City, 2014). Some of the properties to be affected by the proposed project are owned by the Black Hills Corporation, reducing the needs for additional right-of-way or land acquisition. Other properties potentially affected by the project are owned by two additional landowners, with one landowner owning a majority of the remaining property to be affected.

Land Cover

The proposed transmission line crosses Forest and Woodland, Shrubland and Grassland, and Developed and Other Human Use land cover designations according to the GAP Land Cover dataset (Figure 2). Ground cover is a mixture of grasslands, forest, and impervious surfaces (e.g., roadways and sidewalks).

Figure 2. Land Cover



Socioeconomic

Population and Ethnicity

The Rapid City area is more densely populated than areas in the majority of the state. The population of Rapid City was estimated to be 74,048 in 2016, where the total population of Pennington County was estimated to be 109,372 for the same year. The population of Rapid City is primarily white (87.3%) and American Indian or Alaskan Native (15.4%), with less than 3% each of Black or African American, Asian (2.3%), Native Hawaiian and other Pacific Islander (0.2%), or some other race (0.7%) (US Census Bureau, 2017).

Economic Conditions

Government services is the largest employment sector in the Rapid City area, including Ellsworth Air Force Base, the Army National Guard, National Park Service, US Forest Service, and the Indian Health Service offices. Health Services is a major employment sector with an estimated 8,000 jobs in the Rapid City area.

Portland Cement, Black Hills Gold Jewelry, and stamping machines used for labeling plywood and chipboard are all produced in Rapid City. Tourism also comprises a major portion of the economy. With Mount Rushmore, Deadwood, and Sturgis in close proximity, as well as a close proximity to I-90, hotels and restaurants and other minor tourist attractions are particularly profitable during the spring, summer, and fall months.

Public Lands and Recreation

City-owned public lands and recreation opportunities are available east and south of the study area, including Hanson-Larsen Memorial Park, Chuck Lien Family Park, Founder's Park, and Dakota Drive Park (Figure 3).

Conservation Areas

No public or private conservation areas are within the study area. While South Dakota does allow public hunting access on private lands, no such lands are present within the study area according to the South Dakota Public Hunting Atlas Updates (SDGFP, 2018a). This includes no wetland or conservation reserve program lands or other habitat enhanced/protected lands.

Hazardous Materials

The EPA provides a database of documented hazardous materials and Superfund sites within the United States. This database was reviewed for information pertaining to the study area (EPA, 2018b). The following information was obtained from the Superfund Enterprise Management System (SEMS) database. In addition to the SEMS database, the EPA's MyEnvironment Interactive Mapping tool was reviewed (Figure 4). The mapping tool provides information regarding toxic releases, emissions, hazardous waste, and emergency incident records within the United States.

Figure 3. Public Lands

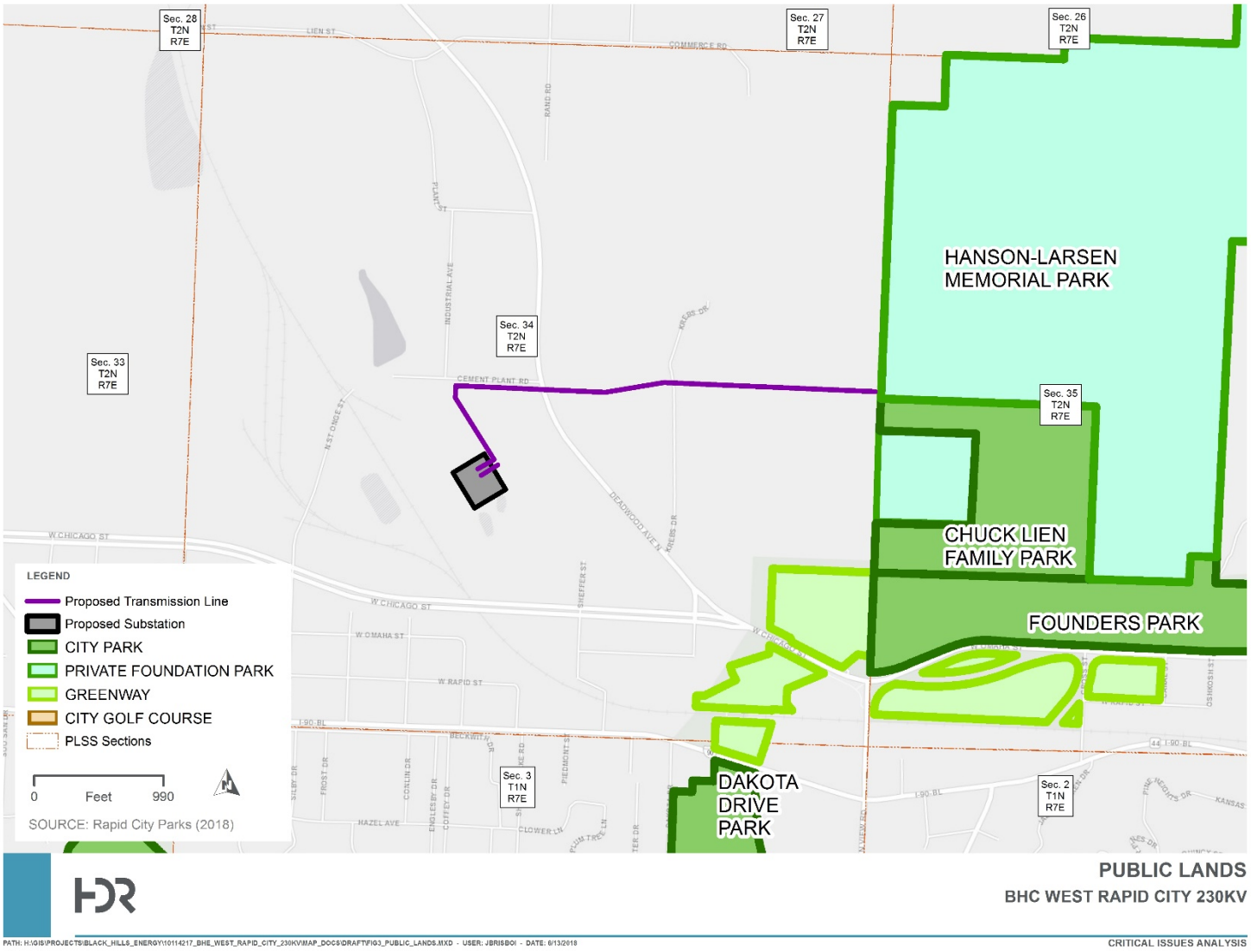


Figure 4. EPA MyEnvironment Site Map

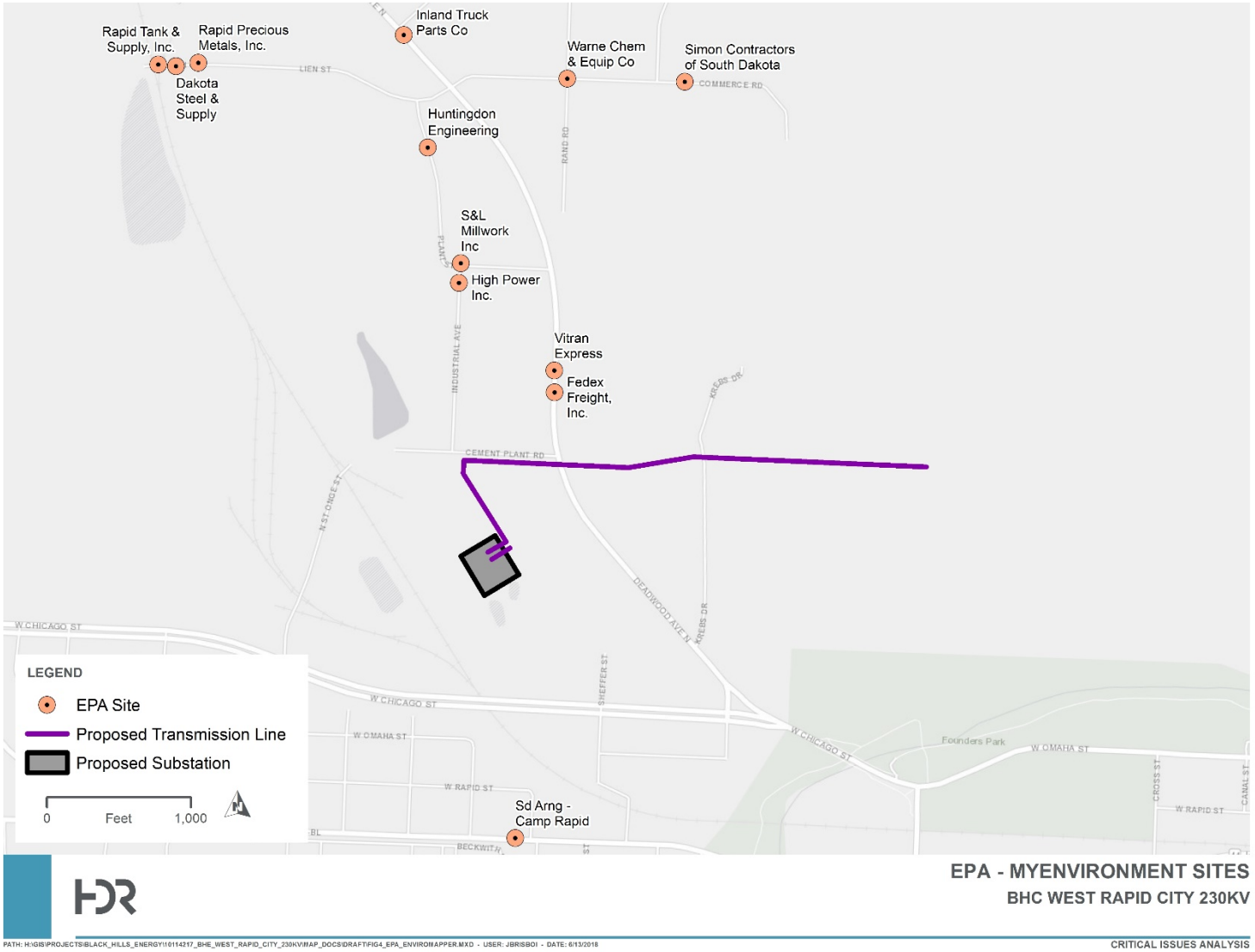


Figure 4 displays hazardous waste sites documented within the study area. Many of these sites are related to industrial or commercial developments within the area. No Superfund or Brownfield sites were identified. The Black Hills Power, Inc. – Ben French Plan & Service Center is required to complete Tier II reporting as they possess chemicals such as diesel fuel #2, engine lube oils, ethylene glycol, and lead acid batteries. The SDDENR spills report website notes historic spills, including information on spills that have occurred and information on above/below ground storage tanks in the vicinity of the proposed transmission line (SDDENR, 2018). Due to the industrial nature of the area, it is recommended that a Phase I Environmental Site Assessment be completed to determine if any hazardous materials would be impacted by the project.

Cultural Resources

Prehistoric and historic properties exist within the study area. Cultural Resources are noted adjacent to the proposed transmission line (Figure 5). Based on a background records search conducted by the South Dakota Archeological Research Center, the three cultural sites nearest to the proposed project (39PN3376, 39PN3377, and 39PN3378) are all recommended as not eligible for listing on the National Register of Historic Places, however there was no determination made by the State Historic Preservation Office (SHPO). There have been surveys conducted in the vicinity of the project, however most of the study area has not been surveyed for cultural resources. Additionally, there are residential structures adjacent to the project that would need to be considered. Therefore, additional coordination would be needed to determine how the project activities would impact cultural resources.

Hydrology/Water Resources

This study area falls entirely within the boundaries of the Black Hills foothills region of the Middle Rockies Level III Ecoregion. The proposed project crosses an unnamed stream channel classified as perennial in the National Hydrography Dataset (NHD) and is adjacent to two National Wetland Inventory (NWI) features (Figure 6). A field wetland verification was completed for potential wetland areas (NWI 1 and NWI 2) that were shown in the NWI near the west end of the proposed transmission line (Figure 7). These NWI features are classified as PUSCx, meaning they were categorized as excavated, seasonally flooded palustrine unconsolidated shore wetlands.

Based on the site visit, the majority of the area in NWI 1 (with the exception of the north point of the NWI feature) is fill material not part of any hydrologic feature (Photo 1). This area was historically used as a permitted solid waste ash monofill facility for the power plant that which was decommissioned and removed. On June 2, 2014 the SDDENR issued the Final Cap and Closure Inspection Report, fulfilling the closure requirements for the site (SDDENR, 2014). The area immediately north of NWI 1 has been modified and is an artificial wetland created for stormwater retention (Photo 2). The artificial wetland north of NWI 1 slopes to the north and west and discharges into Lime Creek North, west of the proposed transmission line project, east of the Cement Plant. Also the NWI feature identified in the location of the proposed substation (NWI 2) is currently a graveled equipment storage lot, and therefore is not a wetland (Photo 3).

Based on the current proposed location of the transmission line and structure locations, it is anticipated that any potential impacts to wetland features could be avoided with strategic placement of the transmission line poles. If the project would impact any water resources, such as the area north of NWI 1, then further evaluation would be required.

FEMA designated 100-year floodplain (Zone AE) is located along Rapid Creek adjacent to the study area (Figure 6). No impacts to floodplains are anticipated from the project due to the distance from the study area.

Elevation and Topography

The elevation in the study area ranges from approximately 3,300 feet to 3,460 feet. The topography of the area is displayed in Figure 8.

Figure 5. Cultural Resources

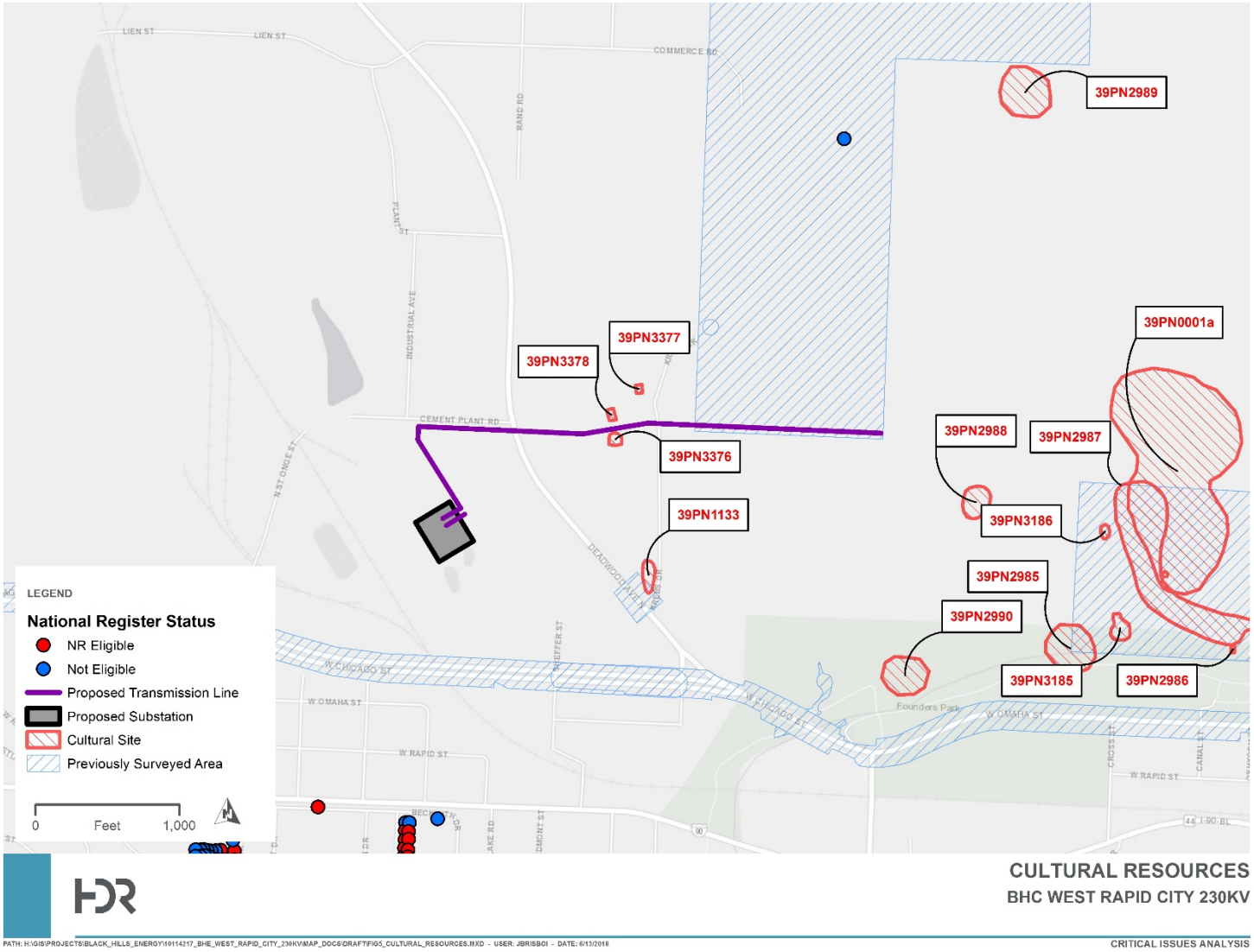


Figure 6. Hydrology

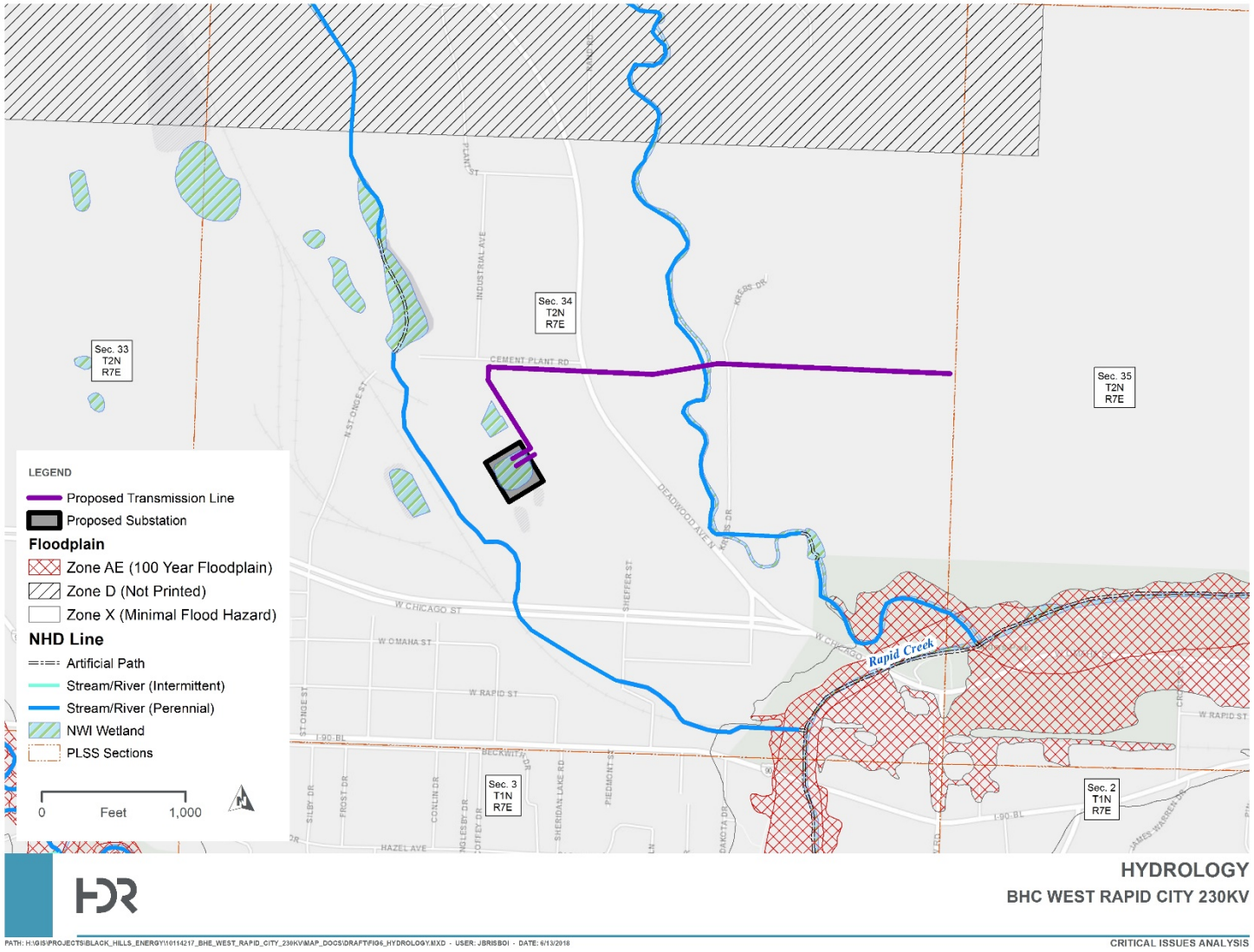


Figure 7. National Wetland Inventory

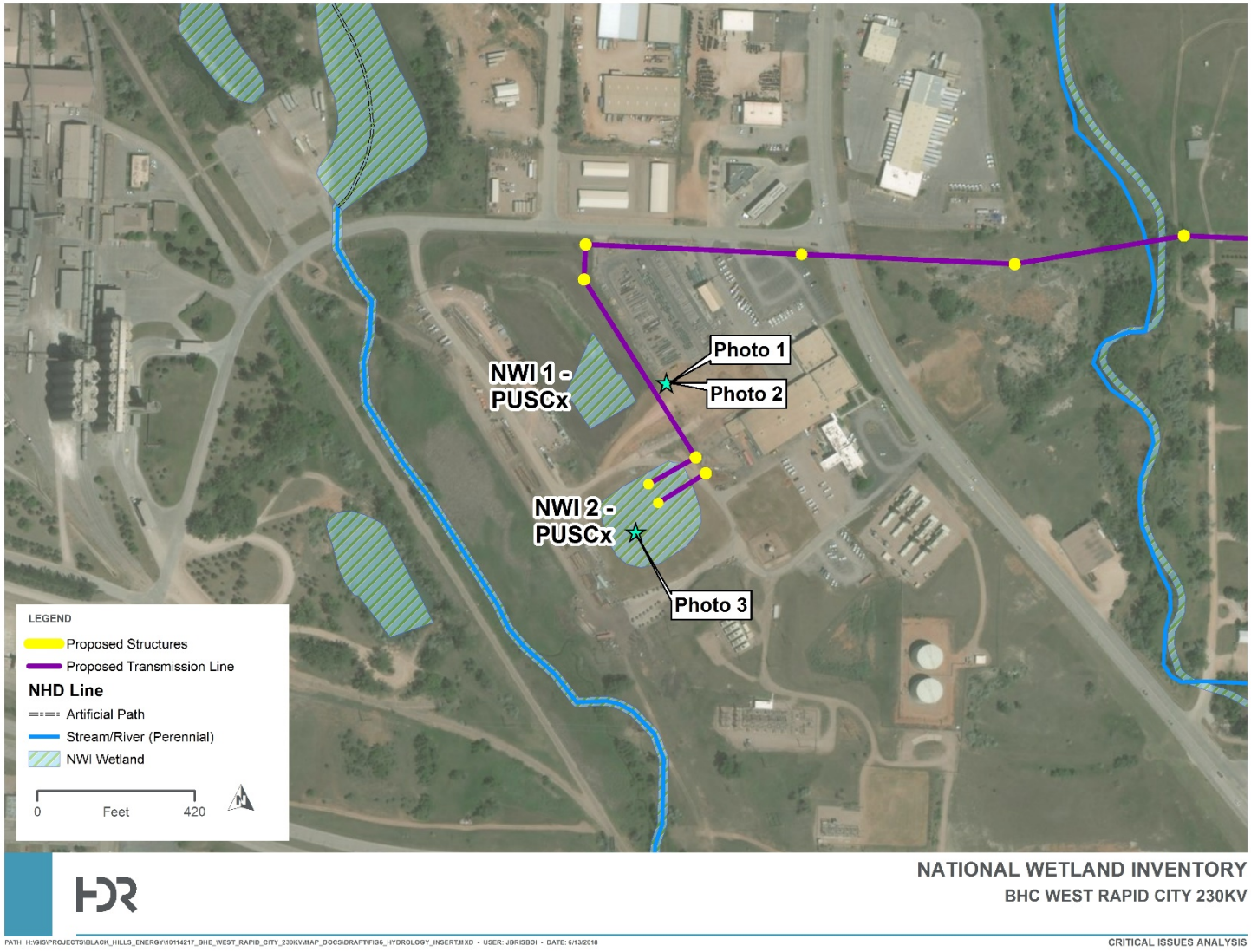
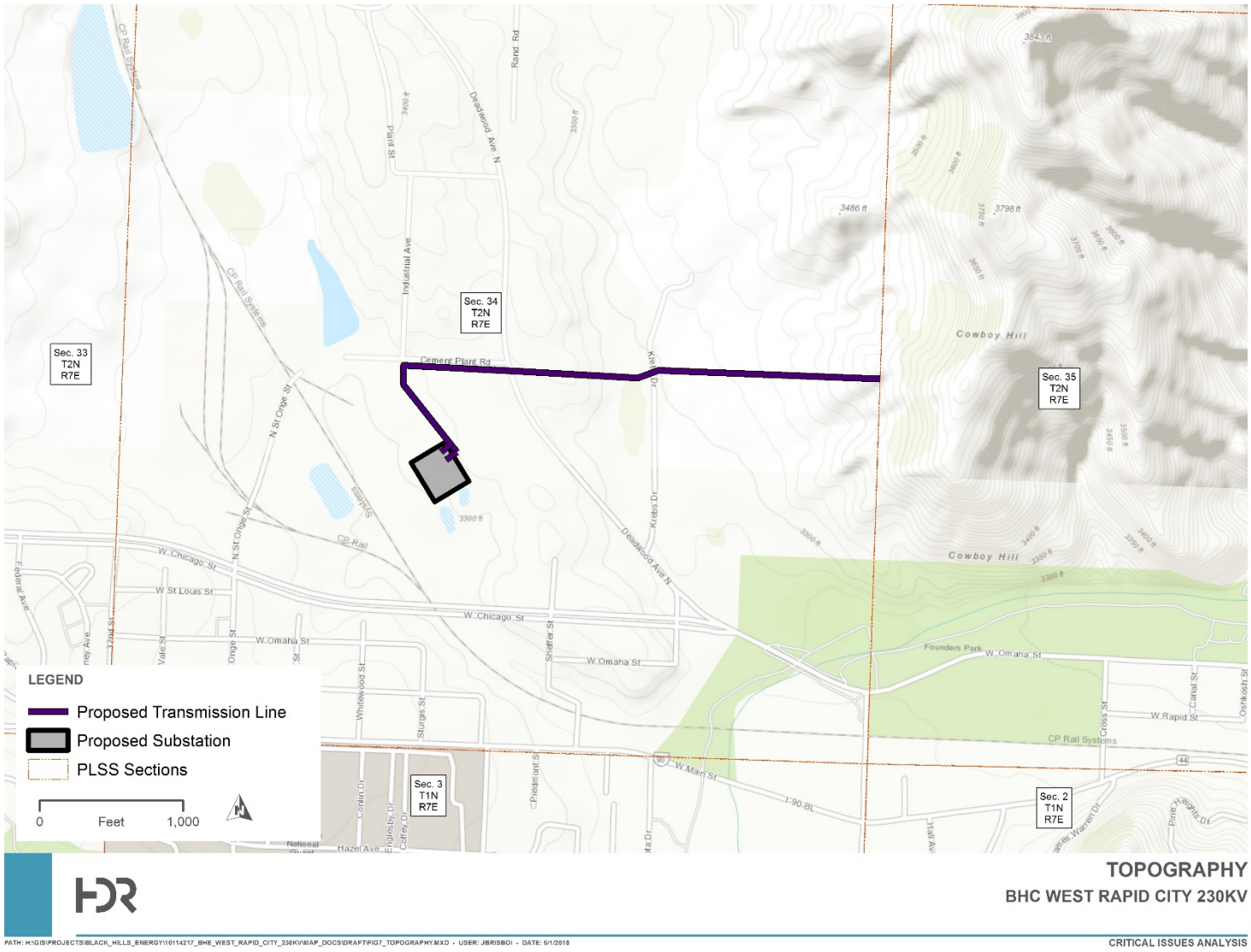


Photo 1. NWI 1 – Photo facing west. The majority of the area in NWI was an ash monofill facility, and is not part of any hydrologic feature.

Photo 2. NWI 1 – Photo facing northwest. The wetland feature to the north of NWI 1 appears to be an artificial wetland created for stormwater retention.

Photo 3. NWI 2 – Photo facing southwest towards the graveled equipment storage lot where the NWI feature was shown, no wetland exists at this location.

Figure 8. Topography



Biological Resources

The study area is entirely within the city limits of Rapid City, South Dakota, and consists of industrial development, with undeveloped areas along the alignment. The undeveloped areas are primarily grassland, with some forested areas within the limits of the study area. Areas that have not been developed that the transmission line would cross provide habitat for wildlife.

Federal and State-Listed Species

Under the federal Endangered Species Act and state laws, species are "listed" in an effort to protect them and their habitat. Species are also listed within the state of South Dakota (SD Codified Laws § 34A-8). Thirteen listed species (six federally listed and 10 state listed) have the potential to occur near the study area in Pennington County (Table 1).

AVIAN SPECIES

As shown in Table 1, three federally-listed avian species have the potential to occur in Pennington County (one threatened and two endangered; USFWS, 2018, Appendix A). There are seven state-listed species that have documented occurrences within Pennington County (three threatened and four endangered). There is potential for these species to pass through the study area during migration.

The chief concern for avian species from transmission lines is direct mortality from line collisions. The grassland area that the proposed transmission line would cross creates a higher potential for avian species to perch on the transmission line. A wide range of avian species are also expected to cross the route in the study area during migration. There is also a potential for raptor nests in the area. If it is determined that a raptor nest is present, consultation with the USFWS may be required. Table 2 lists the potential permits and approvals that could be needed.

BHC has an Avian Protection Plan in place for their South Dakota, Montana, and Nebraska operations to mitigate for impacts on protected bird species that would be followed for this project to minimize impacts to avian species (BHC, 2011).

NON-AVIAN ANIMAL SPECIES

Five non-avian state listed species have been documented in Pennington County. However, in general, habitats that support these species are located outside of the study area as noted in Table 1.

Aquatic species such as fish and mussels will likely not be impacted by the Project as their preferred habitats (streams and rivers) will not be impacted by the project. Impacts to insects and spiders will also be minimal and likely temporary in nature due to construction.

PLANT SPECIES

One plant species is federally-listed as threatened for Pennington County, South Dakota: Leedy's Roseroot (*Rhodiola integrifoli* ssp. *leedyi*). This plant species is unlikely to be found in the study area as suitable habitat is not present.

Sixty-one state listed rare plant species have the potential to occur in within the study area based on habitat description. These species range in rarity from a Global Rank of G1 to G5 and a State Rank of S1 to S5. A table listing these species is available in Table A-1, Appendix A.

Table 1. Special Status Species with the Potential to Occur near the Project in Pennington County.

Common Name	Scientific Name	Status	Likelihood of Occurrence
Fish			
Longnose Sucker*	*Catostomus catostomus*	ST	Unlikely – no suitable aquatic resources
Sturgeon Chub*	*Macrhybopsis gelida*	ST	Unlikely – no suitable aquatic resources
Birds			
Whooping Crane*	*Grus americana*	FE, SE	Unlikely – no stopover habitat within study area.
Interior Least Tern*	*Sternula antillarum athalassos*	FE, SE	Unlikely – no sandy habitat within the study area.
Rufa Red Knot	*Calidris canutus rufa*	FT	Potentially – due to migration
American Dipper*	*Cinclus mexicanus*	ST	Unlikely – no suitable aquatic resources
Osprey*	*Pandion haliaetus*	ST	Unlikely – no aquatic resources
Peregrine Falcon*	*Falco peregrinus*	SE	Potentially – proximity to developed area
Mammals			
Black-footed Ferret*	*Mustela nigripes*	FE, SE	Unlikely – no prairie dog colonies in the study area
Northern Long-eared Bat*	*Myotis septentrionalis*	FT	Potentially – trees suitable for roosting may be present within the study area
Northern River Otter*	*Lontra canadensis*	ST	Unlikely – no suitable aquatic resources
Swift Fox*	*Vulpes velox*	ST	Unlikely – proximity to developed area
Flowering Plants			
Leedy's Roseroot	*Rhodiola integrifolia* ssp. *leedyi*	FT	Unlikely – no cliffs within study area

**Indicates documented occurrence in Pennington County.*

Sources: USFWS, 2018; SDGFP 2018b

Species statuses include: SE = State Endangered, ST = State Threatened, FE = Federally Endangered, FT = Federally Threatened.

Site Review Comments

Opportunities

Opportunities in the Project include:

- Land that the transmission line would cross is primarily grassland, resulting in fewer trees that will need to be cleared for construction.
- The properties to be affected by the project are primarily owned by the Black Hills Corporation or single landowner, minimizing the needs for right-of-way or land acquisition.

Constraints

While the overall impacts from the construction of the proposed transmission line are expected to be minimal, there are some resource constraints that should be considered during design and construction:

- An initial desktop review indicates a low potential for federal or state-listed species occurrence. However, any potential impacts to federally listed species or birds protected under the Migratory Bird Treaty Act would be the responsibility of the utility. Implementation of the *Black Hills Power Avian Protection Plan* protection measures and processes should be adopted for this project.
- A full species review by US Fish and Wildlife and SD Game, Fish & Parks will need to be completed for the project prior to construction.
- The project is located within the limits of the Rapid City Air Quality Control Zone. If disturbance is greater than 1 acre, an Air Quality Construction Permit will be required.
- The proposed transmission line crosses an unnamed perennial stream. While waters of the US have not been field delineated, the desktop mapping and field verification indicates that these resources need to be a considered. If any potential wetland resources are identified and are narrow enough, the waters of the US can likely be spanned. However, careful review should be undertaken and a delineation considered in areas where transmission lines cannot be placed outside of these resources (in other words, upland areas). Compliance with Section 404 of the Clean Water Act (CWA) is necessary for any fill placed within waters of the US. These waters are under the regulatory jurisdiction of the U.S. Army Corps of Engineers. It is anticipated that if necessary, any fill impacts could be permitted under Nationwide Permit 12. However, it is assumed that no impacts will occur to waters of the U.S. as poles will span the stream and impacts will be avoided.
- HDR understands that if a federal nexus is triggered for this project, federal permits and consultations would be required. These could include: USFWS Section 7 Consultation and Section 106 of the National Historic Preservation Act of 1966. If jurisdictional

wetland impacts are unavoidable, Section 404 permitting may also trigger these reviews, depending on the level of impact.

- The proposed transmission line crosses through Rapid City. Several different permits may be required including but not limited to conditional use permits, temporary use or construction permits, and utility or right-of-way encroachment or occupancy permits. Publicly available information for permits is included in the following table but not all permit information is available and coordination should occur with Rapid City to ensure any necessary permits are obtained before construction.

Additions may be made to this list as Project development and coordination with agencies and stakeholders continues.

Permits and Approvals

The following table provides a summary of the anticipated permits and approvals that may be required for the construction of the proposed line. Also of note, the South Dakota Public Utilities Commission has authority over siting the proposed transmission line because it is higher than 115-kV (49-41B S.D.§ 2.1(1)).

Table 2. Permits and Approvals

Jurisdiction	Permit	Timeline	Fee	Expiration	Notes
Federal					
US Army Corps of Engineers (USACE)	Nationwide Permit 12, for Section 404 of the Clean Water Act	Pre-Application Meeting recommended. Depending on level impact; 3-6 months.	No fee for permit submittal; cost may be incurred if mitigation is required.	Jurisdictional determinations expire after 5 years.	Requires 401 water quality certification that would be covered under the Nationwide Permit.
USFWS	Migratory Bird Treaty Act and Bald & Golden Eagle Protection Act Coordination/ Consultation, Incidental Take Permit or Nest Take Permit	Consultation: 3-6 months. Incidental Take Permit: up to 18 months.	Take Permit: $100 – 2500.	5 Years.	https://www.fws.gov/birds/policies-and-regulations/permits/regional-permit-contacts.php

Jurisdiction	Permit	Timeline	Fee	Expiration	Notes
USFWS	Endangered Species Act and Migratory Bird Treaty Act Consultation	1 – 12 months depending on level of consultation	May be a cost associated with surveys, preparation of biological assessment, or mitigation.	N/A.	Consultation under Section 7 is part of federal permit approvals and may require a biological assessment. Submit full project review request to: Scott Larson Field Supervisor 420 S. Garfield Ave, Suite 400 Pierre, SD southdakotafieldoffice@fws.gov If the project does not require federal permits or approvals or uses federal money, the utility is still responsible to impacts to listed species under Section 9. MBTA applies regardless of federal money or permits.
State					
South Dakota Department of Environment and Natural Resources (SDDENR)	Section 401 Clean Water Act Permit	6-9 months, Permit review concurrent with Section 404 and Section 10.	No fee for permit submittal; cost may be incurred if mitigation is required.	5 years prior to construction	Permit required for waters of the US and waters of the State. "Waters of the State" means all waters within the jurisdiction of this state, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state. http://denr.sd.gov/des/sw/401.aspx

Jurisdiction	Permit	Timeline	Fee	Expiration	Notes
SDDENR	Authorization to Discharge under the Surface Water Discharge System		None listed		For temporary construction dewatering. http://denr.sd.gov/des/sw/IPermits/TemporaryDischargeGeneralPermit.pdf
South Dakota Game Fish and Parks	South Dakota Endangered Species Environmental Review	1 - 3 months.	TBD; depends on the level of data requested from Natural Heritage Database.	N/A	Submit environmental review request to Leslie Murphy SDGFP Environmental Review Coordinator 523 E. Capitol Avenue Pierre, SD 57501 leslie.murphy@state.sd.us or make a Natural Heritage Data Request: https://www.state.sd.us/eforms/secure/eforms/E1157V1-HeritageDataRequest.pdf.
South Dakota State Historical Society - State Historic Preservation Officer	National Historic Preservation Act (Section 106) Consultation	Completed in conjunction with PUC application or NEPA process when applies; varies	No fee; cost may be incurred if mitigation is required for adverse effects	N/A	Necessary when federal money used or federal permits/ approvals required, for example USACE 404 Permit. Consultation will be completed by federal agency involved.

Jurisdiction	Permit	Timeline	Fee	Expiration	Notes
South Dakota Department of Transportation (SDDOT)	Application for Overhead Pole and Wire Occupancy		$750	N/A	https://www.state.sd.us/eforms/secure/eforms/E2234V2-ApplicationforOverheadPoleandWireOccupancy.pdf This permits applies for poles that do not reside in ROW. If poles are located in public ROW or an easement is required than an application for *Utility Permit* may be needed: https://www.state.sd.us/eforms/secure/eforms/E0929V8-DOT200ApplicationforUtilityPermit.pdf
South Dakota Public Utilities Commission	Transmission Siting Energy Facility Permit	At least six months prior to the planned date for the commencement of construction of a facility.	Environmental impact fee deposit varies, with the minimum being $8,000	N/A	Needs to include environmental information, including effect on physical environment, hydrology, terrestrial and aquatic ecosystems, land use, water quality, and air quality. General application format available online at: http://www.sdlegislature.gov/Rules/DisplayRule.aspx?Rule=20:10:22:04
SDDOT/ South Dakota Motor Carrier Division	Overweight/Oversized Permits				Online permitting system available in Jan 2018 https://sdaps.sd.gov/sdaps/

Jurisdiction	Permit	Timeline	Fee	Expiration	Notes
Local					
City of Rapid City Public Works	Utility Permit				Available online at: https://www.rcgov.org/index.php?option=com_docman&view=download&alias=513-engineering-right-of-way-permit-form&category_slug=engineering-services&Itemid=149
Rapid City Community Planning and Development Services	Air Quality Construction Permit	1-2 weeks	$75 -$100	1 year	Available online at: https://www.rcgov.org/departments/community-planning-development/air-quality/air-quality-consturction-permit-application-357.html
City of Rapid City	Verification of Permitting Needs.	Varies based on permitting needs determined by City.			Coordination will be required with Rapid City Engineering Services. Permits may include temporary use or grading permits to work within City ROW.

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South Dakota Department of Environmental and Natural Resources (SDDENR). 2018. Spills and Tank online map: http://arcgis.sd.gov/server/denr/spillsviewer/ Accessed May 2018.

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Appendix A.

Rare Plants, Threatened, Endangered, Candidate & Species of Concern

Table A-1. Plant Species Listed as Rare in South Dakota

	Common Name	Global Rank	State Rank	Comment	Notes
Agoseris aurantiaca	Orange Mountain-dandelion	G5	S2	Reported from nw Black Hills.	More likely to occur in study area
Antennaria dimorpha	Dwarf Pussytoes	G5	SU	Two collections from the Black Hills.	More likely to occur in study area
Asplenium viride	Green Spleenwort	G4	S3	Limestone outcrops & soil of n B Hills.	More likely to occur in study area
Astragalus barrii	Barr's Milkvetch	G3	S3	Regional endemic including sw SD.	More likely to occur in study area
Astragalus hyalinus	Summer Orophaca	G4	S2S3	Recently documented in sw SD.	More likely to occur in study area
Astragalus mollissimus	Wooly Milkweed	G5	SH	Single 1924 collection from SW SD.	More likely to occur in study area
Botrychium gallicomontanum*	Frenchman's Bluff Moonwort	G1	S1	Limestone grasslands of the B Hills.	More likely to occur in study area
Botrychium lineare	Slender Moonwort	GNR	S1	Native grasslands of the s B Hills.	More likely to occur in study area
Botrychium lunaria	Moonwort Grape-fern	G5	S1S2	Black Hills meadows & grasslands.	More likely to occur in study area
Botrychium pallidum	Pale Moonwort	G3	S2S3	Black Hills meadows & grasslands.	More likely to occur in study area
Carex tribuloides	Blunt-broom Sedge	G5	S1	Single 1992 collection from B Hills springhead wetland.	More likely to occur in study area
Chaenactis douglasii	Douglas' Dusty Maiden	G5	SU	Western species found in nw SD.	More likely to occur in study area

	Common Name	Global Rank	State Rank	Comment	Notes
Chenopodium subglabrum	Smooth Goosefoot	G3G4	S2	Rarely collected from sand prairies of w SD.	More likely to occur in study area
Chrysothamnus parryi	Parry's Rabbit-bush	G5	SU	Reported for sw SD, no specimens.	More likely to occur in study area
Clematis hirsutissima	Sugar Bowls	G4	S2	Uncommon in grasslands of sw SD.	More likely to occur in study area
Corallorhiza odontorhiza	Autumn Coral-root	G5	SU	Collected once in 1971 from n B Hills.	More likely to occur in study area
Cryptantha cana	Silver-mounded Candleflower	G5	S2	Regional endemic extending into sw SD.	More likely to occur in study area
Cryptantha jamesii	James'Candleflower	G5T5	S1	Rediscovered in 2004 in SW SD.	More likely to occur in study area
Dalea cylindriceps	Andean Prairie Clover	G3G4	SH	Single collection in 1926 from SW SD.	More likely to occur in study area
Danthonia californica	California Oatgrass	G5	S1	Rare in Black Hills montane meadows.	More likely to occur in study area
Erigeron ochroleucus	Buff Fleabane	G5	S3S4	Few collections from B Hills hogback ridge.	More likely to occur in study area
Eriogonum visheri	Dakota Buckwheat	G3	S3	Badland outcrops of w SD, sw ND & se MT.	More likely to occur in study area
Ipomopsis spicata	Spike Gila	G5	S4	Uncommon in w SD.	More likely to occur in study area
Juncus alpinoarticulatus	Alpine Rush	G5	S3S4	Permanent wet meadow habitat with fresh water.	More likely to occur in study area
Ledum groenlandicum	Labrador Tea	G5	SX	Single 1931 collection from n Black Hills.	More likely to occur in study area

	Common Name	Global Rank	State Rank	Comment	Notes
Lesquerella arenosa var. argillosa	Sidesaddle Bladderpod	G5T3	S3	Regional endemic of badlands in sw SD.	More likely to occur in study area
Leucophysalis grandiflora	White Groundcherry	G4	SX	Several historical collections from Spearfish Canyon.	More likely to occur in study area
Lewisia pygmaea	Alpine Bitterroot	G5	S1S2	Montane meadows of the Black Hills.	More likely to occur in study area
Listera convallarioides	Broad-lipped Twayblade	G5	S1	Few occurrences in springhead wetlands of n B Hills.	More likely to occur in study area
Lithophragma glabrum	Bulbus Woodland Star	G4G5	S1S2	Montane meadows of the Black Hills.	More likely to occur in study area
Luzula acuminata	Hairy Woodrush	G5	S2S3	Restricted to boreal forest types of n B Hills.	More likely to occur in study area
Luzula parviflora	Small-flowered Woodrush	G5	S2S3	Few collections in the n B Hills.	More likely to occur in study area
Lycopodium annotinum	Bristly Clubmoss	G5	S1	Few occurrences in n Black Hills.	More likely to occur in study area
Lycopodium complanatum	Ground Cedar	G5	S2	Few occurrences in n Black Hills.	More likely to occur in study area
Melica bulbosa	Oniongrass	G5	S1	Single 1991 collection from n Black Hills.	More likely to occur in study area
Menyanthes trifoliata	Bog Buckbean	G5	S1	Two recent sites known, two historical sites destroyed.	More likely to occur in study area

	Common Name	Global Rank	State Rank	Comment	Notes
Mertensia ciliata	Streamside Bluebells	G5	S1	Few collections from riparian zones in w SD.	More likely to occur in study area
Microseris nutans	Nodding Silver-puffs	G5	S1	Only 3 collected from NW SD.	More likely to occur in study area
Mitella pentandra	Five-point Bishop's Cap	G5	S1	Few occurrences in n Black Hills.	More likely to occur in study area
Oenothera flava	Yellow Evening Primrose	G5	S1	Historically known but few recent finds in w SD.	More likely to occur in study area
Orobanche uniflora	One-flowered Broomrape	G5	S2	Rarely collected from ne Black Hills.	More likely to occur in study area
Phacelia linearis	Threadleaf Phacelia	G5	SU	Few reports from sandy soils near the B Hills.	More likely to occur in study area
Physaria brassicoides	Rydberg's Twinpod	G5	S3	Regional endemic in W SD.	More likely to occur in study area
Picradeniopsis woodhousei	Bahia	G4G5	SU	Two 1967 collections from w SD.	More likely to occur in study area
Platanthera dilatata	Northern White Orchid	G5	S1	Rare in wetland habitats of the n B Hills.	More likely to occur in study area
Platanthera orbiculata	Round-leaved Orchid	G5	S3	Forested habitats of the n Black Hills.	More likely to occur in study area
Polanisia jamesii	James' Clammyweed	G5	S4	Sandy habitats of s-cent & sw SD.	More likely to occur in study area
Polygala sanguinea	Blood Milkwort	G5	SU	Reported for SD but no specimens located.	More likely to occur in study area
Polystichum lonchitis	Northern Holly-fern	G5	S2S3	Moist forested habitats of n Black Hills.	More likely to occur in study area

	Common Name	Global Rank	State Rank	Comment	Notes
Polystichum munitum	Western Sword Fern	G5	SH	Single collection from n B Hills in 1967.	More likely to occur in study area
Psoralea linearifolia	Slimleaf Scurfpea	G4	SU	Two historical and one 1971 report in w SD grasslands.	More likely to occur in study area
Pyrola picta	White-veined Wintergreen	G4G5	S3S4	Higher elevation forests of the n B Hills.	More likely to occur in study area
Pyrola uniflora	One-flower Wintergreen	G5	S2S3	Mature spruce forests of the n B Hills.	More likely to occur
Rhamnus alnifolia	Alder Buckthorn	G5	SH	Two historical collections from n B Hills.	More likely to occur in study area
Rhodiola intergrifolia	Leedy's Roseroot	G5T1	S1	Single occurrence on granite in the central Black H L T	Federally Threatened
Salix serissima	Autumn Willow	G4	S1	Saturated, organic soils of n Black Hills.	More likely to occur in study area
Saxifraga occidentalis	Western Saxifrage	G5	S2	Few collections from n Black Hills.	More likely to occur in study area
Senecio spartioides var. spartioides	Broom Groundsel	G5T5	S2	Uncommonly collected in SW SD.	More likely to occur in study area
Solidago velutina	Three-nerved Goldenrod	G5	SU	Few scattered collections from w SD & BHC's.	More likely to occur in study area
Sorbus scopulina	Western Mountain Ash	G5	S3S4	Localized in the n Black Hills.	More likely to occur in study area
Thelesperma megapotamicum	Hopi-tea	G5	S3S4	Coarse soiled prairies of sw SD.	More likely to occur in study area
Thelypteris palustris	Marsh Fern	G5	S1	Three known occurrences in fen habitats	More likely to occur in study area

	Common Name	Global Rank	State Rank	Comment	Notes
Townsendia exscapa	Easter Daisy	G5	S4	Uncommon in grasslands of western SD.	More likely to occur in study area
Townsendia grandiflora	Largeflower Townsend-daisy	G4	S3S4	Grasslands of sw SD.	More likely to occur in study area
Townsendia hookeri	Hooker's Townsend-daisy	G5	S3	Sparse grassland & barren substrates of sw SD.	More likely to occur in study area
Tripterocalyx micranthus	Sand Puffs	G5	S1S2	Sand prairie & blowouts of nw SD.	More likely to occur in study area
Vaccinium macrocarpon	Wild Cranberry	G4	S1	Recently discovered in Black Hills acid fen.	More likely to occur in study area
Xylorhiza glabriuscula	Woody Aster	G4	S3S4	Seleniferous soils of sw SD.	More likely to occur in study area

Appendix J – Federal, State and Local Permits and Authorizations

RapidMap

Legend

Roads
- Interstate
- US highway
- SD highway
- County highway
- Main road
- Minor arterial
- Collector
- Ramp
- Paved road
- Unpaved road
- Unimproved road
- Trail
- Airport Runway
- Not yet coded

Section Lines 0-25k
- 0
- 7

Tax Parcels

Lot Lines
- <Null>
- Lot Line
- Parcel Line

This constitutes a report of the Department of the Interior prepared in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). We have reviewed and have NO OBJECTION to this proposed project.

5/23/18
Date

Scott Larson
Field Supervisor

1:4,451

741.8 0 370.89 741.8 Feet

NAD_1983_2011_StatePlane_South_Dakota_South_FIPS_4002_Ft_US

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Map Notes:
Layout is preliminary and subject to change.

Bessken, Charlene <charlene_bessken@fws.gov>

[EXTERNAL] West Rapid City 230-69kV Substation & Transmission Line

1 message

Garduna, Maria <Maria.Garduna@blackhillscorp.com> Tue, May 22, 2018 at 5:20 PM
To: "charlene_bessken@fws.gov" <charlene_bessken@fws.gov>

Charlene

Attached is the preliminary layout for the 230-69kV substation and associated transmission line. This is located in North Rapid off Deadwood Ave at the old Ben French and BHP Service Center location. As I mentioned, the project is just starting in the design phase but we would appreciate any comments from F&WS on the project.

A Critical Issues Analysis is currently being completed, we can share this with F&WS if requested. If you or Scott do not have any additional comments could you please stamp the attached map so I can include it in our PUC application?

Please call with any questions or if you need additional information.

Maria Garduna, PE | Black Hills Energy | Environmental Professional II | Desk: (605) 721-4125 | Mobile: (605) 415-9767 | Maria.Garduna@blackhillscorp.com

West Rapid City Substation 230-69kV Substation and Transmission Line.pdf
9992K

Garduna, Maria

From: Garduna, Maria
Sent: Monday, June 11, 2018 2:16 PM
To: Garduna, Maria
Subject: FW: West Rapid City 230-69kV Substation & Transmission Line

From: Murphy, Leslie [mailto:Leslie.Murphy@state.sd.us]
Sent: Monday, June 11, 2018 9:56 AM
To: Garduna, Maria <Maria.Garduna@blackhillscorp.com>
Subject: RE: West Rapid City 230-69kV Substation & Transmission Line

---

Morning Maria.

I conducted a review of the Natural Heritage Database for the above referenced project. This database monitors species at risk, specifically those species that are legally designated as threatened or endangered (legally protected) or rare. Rare species are those that are declining and restricted to limited habitat or a jurisdiction, may be isolated or disjunct due to geographic or climactic factors that are classified as such due to lack of survey data.

The search of the property resulted in no documented threatened, endangered or rare species in the immediate vicinity of the property location. Please note that many places in South Dakota have not been surveyed for rare or protected species and the absence of a species from the database does not preclude its presence.

Due to the location and size of the project, we do not anticipate that this project will have impacts to fish and wildlife resources. If the design changes or additional information becomes available, please submit the project for further review. If you have any questions, please contact me.

Leslie Murphy | *Environmental Review Coordinator*
South Dakota Game, Fish and Parks
523 East Capitol Avenue | Pierre, SD 57501
605.773.6208 | Leslie.Murphy@state.sd.us

AIR QUALITY PERMIT

CITY OF RAPID CITY

300 SIXTH STREET - RAPID CITY, SD 57701 (605) 394-4120
For Inspections (605) 394-4157

PERMIT TYPE: AIR QUALITY
PERMIT SUBTYPE: 340 CONST 5 ACRES
PERMIT DESCRIPTION: AQ CONSTR BHE SUBSTATION & STORAGE YARD IMPF

Permit Number: CIBP19-0558
DATE ISSUED:

PROPERTY INFORMATION

PROPERTY ADDRESS: 409 DEADWOOD AVE
OWNER : BLACK HILLS POWER INC
PO BOX 20
ADDRESS:
RAPID CITY, SD 57709-0020 **TEL:** (605)721-24
BLOCK:

SECTION-TOWNSHIP-RANGE: 34-2N-7E
SUBDIVISION:
PIN NO::20-34-327-002 **TAX ID NO:**:48348
ZONING: HI,SDCL 11-2 **LOT SIZE:** 30.64
INSIDE **RAPID CITY** **FLOODWAY:**

FLOOD DFIRM: X

CONTRACTOR INFORMATION

CONTRACTOR SITE WORK SPECIALISTS - SEWER/WAT
PO BOX 7504
RAPID CITY, SD 57709 TEL (605)355-0933

FEE INFORMATION

ESTIMATED COST $2,500

MORE THAN 5 ACRES AQ	317800	$200.00
TOTAL FEE		**$200.00**

APPLICANT INFORMATION

SITE WORK SPECIALISTS - SEWER/WATER
PO BOX 7504
RAPID CITY, SD 57709 (605)355-0933

ALL LOADS ARE TO BE COVERED
Ordinance 5958 Chapter 8.34

Permit Expires 4/5/20

SIGNATURE OF APPLICANT — DATE 4/5/19

APPROVED BY — DATE

AIR QUALITY PERMIT

CITY OF RAPID CITY

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TOTAL FEE		**$200.00**

APPROVED BY **DATE**

City of Rapid City
Finance Department
300 6th Street
Rapid City , SD 57701
605-394-4143
Welcome

005837-0012 One T. 04/05/2019 03:04PM

BUILDING PERMITS 200.00
POLLMILLER, SHANNON
Description: AIR QUALITY PERMIT FEE (BP003)
Reference 1: 0558
AIR QUALITY PERMIT FEE (BP003)
2019 Item: BP003
AIR QUALITY PERMIT FEE (BP003)

200.00

Subtotal **200.00**
Total **200.00**

GB/MISC CREDIT CARD 200.00
Visa **********8960
Ref=000000127788
Auth=067524
Trans ID=000000127788
Entry Legend=CHIP READ
Entry Method=CONTACT
AC=77B1493F0BB317CC
ATC=0011
AID=A0000000031010
TVR=0080008000
TSI=E800
RESP CD=00
TRN REF #=469095758688020

Change due **0.00**

Paid by: POLLMILLER, SHANNON FOR BH POWER

Signature: _____

BUILDING PERMIT
CITY OF RAPID CITY

300 SIXTH STREET - RAPID CITY, SD 57701 (605) 394-4120
For Inspections (605) 394-4157

PERMIT TYPE: SITE PERMITS
PERMIT SUBTYPE: 700 GRADING
PERMIT DESCRIPTION: W RAPID SUBSTATION

Permit Number: CIBP19-0573
DATE ISSUED:

Printed: 4/9/2019 7:55 am

PROPERTY INFORMATION

PROPERTY ADDRESS: 409 DEADWOOD AVE
OWNER : BLACK HILLS POWER INC
PO BOX 20
ADDRESS:
RAPID CITY, SD 57709-0020 **TEL:**
BLOCK:

SECTION-TOWNSHIP-RANGE: 34-2N-7E
SUBDIVISION:
PIN NO::20-34-327-002 **TAX ID NO:**:48348
ZONING: HI,SDCL 11-2 **LOT SIZE:** 30.64
INSIDE **RAPID CITY** OUTSIDE **HISTORIC DIST.**
DRAINAGE BASIN: 310 **FLOODWAY:**
FLOOD DFIRM: X

DWELLINGS UNITS: 0
OCCUPANCY LOAD:
OCCUPANCY GROUP:
CONSTRUCTION TYPE:
NUMBER OF STORIES:
BATHROOMS:
BEDROOMS:
STRUCTURE SQ/FT 0
FUNDING SOURCE: Private

APPLICANT INFORMATION

BLACK HILLS POWER INC
PO BOX 20
RAPID CITY, SD 57709-0020

SIGNATURE OF APPLICANT DATE

CONTRACTOR INFORMATION

CONTRACTOR SITE WORK SPECIALISTS - SEWER/WA
PO BOX 7504
RAPID CITY, SD 57709 TEL (605)355-0933

FEE INFORMATION

ESTIMATED COST $35,000

EROSION CONTROL GR	320100	$250.00
GENERAL GRADING GR	321000	$382.46
REVIEW FEE GR	318700	$70.58
TOTAL FEE		**$703.04**

APPROVED BY DATE

INSPECTIONS REQUIRED

Phone 394-4157

Please provide your Permit #, site address, Type of Inspection needed, your name and phone#.

It is the duty of the person doing the work to notify this office when the work or construction is ready for inspection. Twenty-four (24) hours advance notice is required when scheduling **ALL** inspections.

Inspections listed in the order they are typically called for:

1. **Footings – When forms are set, steel tied and in place and proper clearances maintained from soils.**

2. **Foundation Walls – When forms are set, steel tied and in place and proper clearances maintained.**

3. **Foundation Drain – When foundation drain is in place and proper clearances provided.**

4. **Electrical – When temporary service is set – Prior to energizing temporary or electrical sign.**

5. **Structural Concrete Slab or Under-floor Inspection**
   a. General Construction
   b. Plumbing – Under slab piping
   c. Fire Sprinkler Underground – Pipe in place before covering.
   d. Mechanical – Under slab ducting
   e. Electrical – Under slab equipment

6. **Preliminary Framing**

7. **Rough-In Inspections – Must be completed prior to insulating or sheetrocking.**
   a. Plumbing – All water, sewer & vents in place.
   b. Mechanical – All duct work in place.
   c. Electrical – All electrical wires pulled.
   d. Gas – All gas lines in place.
   e. Framing – When the roof, framing, fire blocking, fire stops and bracing are in place; all pipes, chimneys, vents, rough electrical, plumbing, heating pipes, and ducts are installed. All penetrations through floors and ceiling are sealed. Windows and stairways must be in place.
   f. Fire Alarm – Conduit, J-box, and panel in place and wires pulled.
   g. Fire Sprinkler – Pipe is hung, heads in place, and riser built.
   h. Commercial Hood – Piping and tanks in place.
   i. Special Protection Systems – Piping and tanks in place.

8. **Electrical – Permanent Service connected - Prior to energizing permanent service.**

9. **Final Inspections – Individual inspections to be scheduled through the Inspection Coordinator.**
   a. General Construction – After finish grading and building is completed and ready for occupancy.
   b. Plumbing
   c. Mechanical
   d. Electrical
   e. Gas
   f. Fire Building – (Access, Address, Knox Box, Fire Extinguisher, Site, etc.)
   g. Alarm – (Any Fire alarm work)
   h. Fire Sprinkler – (Any Fire sprinkler work)
   i. Commercial Hood – (Any Ansul type system work)
   j. Special Protection Systems – (FM 200,etc.)

Please call 394-4157 to schedule an inspection

BUILDING PERMIT
CITY OF RAPID CITY

300 SIXTH STREET - RAPID CITY, SD 57701 (605) 394-4120
For Inspections (605) 394-4157

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PERMIT SUBTYPE: 700 GRADING
PERMIT DESCRIPTION: W RAPID SUBSTATION

Permit Number: CIBP19-0573
DATE ISSUED:

Printed: 4/9/2019 7:55 am

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PROPERTY ADDRESS: 409 DEADWOOD AVE
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PO BOX 20
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FLOOD DFIRM: X

DWELLINGS UNITS: 0
OCCUPANCY LOAD:
OCCUPANCY GROUP:
CONSTRUCTION TYPE:
NUMBER OF STORIES:
BATHROOMS:
BEDROOMS:
STRUCTURE SQ/FT 0
FUNDING SOURCE: Private

APPLICANT INFORMATION

BLACK HILLS POWER INC
PO BOX 20
RAPID CITY, SD 57709-0020

SIGNATURE OF APPLICANT DATE

CONTRACTOR INFORMATION

CONTRACTOR SITE WORK SPECIALISTS - SEWER/WA
PO BOX 7504
RAPID CITY, SD 57709 TEL (605)355-0933

FEE INFORMATION

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   d. Gas – All gas lines in place.
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   h. Fire Sprinkler – (Any Fire sprinkler work)
   i. Commercial Hood – (Any Ansul type system work)
   j. Special Protection Systems – (FM 200,etc.)

Please call 394-4157 to schedule an inspection

City of Rapid City
Finance Department
300 6th Street
Rapid City , SD 57701
605-394-4143
Welcome

005983-0052 One T. 04/26/2019 09:52AM

BUILDING PERMITS

BLACK HILLS POWER & LIGHT
Description: EROSION & SEDIMENT CONTROL (BP036)
Reference 1: 0573
EROSION & SEDIMENT CONTROL (BP036)
2019 Item: BP036
EROSION & SEDIMENT CONTROL (BP036) 250.00

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Description: GRADING GENERAL PERMIT FEE (BP015)
GRADING GENERAL PERMIT FEE (BP015)
2019 Item: BP015
GRADING GENERAL PERMIT FEE (BP015) 382.46

BLACK HILLS POWER & LIGHT
Description: PLAN REVIEW FEE (BP064)
PLAN REVIEW FEE (BP064)
2019 Item: BP064
PLAN REVIEW FEE (BP064) 70.58

703.04

Subtotal **703.04**
Total **703.04**

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Change due **0.00**

Paid by: SHANNON POLLMILLER/CORP EXPENSE

BUILDING PERMIT
CITY OF RAPID CITY

300 SIXTH STREET - RAPID CITY, SD 57701 (605) 394-4120
For Inspections (605) 394-4157

PERMIT TYPE: SITE PERMITS
PERMIT SUBTYPE: 705 FLOOD PLAIN
PERMIT DESCRIPTION: TRANSMISSION LINE REPLACE

Permit Number: CIBP19-1073
DATE ISSUED: 31-May-2019

Printed: 5/31/2019 10:31 am

PROPERTY INFORMATION

PROPERTY ADDRESS: 409 DEADWOOD AVE
OWNER : BLACK HILLS POWER INC
PO BOX 20
ADDRESS:
RAPID CITY, SD 57709-0020 **TEL:**
BLOCK:

SECTION-TOWNSHIP-RANGE: 34-2N-7E
SUBDIVISION:
PIN NO::20-34-327-002 **TAX ID NO:**:48348
ZONING: HI,SDCL 11-2 **LOT SIZE:** 30.64
INSIDE **RAPID CITY** OUTSIDE **HISTORIC DIST.**
DRAINAGE BASIN: 310 **FLOODWAY:**
FLOOD DFIRM: X

DWELLINGS UNITS: 0
OCCUPANCY LOAD:
OCCUPANCY GROUP:
CONSTRUCTION TYPE:
NUMBER OF STORIES:
BATHROOMS:
BEDROOMS:
STRUCTURE SQ/FT 0
FUNDING SOURCE: Private

APPLICANT INFORMATION

BLACK HILLS POWER INC
PO BOX 20
RAPID CITY, SD 57709-0020

SIGNATURE OF APPLICANT **DATE**

CONTRACTOR INFORMATION

TEL

FEE INFORMATION

ESTIMATED COST $1,000

FLOOD PLAIN PERMIT	317700	$100.00
TOTAL FEE		**$100.00**

APPROVED BY **DATE**

INSPECTIONS REQUIRED

Phone 394-4157

Please provide your Permit #, site address, Type of Inspection needed, your name and phone#.

It is the duty of the person doing the work to notify this office when the work or construction is ready for inspection. Twenty-four (24) hours advance notice is required when scheduling **ALL** inspections.

Inspections listed in the order they are typically called for:

1. **Footings – When forms are set, steel tied and in place and proper clearances maintained from soils.**

2. **Foundation Walls – When forms are set, steel tied and in place and proper clearances maintained.**

3. **Foundation Drain – When foundation drain is in place and proper clearances provided.**

4. **Electrical – When temporary service is set – Prior to energizing temporary or electrical sign.**

5. **Structural Concrete Slab or Under-floor Inspection**
   a. General Construction
   b. Plumbing – Under slab piping
   c. Fire Sprinkler Underground – Pipe in place before covering.
   d. Mechanical – Under slab ducting
   e. Electrical – Under slab equipment

6. **Preliminary Framing**

7. **Rough-In Inspections – Must be completed prior to insulating or sheetrocking.**
   a. Plumbing – All water, sewer & vents in place.
   b. Mechanical – All duct work in place.
   c. Electrical – All electrical wires pulled.
   d. Gas – All gas lines in place.
   e. Framing – When the roof, framing, fire blocking, fire stops and bracing are in place; all pipes, chimneys, vents, rough electrical, plumbing, heating pipes, and ducts are installed. All penetrations through floors and ceiling are sealed. Windows and stairways must be in place.
   f. Fire Alarm – Conduit, J-box, and panel in place and wires pulled.
   g. Fire Sprinkler – Pipe is hung, heads in place, and riser built.
   h. Commercial Hood – Piping and tanks in place.
   i. Special Protection Systems – Piping and tanks in place.

8. **Electrical – Permanent Service connected - Prior to energizing permanent service.**

9. **Final Inspections – Individual inspections to be scheduled through the Inspection Coordinator.**
   a. General Construction – After finish grading and building is completed and ready for occupancy.
   b. Plumbing
   c. Mechanical
   d. Electrical
   e. Gas
   f. Fire Building – (Access, Address, Knox Box, Fire Extinguisher, Site, etc.)
   g. Alarm – (Any Fire alarm work)
   h. Fire Sprinkler – (Any Fire sprinkler work)
   i. Commercial Hood – (Any Ansul type system work)
   j. Special Protection Systems – (FM 200,etc.)

Please call 394-4157 to schedule an inspection

BUILDING PERMIT
CITY OF RAPID CITY

300 SIXTH STREET - RAPID CITY, SD 57701 (605) 394-4120
For Inspections (605) 394-4157

PERMIT TYPE: SITE PERMITS
PERMIT SUBTYPE: 705 FLOOD PLAIN
PERMIT DESCRIPTION: TRANSMISSION LINE REPLACE

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DATE ISSUED: 31-May-2019

Printed: 5/31/2019 10:31 am

PROPERTY INFORMATION

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ADDRESS:
RAPID CITY, SD 57709-0020 **TEL:**
BLOCK:

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SUBDIVISION:
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INSIDE **RAPID CITY** OUTSIDE **HISTORIC DIST.**
DRAINAGE BASIN: 310 **FLOODWAY:**
FLOOD DFIRM: X

DWELLINGS UNITS: 0
OCCUPANCY LOAD:
OCCUPANCY GROUP:
CONSTRUCTION TYPE:
NUMBER OF STORIES:
BATHROOMS:
BEDROOMS:
STRUCTURE SQ/FT 0
FUNDING SOURCE: Private

APPLICANT INFORMATION

BLACK HILLS POWER INC
PO BOX 20
RAPID CITY, SD 57709-0020

SIGNATURE OF APPLICANT DATE

CONTRACTOR INFORMATION

TEL

FEE INFORMATION

ESTIMATED COST $1,000

FLOOD PLAIN PERMIT	317700	$100.00
TOTAL FEE		**$100.00**

APPROVED BY DATE

INSPECTIONS REQUIRED

Phone 394-4157

Please provide your Permit #, site address, Type of Inspection needed, your name and phone#.

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   g. Alarm – (Any Fire alarm work)
   h. Fire Sprinkler – (Any Fire sprinkler work)
   i. Commercial Hood – (Any Ansul type system work)
   j. Special Protection Systems – (FM 200,etc.)

Please call 394-4157 to schedule an inspection

City of Rapid City
Finance Department
300 6th Street
Rapid City , SD 57701
605-394-4143
Welcome

006225-0030 One T. 05/31/2019 10:37AM

BUILDING PERMITS
BLACK HILLS POWER INC
Description: FLOOD PLAIN
PERMIT (BP002)
Reference 1: 1073
FLOOD PLAIN PERMIT
(BP002)
2019 Item: BP002
FLOOD PLAIN PERMIT
(BP002) 100.00

100.00

Subtotal **100.00**
Total **100.00**

GB/MISC CREDIT CARD 100.00
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Change due **0.00**

Paid by: POLLMILLER, SHANNON

Comments: BLACK HILLS POWER

Appendix K – Geotechnical Report

AMERICAN ENGINEERING TESTING, Inc.

CONSULTANTS
- GEOTECHNICAL
- MATERIALS
- ENVIRONMENTAL
- FORENSICS

www.amengtest.com

REPORT OF GEOTECHNICAL EXPLORATION AND REVIEW

WEST RAPID SUBSTATION
RAPID CITY SERVICE CENTER
409 DEADWOOD AVENUE
RAPID CITY, SOUTH DAKOTA

AET No. 17-03356

Date:

May 31, 2018

Prepared for:

Black Hills Energy
7001 Mt. Rushmore Road
Rapid City, South Dakota 57702

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
· GEOTECHNICAL
· MATERIALS
· ENVIRONMENTAL

May 31, 2018

Black Hills Energy
7001 Mt. Rushmore Road
Rapid City, South Dakota 57702

Attn: Mr. Ron Williams, PE

RE: Geotechnical Exploration and Review
West Rapid Substation
Rapid City Service Center
409 Deadwood Avenue
Rapid City, South Dakota
Report No.17-03356

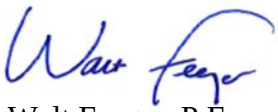
Dear Ron,

American Engineering Testing, Inc. (AET) is pleased to present the results of our subsurface exploration program and geotechnical engineering review for the proposed West Rapid Substation to be constructed at 409 Deadwood Avenue, in Rapid City, South Dakota. These services were performed in general accordance with our proposal dated April 10, 2018 and the signed Statement of Services No. 38863, dated April 25, 2018. We are submitting one (1) electronic copy of the report to you and one (1) additional copy to Ms. Maria Garduna (Black Hills Energy).

Within the limitations of scope, budget, and schedule, our services have been conducted according to generally accepted geotechnical engineering practices at this time and location. Other than this, no warranty, either expressed or implied, is intended. Important information regarding risk management and proper use of this report is given in the Appendix entitled "Geotechnical Report Limitations and Guidelines for Use".

Please contact our office if you have any questions about the report. We can also be contacted to arrange the observation and testing services during construction of the project.

Sincerely,
American Engineering Testing, Inc.



Walt Feeger, P.E.
Senior Geotechnical Engineer
Phone: (605) 388-0029
wfeeger@amengtest.com

1745 Samco Road | Rapid City, SD 57702
Phone (605) 388-0029 | Toll Free (800) 972-6364 | Fax (605) 388-0064 | www.amengtest.com | AA/EEO

SIGNATURE PAGE

Prepared for:

Black Hills Energy
7001 Mt. Rushmore Road
Rapid City, South Dakota 57701

Attn: Mr. Ron Williams, PE

Prepared by:

American Engineering Testing, Inc.
1745 Samco Road
Rapid City, South Dakota 57702

Report Authored By:

Walt Feeger, P.E.
Senior Geotechnical Engineer

Peer Review Conducted By:

Robert Temme, P.E.
Vice President – Western Region

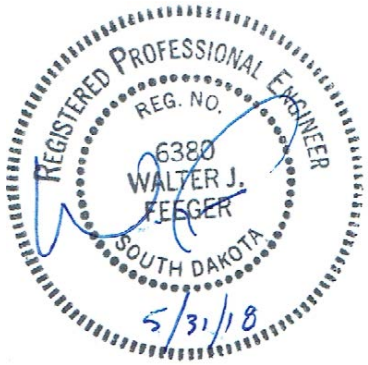


TABLE OF CONTENTS

1.0 INTRODUCTION

We understand the construction of a new substation has been proposed at Black Hills Energy's Rapid City Service Center facility at 409 Deadwood Avenue in Rapid City, South Dakota. Please refer to the Site Location Map included in Appendix A of this report. To assist with the planning and design, American Engineering Testing, Inc. (AET) has been authorized to conduct a subsurface exploration program at the site, conduct soil laboratory testing, and perform a geotechnical engineering review for the project. This report presents the results of the above services, and provides our engineering recommendations based on this data.

2.0 SCOPE OF SERVICES

AET's services were performed in general accordance with our proposal dated April 10, 2018. The authorized scope consists of the following:

- Ten (10) standard penetration test (SPT) borings within the proposed substation area to depths of about 30 feet below existing grade.
- Soil laboratory testing.
- Geotechnical engineering analysis based on the gained data and preparation of this report.

These services are intended for geotechnical purposes only. The scope is not intended to explore for the presence or extent of environmental contamination.

3.0 PROJECT INFORMATION

Based on the information provided, we understand the proposed 230/69kV substation will be constructed at Black Hills Energy's Rapid City Service Center facility located at 409 Deadwood Avenue in Rapid City. The substation will consist of a control building as well as deadends, bus/switch supports, transformers, and take-off structures. Furthermore, we understand these types of structures are typically placed on pad/mat foundations or reinforced concrete drilled piers (caissons).

The previously stated information represents our understanding of the proposed construction. This information is an integral part of our engineering review. It is important that you contact us if there are changes from that described so that we can evaluate whether modifications to our recommendations are appropriate.

4.0 SUBSURFACE EXPLORATION AND TESTING

4.1 Field Exploration Program

The subsurface exploration program conducted for the project consisted of ten (10) SPT borings which were drilled on May 8 and 9, 2018. The borings were located in the field by AET personnel at the approximate locations shown on the Boring Location Map within Appendix A. Surface elevations at the boring locations were referenced to a Temporary Benchmark (TBM). The TBM selected for this project was the top of the well cover located northeast of Boring B-3. For purposes of our report, the TBM was given a reference elevation on 100.0 feet.

The logs of the borings and details of the methods used appear in Appendix A. The logs contain information concerning soil layering, soil classification, geologic description, and moisture condition. Relative density or consistency is also noted for the natural soils, which is based on the standard penetration resistance (N-value).

4.2 Laboratory Testing

The laboratory test program included water content, dry density, Atterberg Limits, percent passing the #200 sieve, and unconfined compression. The laboratory test results appear in Appendix A on the individual boring logs adjacent to the samples upon which they were performed with the exception of the unconfined compression tests, which can be found on separate sheets within Appendix A of this report.

5.0 SITE CONDITIONS

5.1 Surface Observations

The project site is located within the area of the former Black Hills Power Plant at the Rapid City Service Center, on the west side of Deadwood Avenue in Rapid City. At the time of our field work, the project site consisted of an equipment and vehicle staging area, which was covered with about 9 to 10 inches of crushed limestone aggregate. In general, the site slopes slightly downward to the west, with an elevation difference of about 2½ feet noted between the borings.

5.2 Subsurface Soils/Geology

Underlying approximately 9 to 10 inches of aggregate surfacing, the subsurface soils encountered in the borings consisted of about 1 to 12 feet of fill overlying varying depths of alluvium and/or claystone bedrock and gypsum, associated with the Spearfish Formation. The fill is comprised of residual coal from the former power plant as well as silty/sandy lean clays. The alluvium consists of stiff to hard lean clays. The claystone/gypsum bedrock extended to the total depths explored in each of the borings, with the exception of Boring B-1. Within Boring B-1, the alluvial silty lean clays extended to the total depth explored.

Conditions encountered at each boring location are indicated on the individual boring logs in Appendix A of this report.

5.3 Groundwater

At the time of our field work, measurable groundwater was encountered within Borings B-1, B-2, B-4, B-7, and B-10 at depth varying from approximately 10½ to 15 feet below existing grades. The presence or lack of groundwater noted at the boring locations should not be taken as an accurate representation of the actual groundwater levels. Groundwater level fluctuations occur due to seasonal variations in the amount of precipitation, surface drainage, local irrigation practices, and other factors not evident at the time the borings were performed. Due to the relatively low permeability of the clay soils encountered in the borings, a relatively long period of time may be needed for a groundwater level to develop and/or stabilize in the borings. The possibility of encountering groundwater and associated fluctuations in groundwater levels should be considered when developing the design and construction plans for the project.

5.3 Hydrocarbon Impacted Soils and Groundwater

Potential hydrocarbon impacted soils and groundwater may be encountered during the project excavation activities based on field photoionization detector (PID) screening results of samples obtained from the borings (please refer to the results shown on the Boring Logs). Hydrocarbon impacted soils that are encountered during the excavation activities could be considered solid waste material by the South Dakota Department of Environment and Natural Resources (SD DENR), which would require proper removal and disposal in accordance with SD DENR guidelines.

Regarding hydrocarbon-impacted groundwater that may require dewatering during the project, concentrations of hydrocarbons in groundwater may exceed the surface water quality standards as established by the SD DENR, and therefore, cannot be discharged as surface water. If dewatering of hydrocarbon impacted groundwater is required for the project, the successful bidding contractor for the project would need to coordinate with the City of Rapid City to obtain permission to discharge to the sanitary sewer or discuss other potential disposal options acceptable to the City of Rapid City and/or DENR.

6.0 RECOMMENDATIONS

6.1 Discussion

Our recommendations in the following sections are based on our understanding of the project details at this time. The geotechnical engineer should be allowed to review the final project plans to verify the following recommendations remain applicable for construction.

Based on the field and laboratory data, it is our opinion drilled pier foundations can be used to support the proposed dead-end structures, transmission line poles, and other miscellaneous substation structures. Conventional spread footing or mat foundations can be used for support of the new control building, transformers, capacitor banks, or other miscellaneous support equipment provided the recommendations provided herein are followed.

As designed, spread footing/mat loadings should provide a theoretical safety factor of 3 or more with respect to a general shear or base failure of the footings/mats. For drilled piers, loadings should provide a theoretical safety factor of 2 or more. Total and differential movement should not exceed 1-inch and 1/2-inch, respectively.

Additionally, it should be noted that gypsum is a common geologic feature found in the Spearfish Formation derived soils at this site. Once exposed, gypsum material can degrade which could cause future movement related distress to the structures, especially if water is introduced to the gypsum matrix.

If gypsum is encountered at the base of the excavations for foundations, retaining walls, and concrete slabs-on-grade, the geotechnical engineer should be allowed to observe the excavations and provide additional recommendations. Such recommendations typically involve over-excavation of the gypsum material to a specified depth and replacement with approved engineered fill material or lean concrete flowable fill. Gypsum fragments greater than 2-inches in nominal size should be screened out of all fill material prior to placement. Drilled pier foundations should not terminate (end bear) on gypsum.

6.2 General Site Preparation Recommendations

At this time, a grading plan or design finished structure elevations has not been provided. Based on the elevations obtained at the boring locations, fills on the order of about 3 feet (or less) will be required along the western portion of the proposed substation in order to provide a level building pad. All proposed imported fill material required to reach the design substation grade elevations should consist of lean clay or sand/gravel material. We do not recommend fat clay or shale material be used as fill within the proposed substation. All proposed imported material should be submitted to the geotechnical engineer for approval prior to being hauled and stockpiled on-site.

The existing aggregate surfacing, coal layers associated with the former power plant, and other unsuitable materials should be removed from within the construction limits of the proposed new substation. Any former infrastructure or structural elements associated with the former power plant should also be removed in their entirely if encountered during require site excavations. The existing lean clay material may be left in-place provided it is properly reconditioned as recommended herein prior to placement of structures and/or additional fill material required

Once the required stripping and foundation excavations are complete, we recommend the exposed subgrade soils be moisture conditioned to within ±3% of the optimum moisture content and compacted to at least 92% of maximum modified Proctor dry density (ASTM D 1557). Once completed and approved, applicable engineered fill zones and/or structural elements may be placed.

6.3 Drilled Pier Foundation Recommendations

Based on the results of the borings, laboratory testing, and our analysis, we have developed the following design parameters. We recommend all drilled piers bear at least 5 feet into the very stiff/hard lean clay alluvium or claystone bedrock and have a minimum length of 15 feet.

Soil Type	Allowable Skin Friction (psf)	Allowable End Bearing Pressure (psf)
Frost Zone 0 – 5’	Ignore	Ignore
Lean Clay Fill	300	na
Lean Clay Alluvium	600	6,000
Gypsum	na	na
Claystone Bedrock	1,000	10,000

In designing to resist uplift, ⅔ of the allowable side friction values provided for compressive loading could be used along with the effective weight of the drilled shafts. Straight shaft piers with a minimum diameter of 18-inches are recommended. Proper reinforcing steel should be included in the drilled shaft designs.

Lateral deflections of drilled shafts should be evaluated using an appropriate design procedure, and would be dependent on shaft diameter, length, configuration, stiffness and “fixed head” or “free head” conditions.

Single pier lateral load capacity can be estimated using the following design parameters for the soil profile in a p-y analysis such as conducted using the computer program LPILE:

Design Parameter	Lean Clay Fill	Lean Clay Alluvium	Gypsum	Claystone
Moist Unit Weight (pcf)	115	120	na	125
Undrained Shear Strength (psf)	1,000	2,000	na	4,000
Friction Angle (degrees)	18	18	na	15
Static Soil Modulus Parameter, k (pci)	500	500	na	2,000
Strain, ε_{50} (in/in)	0.005	0.005	na	0.004

Drilling to design depths should be possible with conventional large drilled pier equipment. Difficult drilling should be anticipated where gypsum masses are encountered which may require rock cutting teeth and/or coring in order to advance the drilled pier hole. We highly recommend a separate bid item be provided in the bid documents that addresses drilling through the gypsum.

Care should be taken so that the sides and bottom of the shaft excavations are not disturbed during drilling. The bottom of the shaft excavations should be free of loose material and water when concrete is placed. Concrete should be placed as soon as possible after the foundation excavation is completed to reduce the potential for disturbance of the bearing surface.

Groundwater was encountered at the time of our field work; therefore, the use of temporary casing will likely be required. The need for casing will depend on the conditions encountered at the time the pier excavations are made. A sufficient head of plastic concrete having a minimum slump on the order of 6-8 inches should be maintained inside the casing as it is withdrawn to prevent concrete arching and the influx of soil and water (if encountered) and creation of voids in the pier shaft.

Drilled shaft construction should be constructed in accordance with applicable portions of ACI 336.3R-93 or other similar, approved specification. Concrete mix should be designed utilizing cement to have a minimum 28-day compressive strength of 4,000 psi and a maximum water cement ratio of 0.45. A super plasticizer may be necessary to increase concrete slump/flow temporarily for drilled shaft placement.

Concrete should be on-site and ready for placement as soon as practical after each pier excavation is completed. Concrete placement in pier excavations should occur on the same day as pier excavation is completed.

We do not recommend free-fall concrete placement in piers. The use of a bottom-dump hopper, tremie, or pump, discharging near the bottom of the hole where concrete segregation will be minimized, is recommended.

A representative from AET should observe all drilled shaft excavations to evaluate the suitability of the bearing materials and to verify that conditions in the drilled shaft excavations are consistent with those encountered in the test borings. If unsuitable materials are encountered at planned depths, it may be necessary to deepen the shaft.

6.4 Spread Footing or Mat Foundation Recommendations

As noted, clay soils are present at the site. In order to limit potentially damaging differential and total movements through moisture variations in the clay soils, we recommend the site clays be removed within the proposed structure footprints to allow for the placement of at least two (2) feet of imported granular low/non-frost susceptible engineered fill below the foundations and/or mats.

Where applicable, excavations should be laterally oversized at a 1H:1V ratio as necessary to accommodate the two (2) feet of granular engineered fill material. Once the over excavation is complete, we recommend the exposed subgrade be scarified to a depth of at least 8-inches, the moisture content of the scarified soils adjusted to ±3% of the optimum moisture content and the scarified soils compacted to at least 92% of maximum modified Proctor dry density (ASTM D 1557). The excavated site clays may be stockpiled on-site and used as overlot fill outside of the building limits, where required.

Conventional Spread Footing Foundations – Imported granular engineered fill can then be placed within the over-excavations below the foundations. The granular engineered fill should be pre-approved by the geotechnical engineer prior to use. The granular engineered fill should be a pit run or crushed/screened material with a maximum aggregate size of 3-inches, no more than 15% passing the #200 sieve with a Liquid Limit less than 25. Engineered fill should be placed in 8-inch thick maximum loose lifts; the moisture content conditioned to within ±3% of optimum moisture content and compacted to at least 95% of maximum modified Proctor (ASTM D 1557) dry density.

We recommend exterior footings, interior footings in unheated portions of the building, or footings placed during freezing conditions be placed at least four (4) feet below final grades for frost protection. Interior footings in heated areas may be placed directly below the floor slab (where applicable).

The spread footing foundation system may be designed for an allowable bearing capacity of 2,500 pounds per square foot (psf) bearing on the properly placed imported granular engineered fill. As designed, loadings should provide a theoretical safety factor of three or more with respect to a general shear or base failure of the footings. Total and differential settlement should not exceed 1 inch and 1/2-inch, respectively.

Mat Foundations – In our opinion, the proposed substation structures can also be supported by a slab-on-grade (mat) foundation system bearing on a zone of compacted select (low frost susceptible) granular engineered fill extending to a depth of at least two (2) feet below the base of the mat. The mat foundation system may be designed for an allowable bearing capacity of 2,500 pounds per square foot (psf). As designed, loadings should provide a theoretical safety factor of three or more with respect to a general shear or base failure of the footings. Total and differential settlement should not exceed 1 inch and 1/2-inch, respectively.

Lateral loads transmitted to the mat foundation can be resisted by the soil-concrete friction on the base of the foundation. The friction on the base of the concrete and underlying granular engineered fill may be computed using a friction coefficient of 0.45.

6.5 Backfill Considerations

It is our opinion exterior backfill around the structures, utility trench backfill and overlot fill may consist of the site soils and should be placed as follows. All recommendations are based on the modified Proctor method (ASTM: D 1557).

1. All backfill should be free of deleterious/frozen material and have a maximum aggregate size of 3-inches. Gypsum material, if encountered, should be removed to the extent possible and in no case should fill material contain gypsum fragments greater than 2-inches in nominal size.
2. Fill should be moisture conditioned to within ±3% of optimum moisture content prior to being placed.
3. All fill should be placed in loose lift thicknesses of 8-inches or less. If hand-operated compaction equipment is used, the loose lift thickness should be reduced to 4-inches or less.

4. Each lift of backfill should be compacted to at least 92% of maximum proctor density. Compaction should be increased to 95% for the final lift of utility trench backfill placed within areas to receive pavement.

5. Compaction density tests should be performed on alternating lifts to ensure the minimum density is maintained.

7.0 CONSTRUCTION CONSIDERATIONS

7.1 Potential Difficulties

Depending on the time of year in which construction takes place, unstable subgrade soils could be encountered during the site and building grading operations. If encountered, additional conditioning of the soils may be required to obtain moisture contents which allow for firm and unyielding subgrade and/or compaction.

Localized areas of soft wet subgrades can be remedied with additional excavation to expose firmer soils, placement of coarse rock to provide a solid base on which to place additional fill and/or the use of geotextiles between the soft soils and the overlying fill and/or pavement sections. The appropriate means of subgrade stabilization should be evaluated by the geotechnical engineer at the time of construction.

7.2 Runoff Water in Excavation

Water can be expected to collect in the excavation bottom during times of inclement weather or snow melt. To allow observation of the excavation bottom, reduce the potential for soil disturbance, and facilitate filling operations, we recommend water be removed from within the excavation during construction. Based on the soils encountered, we anticipate the groundwater can be handled with conventional sump pumping.

7.3 Disturbance of Soils

The on-site soils can become disturbed under construction traffic, especially if the soils are wet. If soils become disturbed, they should be subcut to the underlying undisturbed soils. The subcut soils can then be dried and recompacted back into place, or they should be removed and replaced with drier imported fill.

7.4 Excavation Backsloping

If excavation faces are not retained, the excavations should maintain maximum allowable slopes in accordance with *OSHA Regulations (Standards 29 CFR), Part 1926, Subpart P, "Excavations"* (can be found on www.osha.gov). Even with the required OSHA sloping, water seepage or surface runoff can potentially induce sideslope erosion or running which could require slope maintenance.

7.5 Observation and Testing

The recommendations in this report are based on the subsurface conditions found at our test boring locations. Since the soil conditions can be expected to vary away from the soil boring locations, we recommend on-site observation by a geotechnical engineer/technician during construction to evaluate these potential changes. Soil density testing should also be performed on new fill placed in order to document that project specifications for compaction have been satisfied.

8.0 LIMITATIONS

Within the limitations of scope, budget, and schedule, our services have been conducted according to generally accepted geotechnical engineering practices at this time and location. Other than this, no warranty, either expressed or implied, is intended. Important information regarding risk management and proper use of this report is given in Appendix B entitled "Geotechnical Report Limitations and Guidelines for Use".

Appendix A

AET Project No. 17-03356

Boring Log Notes
Unified Soil Classification System
Site Location Map
Boring Location Map
Subsurface Boring Logs
Unconfined Compression Test Results

A.1 FIELD EXPLORATION

The subsurface conditions at the site were explored by drilling and sampling standard penetration test borings. The locations of the borings appear on the Boring Location Map, preceding the Subsurface Boring Logs in this appendix.

A.2 SAMPLING METHODS

A.2.1 Ring-lined barrel Samples - Calibrated to N_{60} Values

Standard penetration (ring-lined barrel) samples were collected in general accordance with ASTM: D3550. The ASTM test method consists of driving a 2.5-inch O.D. thick-walled, split-barrel sampler lined with brass rings into the in-situ soil with a 140-pound hammer dropped from a height of 30 inches. The sampler is driven a total of 18 inches into the soil. After an initial set of 6 inches, the number of hammer blows to drive the sampler the final 12 inches is known as the standard penetration resistance or N-value.

A.2.2 Disturbed Samples (DS)/Spin-up Samples (SU)

Sample types described as "DS" or "SU" on the boring logs are disturbed samples, which are taken from the flights of the auger. Because the auger disturbs the samples, possible soil layering and contact depths should be considered approximate.

A.2.3 Sampling Limitations

Unless actually observed in a sample, contacts between soil layers are estimated based on the spacing of samples and the action of drilling tools. Cobbles, boulders, and other large objects generally cannot be recovered from test borings, and they may be present in the ground even if they are not noted on the boring logs.

Determining the thickness of "topsoil" layers is usually limited, due to variations in topsoil definition, sample recovery, and other factors. Visual-manual description often relies on color for determination, and transitioning changes can account for significant variation in thickness judgment. Accordingly, the topsoil thickness presented on the logs should not be the sole basis for calculating topsoil stripping depths and volumes. If more accurate information is needed relating to thickness and topsoil quality definition, alternate methods of sample retrieval and testing should be employed.

A.3 CLASSIFICATION METHODS

Soil descriptions shown on the boring logs are based on the Unified Soil Classification (USC) system. The USC system is described in ASTM: D2487 and D2488. Where laboratory classification tests (sieve analysis or Atterberg Limits) have been performed, accurate classifications per ASTM: D2487 are possible. Otherwise, soil descriptions shown on the boring logs are visual-manual judgments. Charts are attached which provide information on the USC system, the descriptive terminology, and the symbols used on the boring logs.

Visual-manual judgment of the AASHTO Soil Group is also noted as a part of the soil description. A chart presenting details of the AASHTO Soil Classification System is also attached.

The boring logs include descriptions of apparent geology. The geologic depositional origin of each soil layer is interpreted primarily by observation of the soil samples, which can be limited. Observations of the surrounding topography, vegetation, and development can sometimes aid this judgment.

A.4 WATER LEVEL MEASUREMENTS

The ground water level measurements are shown at the bottom of the boring logs. The following information appears under "Water Level Measurements" on the logs:

- Date and Time of measurement
- Sampled Depth: lowest depth of soil sampling at the time of measurement
- Casing Depth: depth to bottom of casing or hollow-stem auger at time of measurement
- Cave-in Depth: depth at which measuring tape stops in the borehole
- Water Level: depth in the borehole where free water is encountered
- Drilling Fluid Level: same as Water Level, except that the liquid in the borehole is drilling fluid

The true location of the water table at the boring locations may be different than the water levels measured in the boreholes. This is possible because there are several factors that can affect the water level measurements in the borehole. Some of these factors include: permeability of each soil layer in profile, presence of perched water, amount of time between water level readings, presence of drilling fluid, weather conditions, and use of borehole casing.

A.5 LABORATORY TEST METHODS

A.5.1 Water Content Tests
Conducted per AET Procedure 01-LAB-010, which is performed in general accordance with ASTM: D2216 and AASHTO: T265.

A.5.2 Atterberg Limits Tests
Conducted per AET Procedure 01-LAB-030, which is performed in general accordance with ASTM: D4318 and AASHTO: T89, T90.

A.5.3 Sieve Analysis of Soils (thru #200 Sieve)
Conducted per AET Procedure 01-LAB-040, which is performed in general conformance with ASTM: D6913, Method A.

A.6 TEST STANDARD LIMITATIONS

Field and laboratory testing is done in general conformance with the described procedures. Compliance with any other standards referenced within the specified standard is neither inferred nor implied.

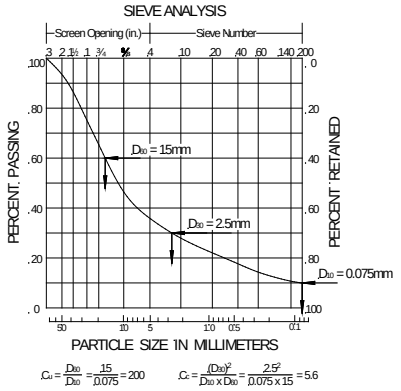
A.7 SAMPLE STORAGE

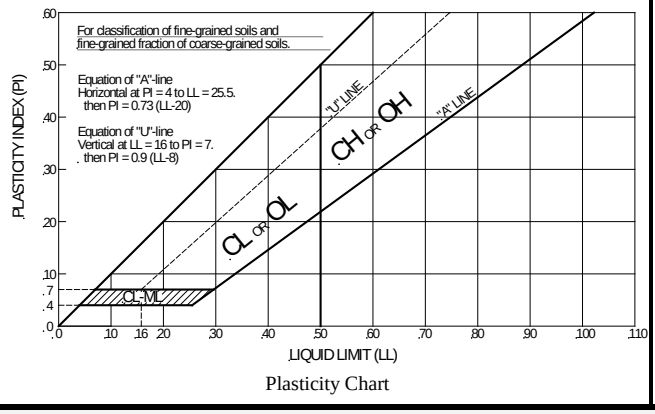
Unless notified to do otherwise, we routinely retain representative samples of the soils recovered from the borings for a period of 30 days.

UNIFIED SOIL CLASSIFICATION SYSTEM
ASTM Designations: D 2487, D2488

AMERICAN ENGINEERING TESTING, INC.

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]				Soil Classification: Group Symbol	Soil Classification: Group Name[B]
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	Cu≥4 and 1≤Cc≤3[E]	GW	Well graded gravel[F]
			Cu<4 and/or 1>Cc>3[E]	GP	Poorly graded gravel[F]
		Gravels with Fines more than 12% fines[C]	Fines classify as ML or MH	GM	Silty gravel[F,G,H]
			Fines classify as CL or CH	GC	Clayey gravel[F,G,H]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines[D]	Cu≥6 and 1≤Cc≤3[E]	SW	Well-graded sand[I]
			Cu<6 and 1>Cc>3[E]	SP	Poorly-graded sand[I]
		Sands with Fines more than 12% fines[D]	Fines classify as ML or MH	SM	Silty sand[G,H,I]
			Fines classify as CL or CH	SC	Clayey sand[G,H,I]
Fine-Grained Soils 50% or more passes the No. 200 sieve (see Plasticity Chart below)	Silts and Clays Liquid limit less than 50	inorganic	PI>7 and plots on or above "A" line[J]	CL	Lean clay[K,L,M]
			PI<4 or plots below "A" line[J]	ML	Silt[K,L,M]
		organic	**Liquid limit–oven dried <0.75** Liquid limit – not dried	OL	Organic clay[K,L,M,N] Organic silt[K,L,M,O]
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line	CH	Fat clay[K,L,M]
			PI plots below "A" line	MH	Elastic silt[K,L,M]
		organic	**Liquid limit–oven dried <0.75** Liquid limit – not dried	OH	Organic clay[K,L,M,P] Organic silt[K,L,M,Q]
Highly organic soil			Primarily organic matter, dark in color, and organic in odor	PT	Peat[R]





Plasticity Chart

Notes

[A]Based on the material passing the 3-in (75-mm) sieve.

[B]If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C]Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay

[D]Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay

[E]$Cu = D_{60} / D_{10}$, $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

[F]If soil contains ≥15% sand, add "with sand" to group name.

[G]If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H]If fines are organic, add "with organic fines" to group name.

[I]If soil contains ≥15% gravel, add "with gravel" to group name.

[J]If Atterberg limits plot is hatched area, soils is a CL-ML silty clay.

[K]If soil contains 15 to 29% plus No. 200 add "with sand" or "with gravel", whichever is predominant.

[L]If soil contains ≥30% plus No. 200, predominantly sand, add "sandy" to group name.

[M]If soil contains ≥30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N]PI≥4 and plots on or above "A" line.

[O]PI<4 or plots below "A" line.

[P]PI plots on or above "A" line.

[Q]PI plots below "A" line.

[R]Fiber Content description shown below.

ADDITIONAL TERMINOLOGY NOTES USED BY AET FOR SOIL IDENTIFICATION AND DESCRIPTION

Grain Size

Term	Particle Size
Boulders	Over 12"
Cobbles	3" to 12"
Gravel	#4 sieve to 3"
Sand	#200 to #4 sieve
Fines (silt & clay)	Pass #200 sieve

Gravel Percentages	
Term	Percent
A Little Gravel	3% - 14%
With Gravel	15% - 29%
Gravelly	30% - 50%

Consistency of Plastic Soils

Term	N-Value, BPF
Very Soft	less than 2
Soft	2 - 4
Firm	5 - 8
Stiff	9 - 15
Very Stiff	16 - 30
Hard	Greater than 30

Relative Density of Non-Plastic Soils

Term	N-Value, BPF
Very Loose	**0 - 4**
Loose	**5 - 10**
Medium Dense	**11 - 30**
Dense	**31 - 50**
Very Dense	**Greater than 50**

Moisture/Frost Condition

(MC Column)

D (Dry): Absence of moisture, dusty, dry to touch.

M (Moist): Damp, although free water not visible. Soil may still have a high water content (over "optimum").

W (Wet/ Waterbearing): Free water visible intended to describe non-plastic soils. Waterbearing usually relates to sands and sand with silt.

F (Frozen): Soil frozen

Layering Notes

Laminations: Layers less than ½" thick of differing material or color.

Lenses: Pockets or layers greater than ½" thick of differing material or color.

Fiber Content of Peat

Term	Fiber Content (Visual Estimate)
Fibric Peat:	Greater than 67%
Hemic Peat:	33 – 67%
Sapric Peat:	Less than 33%

Organic/Roots Description (if no lab tests)

Soils are described as *organic*, if soil is not peat and is judged to have sufficient organic fines content to influence the soil properties. *Slightly organic* used for borderline cases.

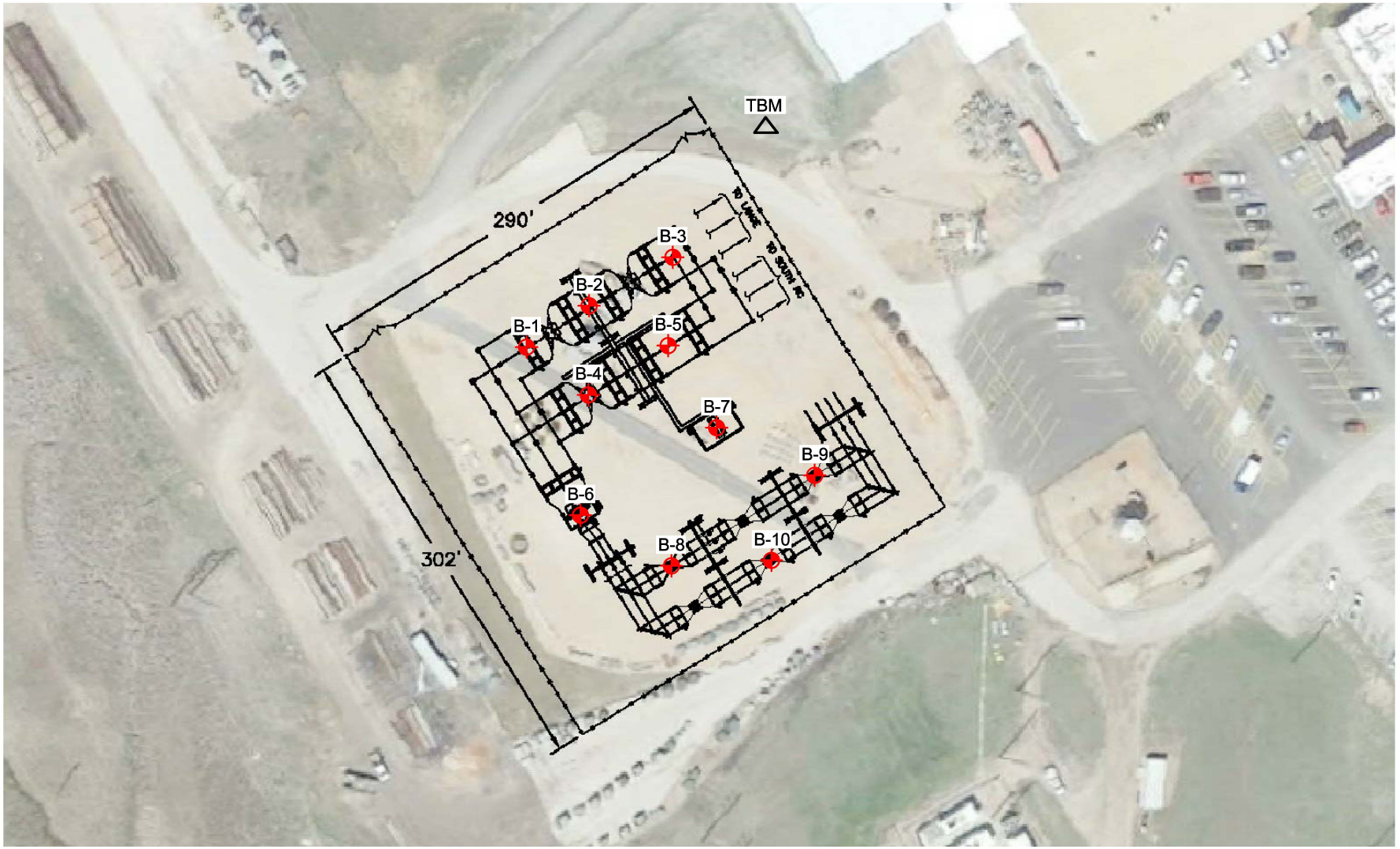
With roots: Judged to have sufficient quantity of roots to influence the soil properties.

Trace roots: Small roots present, but not judged to be in sufficient quantity to significantly affect soil properties.

SCALE (FEET)

0 800

AMERICAN ENGINEERING TESTING, INC.	PROJECT: WEST RAPID SUBSTATION RAPID CITY, SOUTH DAKOTA		PROJECT NO. 17-03356
	SUBJECT: SITE LOCATION MAP		DATE: MAY 23, 2018
	SCALE: 1 INCH = 800 FEET	DRAWN BY: JR	REVIEWED BY: WF



AMERICAN ENGINEERING TESTING, INC.

PROJECT: WEST RAPID SUBSTATION RAPID CITY, SOUTH DAKOTA		PROJECT NO. 17-03356
SUBJECT: BORING LOCATION MAP		DATE: MAY 24, 2018
SCALE: 1 INCH = 100 FEET	DRAWN BY: JR	REVIEWED BY: WF

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 1 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

DEPTH IN FEET	SURFACE ELEVATION: 92.6 MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 9 inches	SURFACING									
2	**FILL**, Silty Lean Clay with Sand, reddish brown (CL)	FILL									
3			20	M	MC	18					ND
4											
5											
6			14	M	MC	18	26	96	43	19	ND
7											
8			18	M	MC	18	19	110			ND
9											
10											
11			13	M	MC	18	20	114			ND
12				▽							
13		ALLUVIUM	18	W	MC	18					ND
14	**SILTY LEAN CLAY with SAND**, reddish brown, very stiff to hard, sandstone fragments present (CL)										
15											
16			25	M	MC	18					ND
17											
18											
19											
20											
21			31	M	MC	18					ND
22											
23											
24											
25											
26			45	M	MC	18					ND
27											
28											
29											
30											
31			25	M	MC	18					NSR
	Bottom of Boring										

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

BORING COMPLETED: **5/8/18**

DR: **ES** LG: **JH** Rig: **RC-1**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/8/18	**10:20**	**31.5**	**30.0**	**NA**	**NA**	**12.5**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 2 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **94.0**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 10 inches	SURFACING									
2	**FILL**, Silty Lean Clay Sand, reddish brown (CL)	FILL									
3			38	M	MC	18					ND
4											
5											
6	**GYPSUM**, white, hard	SPEARFISH FORMATION	50/.3	M	MC	10					ND
7											
8			34	M	MC	18	8				ND
9	**CLAYSTONE**, Silty Lean Clay, red, very stiff to hard, gypsum lenses present (CL)										
10											
11			20	M	MC	18					ND
12											
13			50/.4	W	MC	17	13				ND
14											
15											
16			NSR	M	MC	0					ND
17											
18											
19											
20											
21			50/.4	M	MC	11					ND
22											
23											
24											
25											
26			50/.4	M	MC	11					ND
27											
28											
29											
30			50/.4	M	MC	11					NSR
	Bottom of Boring										

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/8/18	**17:00**	**30.9**	**30.0**	**NA**	**NA**	**13.0**

BORING COMPLETED: **5/8/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 3 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **95.2**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 9 inches	SURFACING									
2	**FILL**, Coal, black	FILL									
3			50/.5	M	MC	12					ND
4	**GYPSUM**, white, hard, siltstone lenses present	SPEARFISH FORMATION									
5											
6			50/.5	M	MC	12					ND
7											
8			50/.5	M	MC	6					ND
9											
10											
11			50/.5	M	MC	6					ND
12											
13			50/.3	M	MC	4					ND
14											
15											
16			NSR	M	MC	0					ND
17											
18											
19											
20											
21	**CLAYSTONE**, Silty Lean Clay, red, hard, gypsum lenses present (CL)		78/.8	M	MC	16					ND
22											
23											
24											
25											
26			50/.2	M	MC	9					ND
27											
28											
29											
30			50/.3	M	MC	10					NSR
	Bottom of Boring										

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/9/18	**8:30**	**30.8**	**30.0**	**NA**	**NA**	**None**

BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 4 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **93.5**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 10 inches	SURFACING									
2	**FILL**, Silty Lean Clay with Sand, reddish brown (CL)	FILL									
3			45	M	MC	18					ND
4											
5	**CLAYSTONE**, Silty Lean Clay, red, hard (CL)	SPEARFISH FORMATION									
6			55	M	MC	18	8				ND
7											
8			50/.5	M	MC	12	7				ND
9											
10											
11			85/.8	M	MC	16					15
12				▽							
13			90	W	MC	18	9	119			55
14											
15											
16			75/.9	M	MC	17					<1
17											
18											
19											
20											
21			50	M	MC	18	11				ND
22											
23											
24											
25	with gypsum lenses										
26			NSR	M	MC	0					<1
27											
28											
29											
30			50/.3	M	MC	4					NSR
	Sampler Refusal at 30.3'										

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/9/18	**9:50**	**30.3**	**30.0**	**NA**	**NA**	**12.0**

BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 5 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **95.0**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 10 inches	SURFACIING									
2	**FILL**, Coal, black	FILL									
3	**SILTY LEAN CLAY with SAND**, reddish brown, very stiff to hard, claystone fragments present (CL)	ALLUVIUM	42	M	MC	18	26	99			ND
4											
5											
6			35	M	MC	18	19				ND
7											
8			35	M	MC	18					179
9											
10	with gypsum fragments										
11			46	M	MC	18					146
12											
13			17	M	MC	18	18	112			82
14											
15											
16			78	M	MC	18	9	126			ND
17											
18											
19											
20											
21	**CLAYSTONE**, Silty Lean Clay, red, hard, gypsum lenses present (CL)	SPEARFISH FORMATION	50/.2	M	MC	9					ND
22											
23											
24											
25											
26			NSR	M	MC	0					ND
27											
28											
29											
30	Sampler Refusal at 30.0'		NSR	M	MC	0					NSR

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/9/18	**12:00**	**30.0**	**30.0**	**NA**	**NA**	**None**

BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 6 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

DEPTH IN FEET	SURFACE ELEVATION: 92.5 MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 10 inches	SURFACING									
2	**FILL**, Coal, black	FILL									
3	**SILTY LEAN CLAY with SAND**, reddish brown, hard, claystone and gypsum fragments present (CL)	ALLUVIUM	55	M	MC	18					105
6			50/.5	M	MC	12	12				173
8			40	M	MC	18	12	119			164
11			66	M	MC	18					33
13			50/.5	M	MC	6	11				13
16	**CLAYSTONE**, Silty Lean Clay with Sand, red, hard, gypsum lenses present (CL)	SPEARFISH FORMATION	50/.4	M	MC	11					<1
21			50/.4	M	MC	11					ND
26			NSR	M	MC	0	9	115			<1
30			50/.3	M	MC	10					NSR
	Bottom of Boring										

DEPTH:	DRILLING METHOD	WATER LEVEL MEASUREMENTS						
		DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
30.0	**3.25" HSA**	**5/9/18**	**13:15**	**30.8**	**30.0**	**NA**	**NA**	**None**

BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 7 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **94.1**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 10 inches	SURFACING									
2	**FILL**, Coal, black	FILL									
3			69	M	MC	18					ND
4	**FILL**, Silty Lean Clay with Sand, reddish brown, gypsum fragments present (CL)										
5											
6			17	M	MC	18					74
7	**GYPSUM**, white, hard to firm	SPEARFISH FORMATION									
8			50/.3	M	MC	10					115
9											
10				▽							
11			6	W	MC	18					120
12	**CLAYSTONE**, Silty Lean Clay, red, very stiff to hard, gypsum lenses present (CL)										
13			22	M	MC	18					195
14											
15											
16			48	M	MC	18					147
17											
18											
19											
20											
21			50/.4	M	MC	11					58
22											
23											
24											
25											
26			50/.4	M	MC	5					NSR
27											
28											
29											
30			50/.3	M	MC	4					NSR
	Sampler Refusal at 30.3'										

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/9/18	**14:25**	**30.3**	**30.0**	**NA**	**NA**	**10.5**

BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 8 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **92.5**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 9 inches	SURFACING									
2	**FILL**, Coal, black	FILL									
3	**FILL**, Silty Lean Clay with Sand, reddish brown to dark brown, gypsum, claystone, and coal fragmnets present (CL)		50/.5	M	MC	6					NSR
6			10	M	MC	18	16	100			ND
8	**CLAYSTONE**, Silty Lean Clay with Sand, red, hard, gypsum lenses present (CL)	SPEARFISH FORMATION	61	M	MC	18	8	131			ND
11			50/.5	M	MC	12					59
13			50/.4	M	MC	11	14				11
16			50/.3	M	MC	10	11				NSR
21			50/.2	M	MC	3					NSR
26			NSR	M	MC	0					ND
30			50/.2	M	MC	3					NSR
	Sampler Refusal at 30.2'										

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/9/18	**15:50**	**30.2**	**30.0**	**NA**	**NA**	**None**

BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B- 9 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **95.1**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 10 inches	SURFACING									
2	**FILL**, Silty Lean Clay, reddish brown to brown, gypsum and coal fragments present (CL)	FILL									
3			53	M	MC	18	19	103			14
4											
5											
6			28	M	MC	18					5
7											
8			16	M	MC	18	26	99	46	25	76
9											
10											
11			10	M	MC	18					<1
12											
13	**SILTY LEAN CLAY**, reddish brown, stiff to very stiff, gypsum and claystone fragments present (CL)	ALLUVIUM	20	M	MC	18	23	99			37
14											
15											
16			10	M	MC	18					NSR
17											
18											
19											
20											
21			14	M	MC	18					<1
22											
23											
24											
25											
26	**CLAYSTONE**, Silty Lean Clay, red, hard, gypsum lenses present (CL)	SPEARFISH FORMATION	50/.4	M	MC	11					<1
27											
28											
29											
30			50/.3	M	MC	4					NSR
	Sampler Refusal at 30.3'										

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/9/18	**6:45**	**30.3**	**30.0**	**NA**	**NA**	**None**

BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

AMERICAN ENGINEERING TESTING, INC.

SUBSURFACE BORING LOG

AET JOB NO: **17-03356** LOG OF BORING NO. **B-10 (p. 1 of 1)**

PROJECT: **West Rapid Substation; Rapid City, South Dakota**

SURFACE ELEVATION: **93.5**

DEPTH IN FEET	MATERIAL DESCRIPTION	GEOLOGY	N	MC	SAMPLE TYPE	REC IN.	FIELD & LABORATORY TESTS WC	DEN	LL	PL	PID (ppm)
1	**LIMESTONE AGGREGATE SURFACING**, 10 inches	SURFACING									
2	**FILL**, Silty Lean Clay, reddish brown, claystone, gypsum and coal fragments present (CL)	FILL									
3			NSR	M	MC	0	21				ND
4											
5											
6			42	M	MC	18	13				NSR
7											
8			18	M	MC	18	15				NSR
9											
10	**SILTY LEAN CLAY**, reddish brown, stiff to very stiff, claystone and gypsum fragments present (CL)	ALLUVIUM									
11			12	M	MC	18	21	112			<1
12											
13			16	M	MC	18					11
14											
15	**CLAYSTONE**, Silty Lean Clay, red, hard, gypsum lenses present (CL)	SPEARFISH FORMATION		▽							
16			61	W	MC	18					ND
17											
18											
19											
20											
21			53	M	MC	18	12	125			ND
22											
23											
24											
25											
26			57	M	MC	18					ND
27											
28											
29											
30	Sampler Refusal at 30.0'		NSR	M	MC	0					NSR

DEPTH:	DRILLING METHOD
30.0	**3.25" HSA**

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
5/9/18	**17:30**	**30.0**	**30.0**	**NA**	**NA**	**15.0**

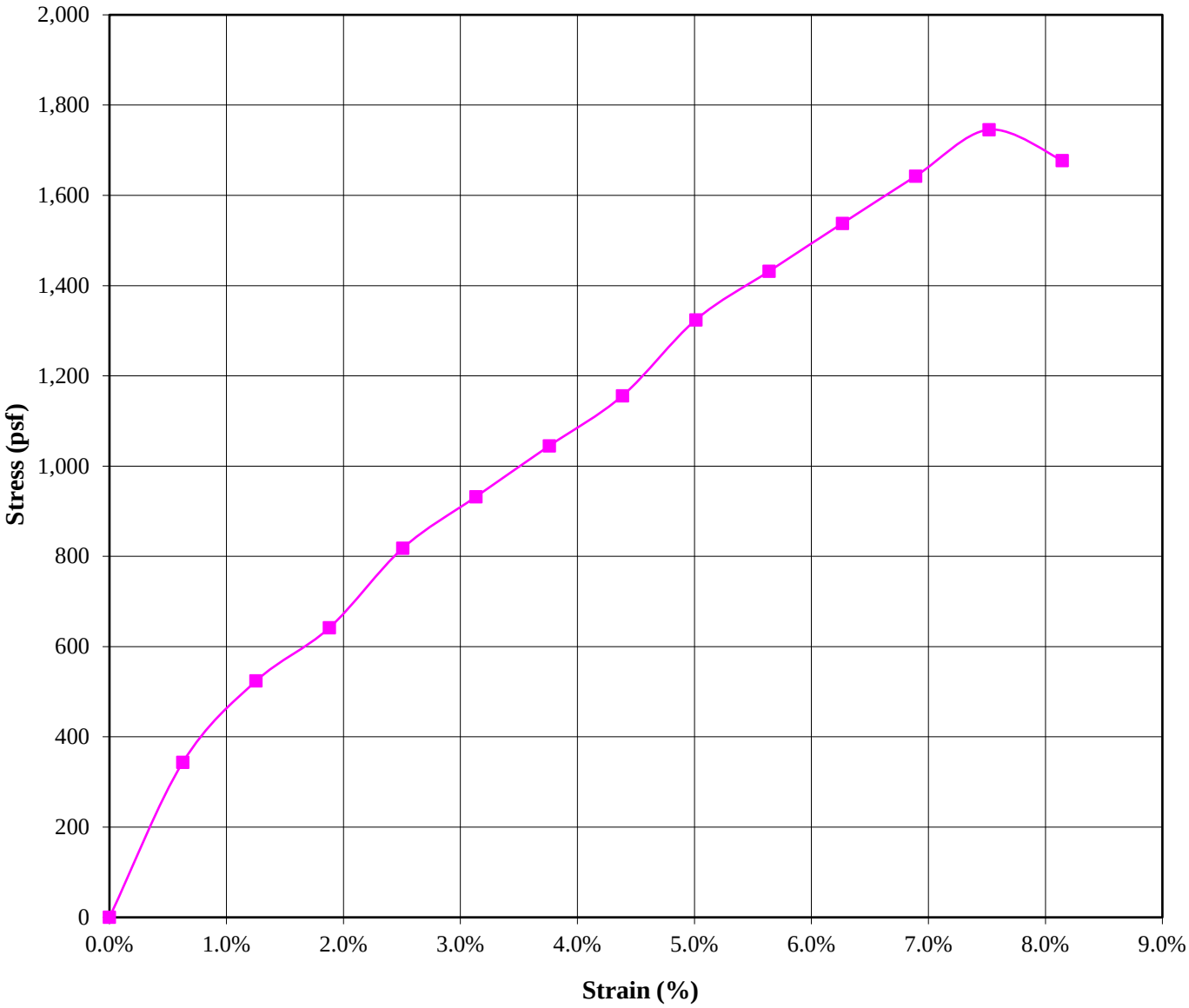
BORING COMPLETED: **5/9/18**

DR: **ES** LG: **JH** Rig: **RC-1**

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

AET_CORP 17-03356.GPJ AET+CPT+WELL.GDT 5/30/18

Stress vs. Strain



Test Results

Boring	Sample	Depth	Stress at Failure	Strain at Failure	Dry Density	% Moisture
1	3	7.5-9'	1,745 psf	7.5%	110.3 pcf	18.9%

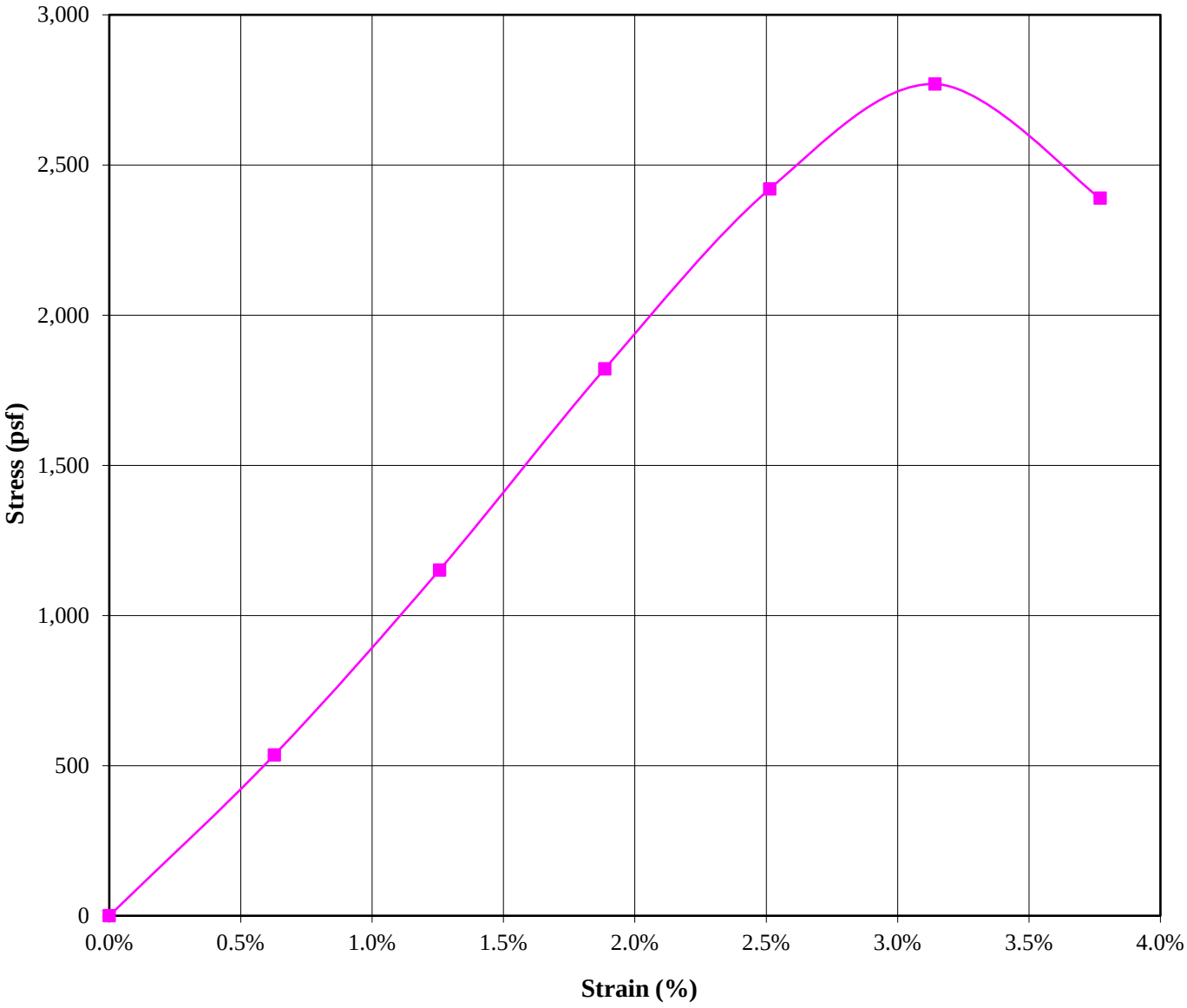
Project Information

Project:	West Rapid Substation	**Job Number:**	17-03356
Location:	Rapid City, South Dakota	**Date:**	5/30/2018

AMERICAN ENGINEERING TESTING, INC.

UNCONFINED COMPRESSION TEST RESULTS

Stress vs. Strain



Test Results

Boring	Sample	Depth	Stress at Failure	Strain at Failure	Dry Density	% Moisture
5	6	15-16.5'	2,769 psf	3.1%	126.2 pcf	8.9%

Project Information

Project:	West Rapid Substation	**Job Number:**	17-03356
Location:	Rapid City, South Dakota	**Date:**	5/29/2018

AMERICAN ENGINEERING TESTING, INC.

UNCONFINED COMPRESSION TEST RESULTS

Appendix B

Geotechnical Report Limitations and Guidelines for Use

Geotechnical Report Limitations and Guidelines for Use
AET Project No. 17-03356

REFERENCE

This appendix provides information to help you manage your risks relating to subsurface problems which are caused by construction delays, cost overruns, claims, and disputes. This information was developed and provided by ASFE[1], of which, we are a member firm.

RISK MANAGEMENT INFORMATION

Geotechnical Services are Performed for Specific Purposes, Persons, and Projects
Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared solely for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. No one, not even you, should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report
Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report is Based on A Unique Set of Project-Specific Factors
Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typically factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, always inform your geotechnical engineer of project changes, even minor ones, and request an assessment of their impact. Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.

Subsurface Conditions Can Change
A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

1 ASFE, 8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 : www.asfe.org

Most Geotechnical Findings Are Professional Opinions
Site exploration identified subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final
Do not over rely on the construction recommendations included in your report. Those recommendations are not final, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.

A Geotechnical Engineering Report Is Subject to Misinterpretation
Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs
Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Give Contractors a Complete Report and Guidance
Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, but preface it with a clearly written letter of transmittal. In the letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need to prefer. A prebid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely
Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their report. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered
The equipment, techniques, and personnel used to perform a geoenvironmental study differ significantly from those used to perform a geotechnical study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Unanticipated environmental problems have led to numerous project failures. If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. Do not rely on an environmental report prepared for someone else.