



# **Construction Stormwater Pollution Prevention Plan (SWPPP)**

## **Prevailing Wind**

Prepared for  
Thorstad Companies

2/21/2019

Revision B

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to comply with the  
South Dakota General Permit Authorization to Discharge Stormwater Associated  
with Construction Activity under the NPDES/SDS Program  
(NPDES/SDS Permit No. SDR100000)

2/21/2019

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## 1.0 General Construction Activity Information

**Project name:** Prevailing Wind

**Project location:**

Address or description: 296<sup>th</sup> Street South and 406<sup>th</sup> Ave

Avon, SD 57315

Cities where project will occur: \_\_\_\_\_

Counties where project will occur: Charles Mix, Bon Homme, & Hutchinson Counties

Townships where project will occur: \_\_\_\_\_

Latitude/Longitude of approximate centroid of project:

Latitude: 43.096707 ° N (*decimal*) Longitude: -98.067913 ° W (*decimal*)

Method used to collect: ☐ GPS ☐ USGS Topographic Map

☒ Other: Google Earth

**Is project on Tribal Lands?** ☐ Yes ☒ No

**Will project require dewatering?** ☒ Yes ☐ No (If Yes, see Section 4.4)

**Project type:**

☐ Residential ☐ Road construction

☒ Commercial/Industrial ☐ Utility

☐ Other (*describe*): \_\_\_\_\_

**Project size:**

Number total of acres to be disturbed: 550 (*tenths of an acre*)

**Dates of construction:**

Start date: March 2019 Estimated completion date: July 1, 2020

(Note: For the purposes of this permit, the construction start date is defined as the day land disturbing activity is expected to commence.)

## 1.1 Contact Information

<b>Site Owner:</b> (CSW Permit Item 5.3.1)			
Company Name:	Prevailing Wind Park LLC		
Mailing address:	2180 South 1300 East, Suite 600		
City:	Salt Lake City	State:	UT Zip code: 84106
Contact name:	Michael Goodwin	Title:	Construction Manager
Contact phone:	503-780-3505	E-mail:	mgoodwin@spower.com
<b>General Contractor:</b> (who will oversee implementation of the SWPPP) (CSW Permit Item 5.3.1)			
Company Name:	Thorstad Companies, Inc.		
Mailing address:	101 Second Street West PO Box 321		
City:	Chokio	State:	MN Zip code: 56221
Contact name:	Keith L Thorstad	Title:	President
Contact phone:	952-236-1182	E-mail:	kthorstad@thorstadcompanies.com
<b>Engineering Firm:</b> (CSW Permit Item 5.3.1)			
Company Name:	Barr Engineering Co.		
Mailing address:	4300 MarketPointe Drive		
City:	Minneapolis	State:	MN Zip code: 55435
Contact name:	Cristian Diaz	Title:	Senior Civil Engineer
Contact phone:	952-832-2816	E-mail:	cdiaz@barr.com
<b>Onsite Contact:</b> (CSW Permit Item 5.3.1)			
Company Name:	Thorstad Companies		
Mailing address:	101 Second Street West PO Box 321		
City:	Chokio	State:	MN Zip code: 56221
Contact name:	Justin Thorstad	Title:	
Contact phone:	952-236-1188	E-mail:	jthorstad@Thorstadcompanies.com

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## 1.2 Staff Training

**Identify the trained individual(s) responsible for installing, supervising, repairing, inspecting, and maintaining erosion prevention and sediment control BMPs at the site:** (CSW Permit Item 5.3.2)

SWPPP Implementation:

Thorstad Companies, Inc. will handle SWPPP implementation for the project.

- Justin Thorstad (Site Lead)
- Thorstad Companies, Frattalone, and American Energy (BMP installers)
- Thorstad Companies, Frattalone, and American Energy (SWPPP inspectors)

SWPPP Designer: Barr Engineering Co.: Jacob Thompson.

Workers on the project will have annual training on SWPPP implementation. This normally will take place when contractors mobilize to the site.

Annual training documentation is included in Appendix F.

## 1.3 Description of Construction Activity

**A description of the overall project and type of construction activities to occur on the site and a description of the final completed project:** (CSW Permit Item 5.3.2)

The Work involves installation of 57 wind turbines, an O&M building, several met stations, buried transmission lines, 2 electrical substations, and associated access roads. 64 wind turbine locations have been identified but only 57 will be built. These additional locations have been identified in case construction at a location is impractical, such as excessive boulders or artesian conditions. Temporary work activities will include temporary road creation, parking and laydown yard creation, and grading as needed for crane paths and construction roads.

Work will be sequenced and scheduled by Thorstad Companies. Appendix C contains the current work schedule. All work is anticipated to be done by 12/31/2019. Final restoration should be completed by 7/1/2020, not counting time to allow final vegetation to grow.

All work activity, including vegetation clearing, grading, earthwork and other, will have the potential to discharge sediments.

**The total size of the project and total area expected to be disturbed by construction activities:**

The total project size and area to be disturbed is approximately 550 acres spread over three counties.

**The maximum area expected to be disturbed at any one time:**

It is anticipated that the entire project area could be impacted before parts of it are restored.

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**Description of the existing vegetation at the site and an estimate of the percent of vegetative ground cover:**

The majority of the project will cross existing farmland. Vegetation cover will vary depending on the agriculture crops. Percentage vegetation cover will be from 0%-100%. The SWPPP inspector will make determinations of restoration needs as conditions change in the project location. In most cases, the work with farmland will be returned to pre-existing condition and the farmer will continue to farm it. This is further discussed in Section 8.0.

**A description of the soil within the disturbed areas:**

The project area spans three counties, all in agricultural farmland. The project has a geotechnical engineering report, dated July 2018. The USDA soil survey (USDA, 2018) lists multiple soil types within the project area, with USCS soil types generally consisting of CL (lean clay), CL-ML (silty lean clay) and ML (silt). The soils mapped across most of the site are primarily loamy till, loamy drift, and clayey/silty/loamy alluvium. Loess was not readily identified in any of the borings performed at the site and mapping indicates loess is less than 1 meter thick at the site. Surficial geology mapping generally indicates that the soils are clayey glacial soils from the Wisconsinan glacial event. The mapped soil information for the site generally appears consistent with the observations made on the recovered soil samples.

Figure 2 shows the surficial geology.

**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:**

See Section 2.0 Receiving Waters.

**Any construction support activity areas:**

The laydown yard is located next to the O&M building and the substation. This area is identified on Figure 5.

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

**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:**

The BMP sequence will follow the planned construction sequence as detailed in Appendix C. Specific information on implementing BMPs for the type of work activities is described in Section 4.0.

**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:**

Earth-disturbing activities will follow the planned construction sequence as detailed in Appendix C.

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**Cessation, temporary or permanent, of construction activities on the site or in designated portions of the site:**

Cessation of construction activities will follow the planned construction sequence as detailed in Appendix C.

## **1.4 Historic Property Search and Other Required Reviews**

**Describe any stormwater mitigation measures that will be implemented, as a result of state historic preservation office (SHPO), an environmental review, endangered or threatened species review, archeological site review, or other local, state, or federal review conducted for the project: (CSW Permit Items 2.1.4)**

No environmental review, endangered or threatened species review, archeological site review, or other review was conducted for the project. A review of the national register of historic places and SD SHPO list did not indicate any historic property in the construction area.



## 2.0 Receiving Waters

List all waters that are likely to receive stormwater runoff from the project site both during or after construction: (CSW Permit Item 5.3.3.f)

**Table 2-1 Receiving Waters that may receive Stormwater Runoff from the Construction Areas**

Name of Water Body	Type <sup>(1)</sup>	Water Body ID <sup>(2)</sup>	Impaired Water? <sup>(3)</sup>	TMDL with WLA? <sup>(3)</sup>	MS4?
Unnamed	Stream		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Emanuel	Creek		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Snatch	Creek		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Beaver	Creek		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Dry Choteau	Creek		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Little Emanuel	Creek		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Unnamed	Wetland		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

(1) Type examples: ditch, pond, wetland, calcareous fen, lake, stream, and river.

(2) Water Body identification (ID) might not be available for all water bodies.

(3) Section 303(d) listed impaired water for the following pollutant(s) or stressor(s): sediment, total suspended solids (TSS), or turbidity.

**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.**

(CSW Permit Item 5.3.3.f)

Figures 3-1 through 3-258 provides this information from wind turbine locations and collector lines.

Figures 4-1 through 4-82 provides this information for the transmission line work.

### 2.1 Impaired Waters

**Incorporate into this SWPPP any additional Best Management Practices (BMPs) or other specific construction related implementation activities identified in an approved Total Maximum Daily Load.** (CSW Permit Item 2.2.4 and 5.2)

No TMDLs have been identified on streams that are directly discharged to; therefore, this section is not applicable.

### 2.2 Municipal Storm Sewer System

**Indicate which municipalities and the ultimate receiving waters:** (CSW Permit Items 5.3.3.f)

There are no discharges to MS4; therefore, this section is not applicable.

## 3.0 Site Map

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

*(CSW Permit Items 5.3.4)*

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.

This information is presented in the following manner:

Figure 1 shows the project location and construction limits.

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Figure 2 shows the soil types. Note that there are additional soil boring information in select areas. Soil boring information is not included in the SWPPP, but impacts to BMPs (if any) have been incorporated into the BMP design.

Figures 3-1 through 3-258 provides this information from wind turbine locations and collector lines.

Figures 4-1 through 4-82 provides this information for the transmission line work.

Appendix D shows details of BMPs.

Additional details and specifications are included in the Civil Plan Set for the project (not attached).

## 4.0 Best Management Practices (BMPs)

### 4.1 BMP Design Factors

(CSW Permit Item 3.2)

BMPs are expected to:

- Handle 2-year 24-hour storm events or greater
  - 2-yr 24-hr storm event for project area (point) = 2.55" (NOAA Atlas 14)
- 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.
- Anticipated soil characteristics at the construction site, including soil type and range of particle sizes.
- Last for the necessary length of time for the job at hand (service life)
- Be appropriate for the time of year (training)
- Be constructed of quality materials (project specifications)
- Utilize the correct BMP for the situation (training, project specifications)
- Follow industry practices (this SWPPP, training)

### 4.2 Erosion Prevention Practices

**Describe the types of temporary erosion prevention BMPs expected to be implemented on this site during construction:** (CSW Permit Items Section 3 and 5.5)

See below.

#### 4.2.1 Temporary Stabilization of Soils and Soil Stockpiles

**Methods of temporarily stabilizing soils and soil stockpiles (e.g., mulches, hydraulic tackifiers, erosion blankets, etc.):**

Wind Turbine Work Area/Laydown Area

The wind turbine, laydown area is relatively flat and several temporary erosion control options are available. Acceptable temporary erosion control BMP options include:

- wood mulch (if available),
- straw mulch,
- erosion control blankets,
- construction mats,
- rolling the soil to temporarily compact it, and

- spray on tackifier.

If straw mulch is used it shall be properly anchored so it does not blow in the wind or be washed away. Contractor may use any straw mulch, but if state-certified weed free straw mulch is not used, the contractor shall manage any weeds that come up in the area. The acceptable standard for straw mulch coverage is 90%, which is approximately 2 tons/acre application rate. Over application of straw mulch or not properly anchoring the straw mulch will require the contractor to remove excess accumulated material prior to final stabilization.

#### Collector Lines/Transmission Line

The collector line locations and transmission line are located on varying terrain and several temporary erosion control options are available. Acceptable temporary erosion control BMP options include:

- wood mulch (if available)
- straw mulch
- temporary seeding using cover crop (note that agriculture fields can use many types of cover crops, consult with landowner)

If straw mulch is used it shall be properly anchored so it does not blow in the wind or be washed away. Contractor may use any straw mulch, but if state-certified weed free straw mulch is not used, the contractor shall manage any weeds that come up in the area. The acceptable standard for straw mulch coverage is 90%, which is approximately 2 tons/acre application rate. Over application of straw mulch or not properly anchoring the straw mulch will require the contractor to remove excess accumulated material prior to final stabilization.

Temporary seeding is the best erosion control BMP. In conjunction with temporary seeding is limiting vehicle traffic in the fields during wet periods.

#### Dust Control

Dust control will be used when conditions require it, such as on windy and dry days when soils are exposed. Water will be the primary dust control method. Using chemical dust control methods, such as Magnesium Chloride or Hyper-Tack (anionic polyacrylamide) spray on tackifier will require consultation with landowner.

#### Slopes

Areas with steep slopes (3:1 or greater), contractor to stabilize slope by:

- limiting traffic on slopes to the extent possible
- smoothing rough and loose areas (ruts), which may include widening the area of disturbance
- final seeding using approved seed mix with cover crop (use winter wheat in late fall)
- Use the appropriate erosion control blanket with a service life greater than the time to restore

- Bonded fiber matrix hydromulch can also be used to stabilize the slope.

#### Soil Piles

Methods to stabilize stockpiles can be mulches, hydraulic stabilizers, tarps, plastic sheeting, temporary seeding, or other appropriate BMP. Stockpiles otherwise must have stabilization initiated immediately and no longer than 14 days once use of a stockpile is complete (if further use will be greater than 14 days apart). Additionally:

- Do not locate soil piles in drainageways, ditches, swales, or wetlands.
- Protect soil piles from wind erosion and run-on from neighboring properties.

### **4.2.2 Drainage Ditch or Swale Stabilization**

#### **Methods to be used for stabilization of ditch and swale wetted perimeters**

Ditches and swales that are impacted by construction will be stabilized with erosion control blankets rated for the expected water flow (minimum double-sided erosion control blanket with service life of at least 9 months). Contractor will prepare area for erosion blanket placement, which may include removing existing vegetation in area and smoothing a larger footprint than was disturbed so that the erosion blanket is able to lay flat in contact with the ground. Contractor will permanent seed area prior to erosion blanket placement along with cover crop for the time of year; permanent seed mix is described in Section 8.0. The erosion blanket shall have the proper staple pattern for ditches and be properly overlapped. Straw log ditch checks can be used in conjunction with the erosion blankets to slow down water and reduce erosion potential.

### **4.2.3 Pipe Outlet Energy Dissipation**

#### **Methods to be used for energy dissipation at pipe outlets (e.g., rip rap, splash pads, gabions, etc.):**

New culvert locations shall use appropriate energy dissipation BMPs, such as riprap. See Civil Plan Set for details on riprap installation requirements.

Temporary dewatering activities will utilize plastic sheeting, construction mats, or similar BMP for energy dissipation.

### **4.2.4 Erosion Prevention Implementation Timelines**

#### **Describe timelines to be implemented at this site for completing the installation of the erosion prevention BMPs (see Permit Section 3.13 and 3.18).**

Timelines to be implemented for completing the installation of the erosion control BMPs will follow the general permit requirements:

- Stabilization of all exposed soil areas must be initiated immediately to limit soil erosion but in no case completed later than fourteen (14) days after the construction activity in that portion of the site has temporarily or permanently ceased.

- Pipe outlets must be provided with temporary or permanent energy dissipation prior to connection to a surface water.

#### 4.2.5 Additional Erosion Prevention Measures

**Describe additional erosion prevention measures that will be implemented at the site during construction (e.g., construction phasing, minimizing soil disturbance, vegetative buffers, horizontal slope grading, slope draining/terracing, etc.):**

Construction Phasing: The project will be phased according to the construction schedule. See Appendix C. By stabilizing areas of the project as it proceeds, erosion and sediment loss can be minimized.

### 4.3 Sediment Control Practices

**Describe the methods of sediment control BMPs to be implemented at this site during construction to minimize sediment impacts to surface waters, including curb and gutter systems**

See below.

#### 4.3.1 Downgradient Perimeter Controls

**Methods to be used for downgradient perimeter control:** (CSW Permit Item 3.4)

The primary down gradient perimeter control will be sediment control logs, silt fence, diversion ditch to a farm field, earthen berm that will divert or trap water, or temporary pond. Contractor to determine perimeter control needs for each location. Failed BMPs shall be improved or resized as necessary. Figures may show larger BMP need than actual in field conditions require. Only the area where water drains offsite needs a downgradient perimeter BMP.

Sediment control logs that require staking (e.g. straw logs) must be staked at 4ft increments. Straw logs used in ditches as ditch checks must be staked every 2 feet. Additionally, straw logs must be staked at the low areas if on uneven ground. Contractor shall ensure that logs are effective at trapping sediment or the BMP must be improved.

Winter (frozen ground) work can utilize snow berms and/or stakeless sediment logs (wood chip or compost filled).

#### 4.3.2 Soil Stockpile Perimeter Controls

**Methods to be used to contain soil stockpiles:** (CSW Permit Item 3.17)

Soil stockpiles shall have effective perimeter control, which could be sediment control logs or silt fence. Soil piles being actively worked do not need perimeter control BMPs, but installation of a perimeter control BMP shall be installed once work is completed or before a storm event (whichever is sooner). Soil piles that are not going to be worked within 14 days must have a perimeter BMP installed as soon as possible, regardless if work is complete. The contractor shall repair or replace damaged perimeter BMPs as necessary. Overtopped BMPs may require reinstallation of the BMP or scrapping up overtopped material and placing within the protected area.

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Soil stockpiles shall not be placed in drainage ditches or the bottom of swales.

#### **4.3.3 Storm Drain Inlet Protection**

**Methods to be used for storm drain inlet protection:** *(CSW Permit Item 3.13)*

The project will not impact any storm drains; therefore, this section is not applicable.

#### **4.3.4 Vehicle Tracking BMPs**

**Methods to minimize vehicle tracking at construction exits and street sweeping activities:** *(CSW Permit Item 3.6)*

The project will require a vehicle tracking BMP at the laydown yard, such as a rock entrance. The contractor is allowed to substitute other vehicle tracking BMPs, which could be matting all travel areas, several lengths of rumble strips, or vehicle wash pads. BMPs may not be needed in frozen ground conditions. The project shall have sweepers handy or on retainer as needed for a secondary BMP. Sediment tracked out shall be removed by the end of the business day it was deposited.

#### **4.3.5 Minimization of Soil Compaction and Preservation of Topsoil**

**Describe methods to be used to minimize soil compaction and preserve top soil (unless infeasible) at this site:** *(CSW Permit Items 3.11 and 3.15)*

Topsoil will be preserved by not allowing unnecessary erosion. See Section 4.1 above. Topsoil soil piles will be protected using tarps, temporary seeding, hydromulch or other effective BMP so that the topsoil can be reused during final restoration.

Temporary parking and laydown areas that will be grassed/farmed will have the soils ripped and then disc tilled to loosen soils. The landowner has farm equipment able to do this. This practice has been shown to be effective. Note that disc tilling by itself will not be effective, because the compaction is likely to be greater than 4-5" down.

Compaction of final graded areas after topsoil and final seed has been placed will be minimized by limiting vehicle traffic on the area until vegetation establishes.

#### **4.3.6 Buffer Zone to Protect Surface Waters**

**Describe plans to preserve a 50-foot natural buffer between the project's soil disturbance and a surface water:** *(CSW Permit Item 3.10)*

The project will limit disturbance in natural buffers to the extent possible. Collector line and transmission line work may intrude into this 50 foot buffer to complete necessary work activities. Additional BMPs may be necessary depending on the site condition, including adding a redundant sediment control BMP and/or additional stabilization such as temporary seeding, erosion control blanket and/or hydromulch.



#### 4.3.7 Temporary Sediment Basin(s)

Is the project required to install a temporary sediment basin? (CSW Permit Item 3.5)

☐ Yes ☒ No

If yes, describe (or attach plans ) showing how the basin will be designed and constructed in accordance with the General Permit.

The project will not be installing a temporary pond; therefore, this section is not applicable.

#### 4.4 Dewatering and Basin Draining

Will the project include dewatering, basin draining?

☒ Yes ☐ No

If yes, describe measures to be used to treat/dispose of turbid or sediment-laden water and method to prevent erosion or scour of discharge points: (CSW Permit Section 3.21)

Multiple wind turbine foundations are likely to need dewatering. Groundwater levels from piezometer measurements indicate that roughly 40 locations will likely need at least some dewatering. This is dependent on time of year, precipitation levels, and presence of sand seams. See Appendix K.

Trenches may also need to be dewatered.

- Trench/foundation water: This water will be pumped using a trash pump equipped with <http://www.flo-water.net/> filter bags. Other filter bags are not recommended but can be used if they are effective. Preferable discharge location will be vegetated areas, but will be dependent on nearby construction activities and local site conditions. Brown water is not allowed to be discharged offsite to areas that drain to streams unless daily testing indicates it has less than 53 mg/L TSS, see photos below. If water color is too dark, attempt to infiltrate water onsite until additional BMPs can be brought online.



Acceptable water color after filter bag

(do not test water)



Unacceptable water color after filter bag

(test water daily, meet 53mg/L standard)

Note: the photos above are for instructional purposes. Contractor to meet all permits and regulations.

- Contractor to utilize an effective energy dissipation BMP where the filter bag is placed. Energy dissipation BMPs include riprap, plywood, construction mats, and poly sheeting. Energy dissipation BMPs will be considered effective if scouring does not take place. Contractor to improve BMPs as needed.

The contractor will limit the amount of dewatering needed by diverting water from open excavations through use of temporary berms and/or sediment log placement and closing excavations as soon as possible.

#### 4.4.1 Drain Tiles

It is likely that drain tiles are present in at least some of the areas. Best practices are:

- Contact landowner prior to work in the area to determine if drain tiles are present
- Mark all drain tile location in the field if present
- It is recommended construction mats be placed over drain tile location in travel routes so tile is not accidentally hit during wet conditions
- Identify a local drain tile contractor and have them on retainer

- Repair damaged tile as soon as possible. Tile should be repaired with a similar size pipe (note tile can be round or square).
- Pooling of water in an area likely indicates drain tile damage and should be investigated.

The SWPPP should be amended if problems occur with drain tile hits.

#### 4.4.2 Dewatering Improvements

**Will the project improve the dewatering BMP due to visible solids?**

☐ Yes ☒ No

**If yes, describe improvements made to dewatering:** (CSW Permit Item 3.21)

The project has not needed to amend dewatering practices; therefore, this section is not applicable.

If the filter bag is not effective at removing visible sediment, additional options include, but not limited to:

- Settling basins, with withdrawal from the top of the basin
- Frac tanks with or without filter
- Filter skids with better filters
- Infiltration onsite, with no discharge to streams, ditches, or other surface waters
- Sediment treatment chemicals (not recommended, need SDDENR approval)

The SWPPP shall be amended when improvements are needed.

#### 4.4.3 Sediment Treatment Chemicals

**Describe plans for use of sedimentation treatment chemicals (e.g., polymers, flocculants, etc.) see Permit Item 9.18:** (CSW Permit Item 3.21.5)

The project is not anticipated on using an sediment treatment chemicals; therefore, this section is not applicable.

Note that the project must have written authorization from the SDDENR prior to using sediment treatment chemicals. This section of the SWPPP shall be amended when these chemicals will be used.

#### 4.4.4 Maintenance Requirements

**Effective operating condition:** (CSW Permit Item 3.19)

The project will follow the general permit requirements for BMP maintenance until final stabilization is complete:

- Remove sediment from sedimentation basins when the design capacity has been reduced by 50% or more.
- 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. Repair and stabilize eroded areas by the end of the same work day they are identified. If repair is infeasible, 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.

**Deadline for maintenance:** *(CSW Permit Item 3.19)*

The project will follow the general permit requirements for BMP maintenance until final stabilization is complete:

- a. If a problem that does not require repair or replacement is discovered, work will be initiated 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, work will be initiated to fix the problem on the following work day or before the next anticipated runoff event, whichever comes first.
- b. If new erosion or sediment controls need to be installed or need to complete repairs, work will be completed 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. The SWPPP will be modified within seven (7) calendar days of completing the work. The SWPPP will address any changes to the controls and will detail the necessary steps to prevent similar damage in the future.

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## 5.0 Post Construction Stormwater Management

**Will the project use post construction stormwater practices to control pollutants in stormwater discharges occurring after construction operations have been completed?** *(CSW Permit Item 5.3.7)*

☐ Yes ☒ No

The project will not be adding any post construction treatment practices; therefore, this section is not applicable.

**If yes, an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels;**

Not applicable

**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**

Not applicable

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

Not applicable

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## 6.0 Inspections and Recordkeeping

### 6.1 Inspection Frequency

**Frequency of inspections:** *(CSW Permit Items 4.2 and 4.3)*

Inspections will be conducted as follows:

- Inspect the entire construction site at least once every seven (7) days during active construction, or every fourteen (14) days and inspect within 24 hours after a rainfall event greater than 0.25 inches in 24 hours (includes snowmelt).
  - Site rain gauges should be used. For areas outside of the laydown area, an area rainfall map could be used as well.
- Where parts of the project site have permanent cover, but work remains on other parts of the site, areas with permanent cover will be inspected monthly.
- Where work has been suspended due to frozen ground conditions and all disturbed areas have been temporarily or permanently stabilized, the inspections will be monthly. The required inspections and maintenance schedule will begin within 24 hours after runoff occurs at the site, start inspections by March 1<sup>st</sup>, or after resuming construction, whichever comes first.

#### 6.1.1 Areas to be inspected

*(CSW Permit Item 4.4)*

Inspections will include all disturbed/active areas of this project, including:

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.

Note:

For this project, the following areas should also be checked:

- Verify contractors utilizing the proper access to the work area. Utilizing additional areas will cause more disturbance than necessary.
- Ensure all adjacent streets and other areas adjacent to the project are inspected for evidence of off-site accumulations of sediment.
- Check parking areas as well as laydown areas.
- Look for damage to drain tiles during trenching operations or haul roads through fields that cross known fields with drain tile.

## **6.2 Recordkeeping Requirements**

### **6.2.1 Inspection Report**

(CSW Permit Item 4.6)

The project will utilize the SWPPP inspection report in Appendix H. The SWPPP inspection forms will be stored in the project construction trailer and/or electronically.

All SWPPP forms must be signed and certified. The SWPPP inspector should have authorization from the owner.

Note that if no incidents of noncompliance are identified, the SWPPP form must state that.

Also, make sure any TSS test results are either attached to the SWPPP form or included in Appendix K of the master copy SWPPP on site.

### **6.2.2 Master SWPPP Copy**

(CSW Permit Item 7.3)

The following must be maintained onsite:

- 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.

The project will maintain a current SWPPP (master copy) onsite in the project construction trailer. This copy will be amended to reflect current project conditions, changes based on SWPPP Inspector comments, seasonal considerations, and other changes. Amendments will be tracked using the table in Appendix G. All changes must be re-certified within 7 days of change. Once construction is complete and a NOT is filed, all records will be kept for a minimum of three years at the Owner environmental files.

Reports and documents required to be submitted go 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

### **6.2.3 Planned Changes**

(CSW Permit Item 7.2)

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.

Examples of planned changes:

- Increase of disturbed area (significant change)
- Additional roads or wind turbines compared to what was submitted in the NOI (significant change)
- Use of water treatment chemicals



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## 7.0 Pollution Prevention Management Measures

**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:** *(CSW Permit Item 5.3.8)*

The person responsible for detection of the leaks will be the SWPPP inspector. The Site Lead will be responsible for spill response and cleanup.

The project will be able to expeditiously stop, contain, and clean up spills by managing all materials in a safe manner. Bulk storage of chemicals will be at the laydown area unless being used. Spill kits are staged as well at the laydown yard. Equipment also carries small spill kits. See the construction SPCC plan.

**Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies as required by General Permit Section 7.1:** *(CSW Permit Item 5.3.8)*

Equipment operators are trained to notify management when leaks or accidents occur. External emergency response agencies will be called when spills are larger than what facility staff can handle.

Emergency spill notification requirements to the state of South Dakota are identified in Appendix I. The SDDENR will be contacted if 25 gallons of oil or more are spilled. See the construction SPCC plan.

**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:** *(CSW Permit Item 5.3.8)*

### Storage

Building products, fertilizers, fuels and lubricants are anticipated on being used. Materials brought onsite that could impact stormwater will be kept under a tarp, in a trailer, in a sealed container, or other means unless being used.

Hazardous materials, such as vehicle fuel, oil and lubricants will be stored in trailers, vehicle fuel tanks and other appropriate storage locations that will not impact stormwater. Storage and disposal of hazardous waste or hazardous materials will be in compliance with state and local regulations. If greater than 1,320 gallons of oil are stored onsite, a SPCC plan will be developed.

### Fueling

The contractor will fuel equipment at the laydown area or along the access roads only. Contractors shall have spill kits sized for the amount of refueling taking place, with spill kits located at designated fueling areas. In order to reduce the likelihood of a spill event, the following practices have been implemented for portable fueling operations:

- The equipment operator must be present, in addition to the fuel truck operator
- A spill kit will be staged at all fueling operations
- Fueling truck dispensing nozzle is equipped with an automatic shutoff
- Oil sheens that accumulate in portable containment will be cleaned with oil absorbing pads or rags prior to draining water. Rags/pads must be disposed of according to state and federal rules.
- The person that spilled or discovers a spill is responsible for reporting to the State as required by state law (see Appendix I)

Stationary vehicle fuel tanks shall meet industry standards (designed to hold fuel type, properly maintained, not illegally modified, not missing leak indicator floats for double walled tanks, sight gauges not used, etc...) or be removed from the work area.

#### Concrete washout

The project is expected to utilize concrete washout or other types of washout. For work areas requiring concrete washout work, the following requirements apply:

The contractor will set up a concrete washout station. Examples of appropriate concrete washout practices include, but not limited to:

- Putting all washout water back into concrete trucks for concrete vendor to manage at their facility
- Bringing in a portable concrete washout tub and managing all recovered washout water appropriately
- Make a ring of hay bales and put a poly liner in the middle to create an impermeable containment so that concrete washout does not contact the ground. All material shall be removed when dry.
- Lined pit with impermeable liner. Contractor to prevent stormwater from running into the pit (e.g. don't put it in the low area or swale).
- Concrete washout areas shall be labeled "Concrete Washout Area" and "Contractors must utilize proper facilities for disposal of concrete".

Concrete washout water for concrete truck chute and tools will also not touch the ground. This pail of wash water can be put back into the concrete truck.

#### **Describe collection, storage, and disposal of solid waste:** (CSW Permit Item 5.3.8)

Construction materials, pallets, shrink wrap, water bottles, food wrappers, and other trash will be routinely removed from the site and will not be allowed to accumulate or blow in the wind. Each contractor working on the job site is responsible for their crew's trash and shall not be left for restoration crews to remove.

- Trash that will blow in the wind must be removed daily (plastic water bottles, shrink wrap, paper)

Portable toilets will be properly secured and positioned so that they will not be tipped or knocked over. All waste will be removed with the vendor supplying the portable toilets. Portable toilets shall be placed in areas that are easy for the portable toilet vendor to maintain.

Hazardous waste will be managed by an outside vendor. Proper documentation will be maintained.

**Describe construction site pollutants:** (CSW Permit Item 5.3.9)

Concrete washout: The project will require concrete washout related to the O&M building, wind turbine foundation and electrical substation work. Concrete washout stations will be set up as needed, but the largest one will be at the laydown area.

Dewatering: The project is likely to need dewatering at the wind turbine locations during foundation work. See Section 4.3.

Vehicle fueling: The project will require daily fueling activities. Most will occur at the laydown yard, but equipment may also be refueled along the access roads and work areas.

Equipment storage: Equipment is normally parked at the laydown area. During wind turbine work, equipment may also be staged at the wind turbine location.

Building materials / chemical storage: Material storage is normally at the laydown area. During wind turbine work, items may also be staged at the wind turbine location.

Solid waste storage: Large dumpsters are staged at the laydown area. Trash receptacles may also be staged at individual wind turbine locations, depending on project needs.

Once construction is completed, all construction vehicles will be removed, all pollutant generating activities will be ceased and a notice of termination (NOT) will be submitted once the project meets restoration standards. Note that the project will create an O&M building, which will have potential pollutant generating activities, but these are not construction related.

**Describe non-stormwater discharges:** (CSW Permit Item 5.3.10)

The project is not planning on any non-stormwater discharges, except dewatering activities as identified in the NOI. Changes to the dewatering activities will be communicated to the state as necessary.

It is unknown if vehicle washing will take place onsite. If vehicle washing is used, the location of the vehicle wash station/area will be located in the laydown area or at the construction entrance. The following options are acceptable industry practices:

- Contractor to create a semi-circle of silt fence downgradient of the wash area to catch all sediment from the wash area. Detergents and other cleaners not permitted.
- A portable wash station that collects all wash water can be used. If detergents are used, this material must be trucked to a POTW that will accept the waste. If no detergents used, the wash

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water can be drained once settled and the sediment properly disposed of and infiltrated into the nearby ground.

Engine degreasing will not take place on site.

**Infeasibility documentation:** *(CSW Permit Item 5.3.11)*

The project does not have any infeasibility items at this time.

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## 8.0 Permanent Cover and Permit Termination Conditions

**Describe method of permanent cover of all disturbed areas:** (CSW Permit Item 3.18.3)

The project will use several methods for final stabilization.

- Areas requiring permanent seed:
  - Ditches: Use the SD DOT Type B grass seed mix.
  - O&M Building area: add seed mix: Use the SD DOT Type B grass seed mix. A custom seed mix with forbs can also be used.
- Final roads and any permanent laydown area are smoothed and rolled to prevent erosion. Any road or laydown area erosion/damage is fixed.
- Work areas that are to be turned back into farm fields will be ripped and disc tilled.
  - If the restoration is after the farmer has seeded for the season, a cover crop will be added to protect the soil until next farm season (cover crop will be determined by discussing with the land owner).
  - If the restoration is before the farmer seeds for the season, the land will be turned over to the land owner in a tilled condition.
  - Note that the buffer strips next to surface waters in an agriculture field must have 70% cover established. Use the SD DOT Type B grass seed mix or landowner requested seed mix.

**Describe conditions and procedures for terminating permit:** (CSW Permit Sections 2.6 and 3.18.3)

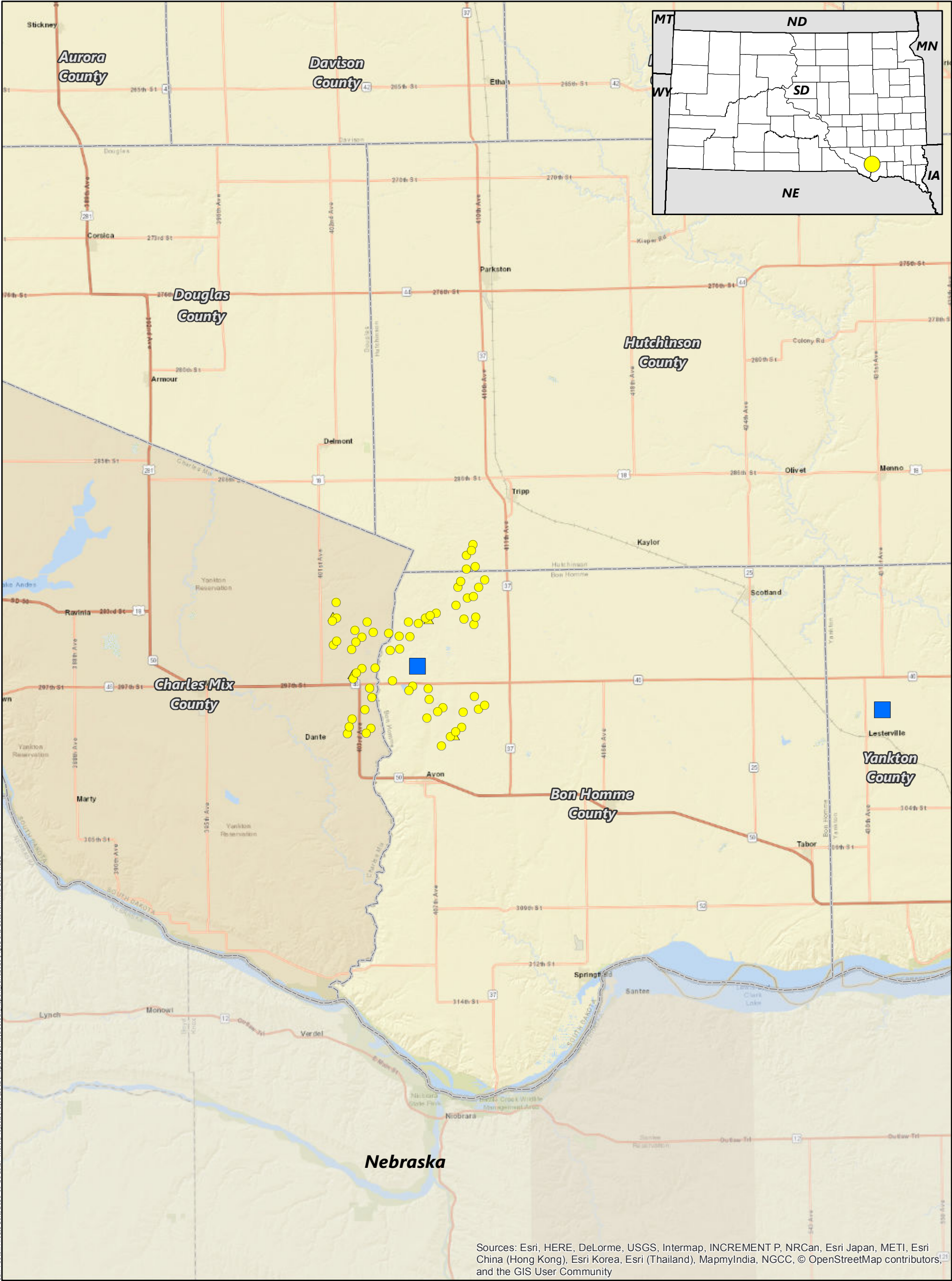
Permanent stabilization will be established on all disturbed areas and all temporary synthetic and structural erosion prevention and sediment control BMPs (such as silt fence) must be removed prior to submission of the Notice of Termination (NOT) (Appendix J). BMPs designed to decompose on site (such as some compost logs) may be left in place.

The following steps will be used to determine when a NOT will be submitted:

1. All construction areas reach final stabilization:
  - All work is completed. Construction vehicles and equipment have demobilized.
  - All trash and debris is removed.

- 
- Disturbed areas will have final seed mix planted and have at least 70% perennial cover growth as compared to pre-construction density in area (see above). The presence of invasive species will be minimized.
  - Work areas that are to be turned back into farm fields will be properly restored (see above).
  - Final roads and any permanent laydown area are smoothed and rolled to prevent erosion.
  - All sediment will be removed from conveyances systems (ditches, swales, culverts, etc...)
2. Once vegetation is established, all silt fence and other non-degradable temporary BMPs will be removed.

## Figures



- Turbine Location (4/13/2018)
- ▲ Met Tower Location (4/13/2018)
- Substation
- County Boundary

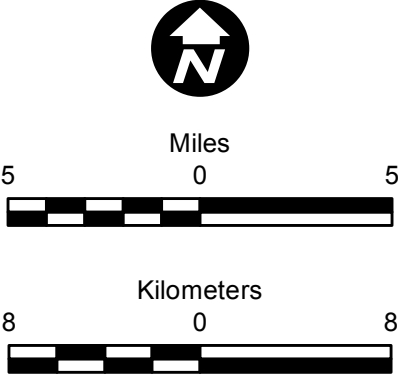


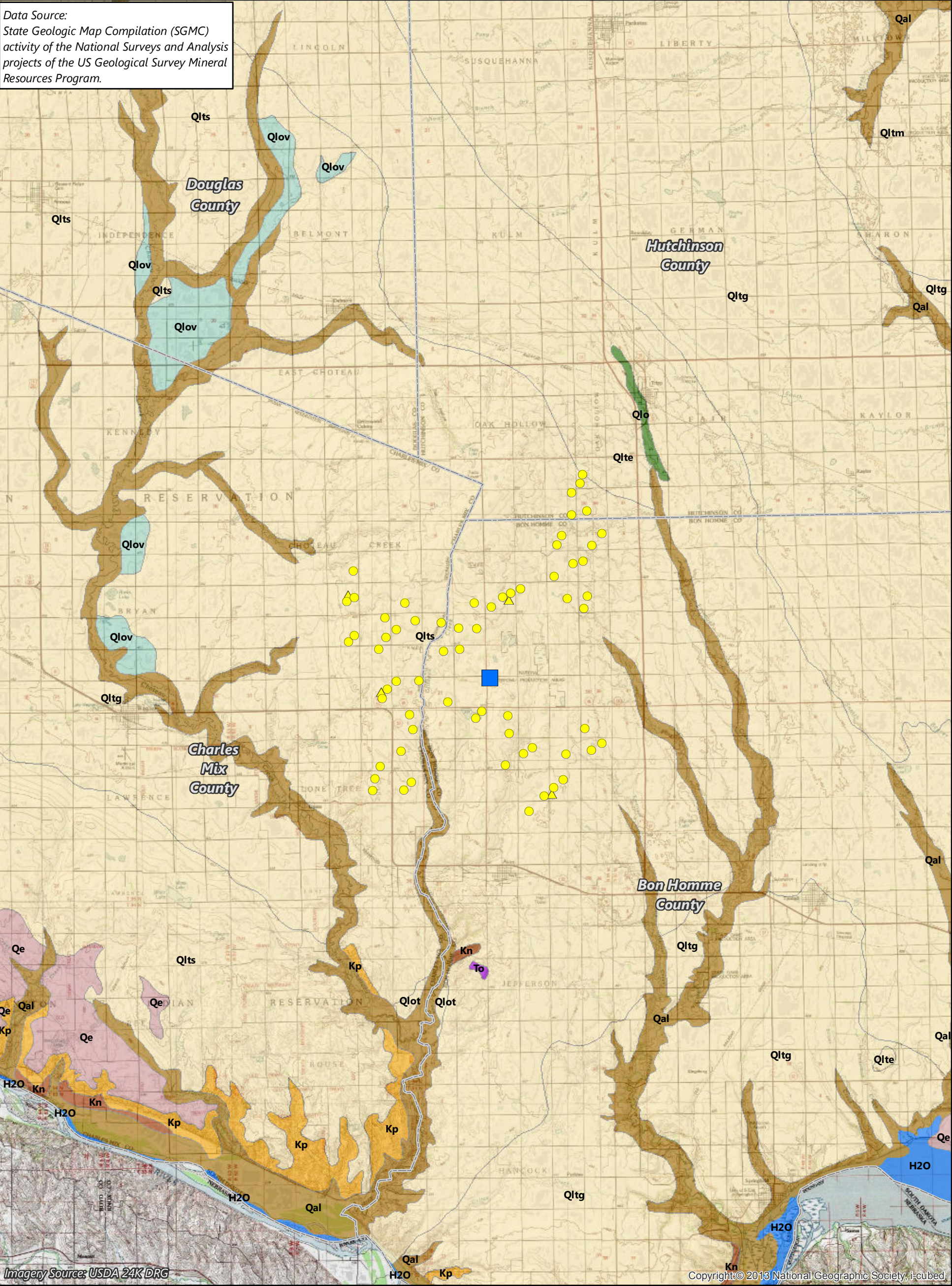
Figure 1

**SITE LOCATION**

Prevailing Winds Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson County, South Dakota



Data Source:  
State Geologic Map Compilation (SGMC)  
activity of the National Surveys and Analysis  
projects of the US Geological Survey Mineral  
Resources Program.



- Turbine Location (4/13/2018)
  - Met Tower Location (4/13/2018)
  - Coyote Substation
  - County Boundary
- Surficial Geology**
- Qal, Quaternary, clay or mud
  - Qe, Quaternary, silt
  - Qlt, Pleistocene-Upper Wisconsin, clay or mud
  - Qlov, Pleistocene-Upper Wisconsin, silt
  - Qlo, Pleistocene-Upper Wisconsin, sand
  - To, Early Pleistocene to Miocene, sandstone
  - Kp, Late Cretaceous, shale
  - Kn, Late Cretaceous, limestone
  - H2O, water

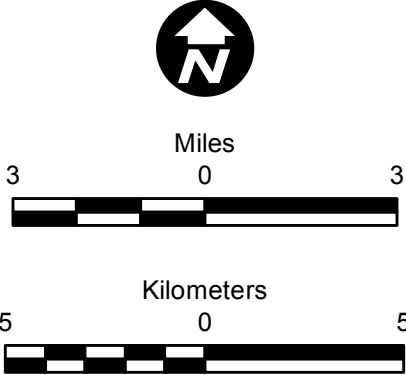
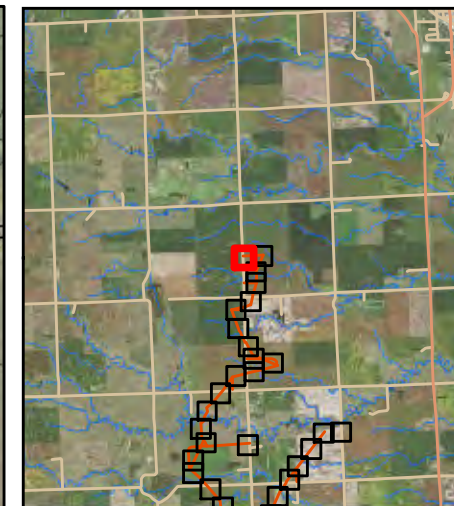


Figure 2

**SURFICIAL GEOLOGY**  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





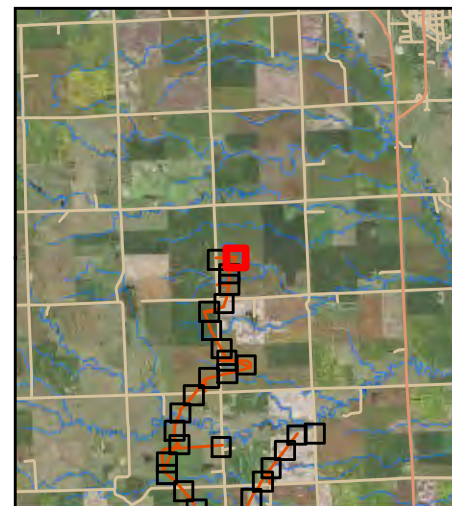
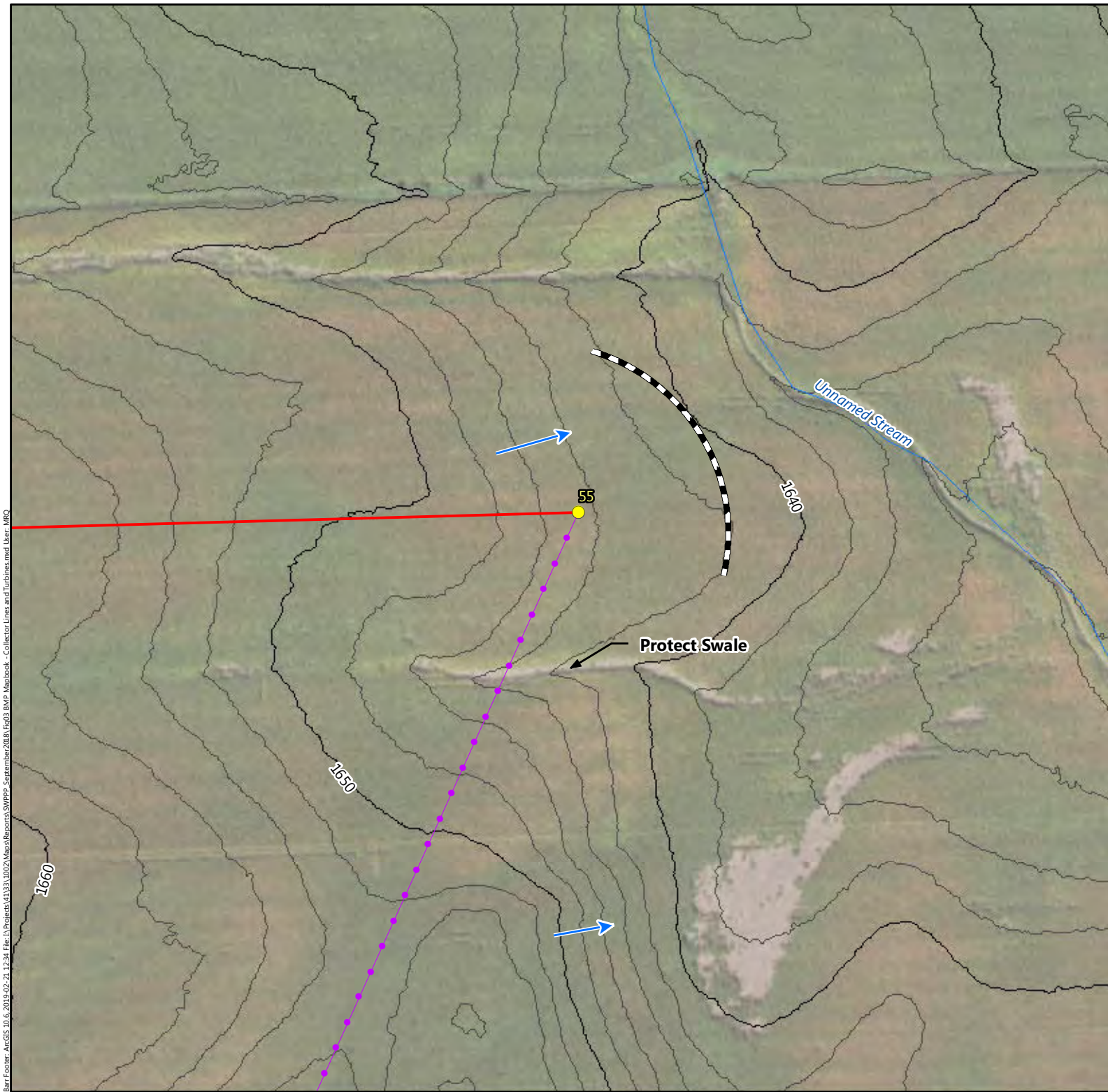
- Culvert
- Access Road (1/18/2019)
- Flow Direction



Figure 3-1

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm

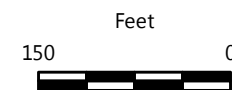
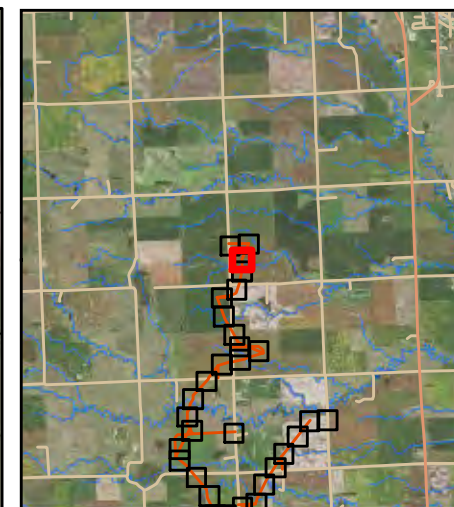
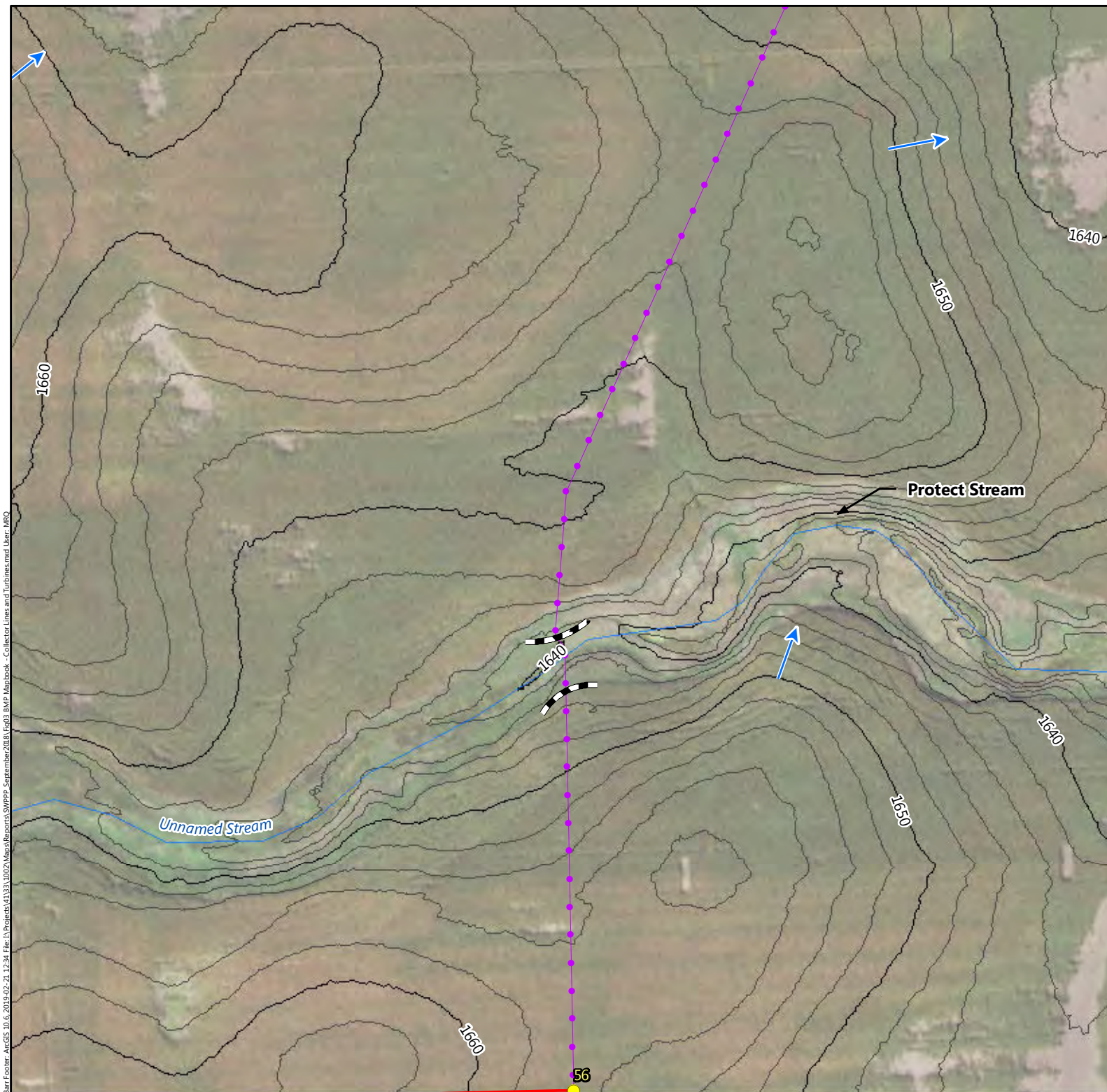








Figure 3-2

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Turbine Location (4/13/2018)
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Feet

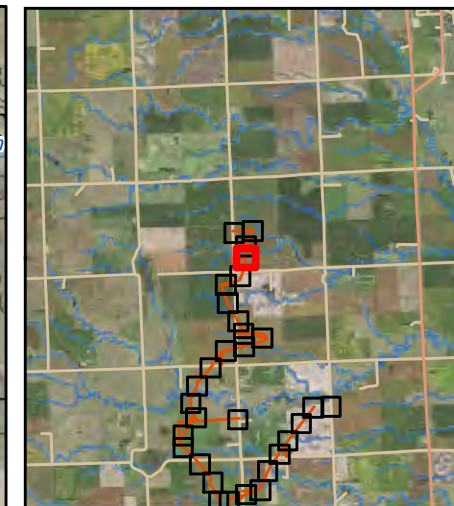
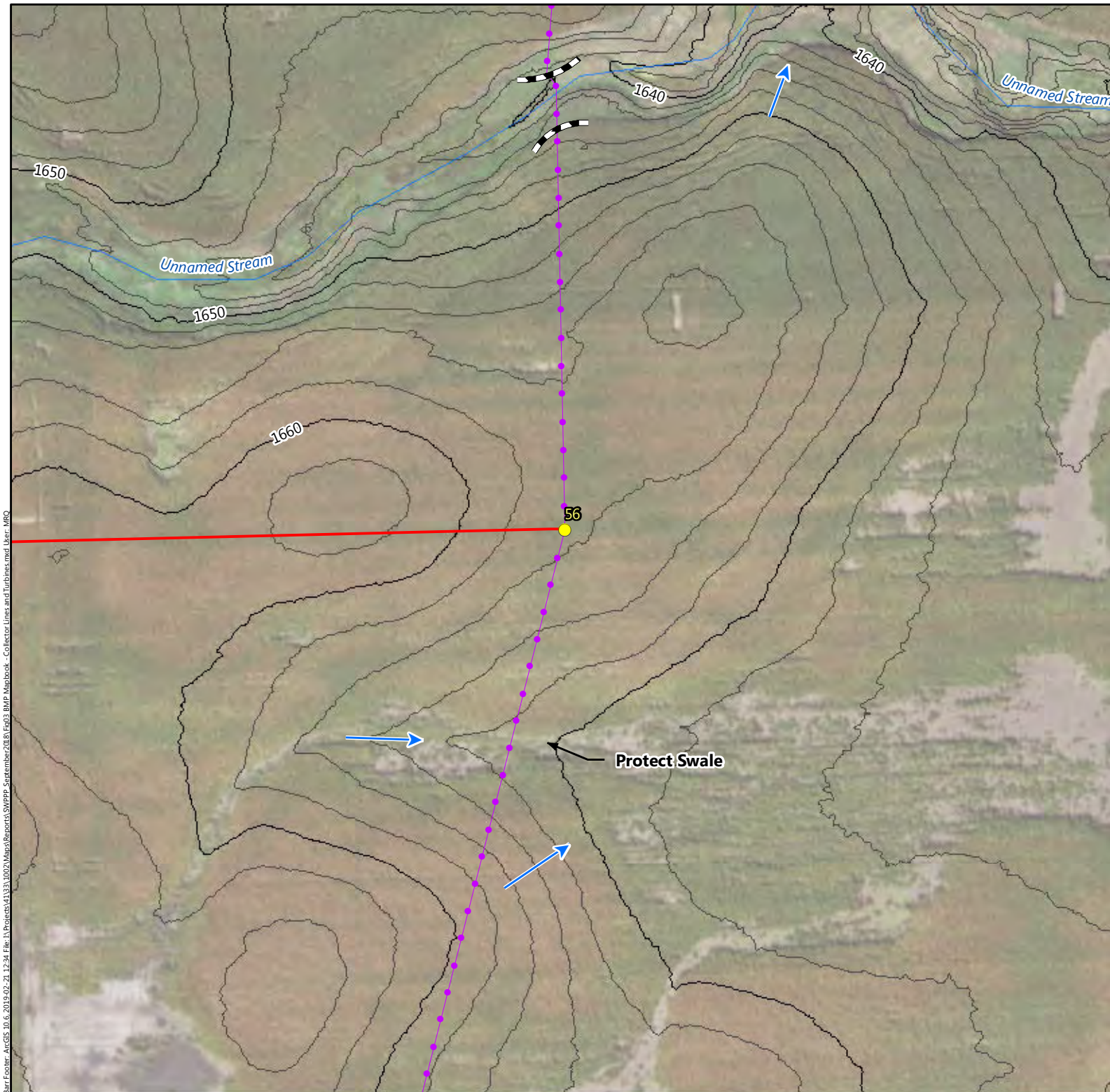


Figure 3-3

## EROSION CONTROL PLAN

Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





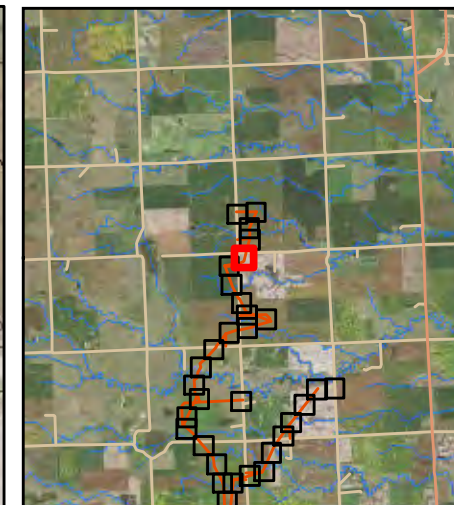
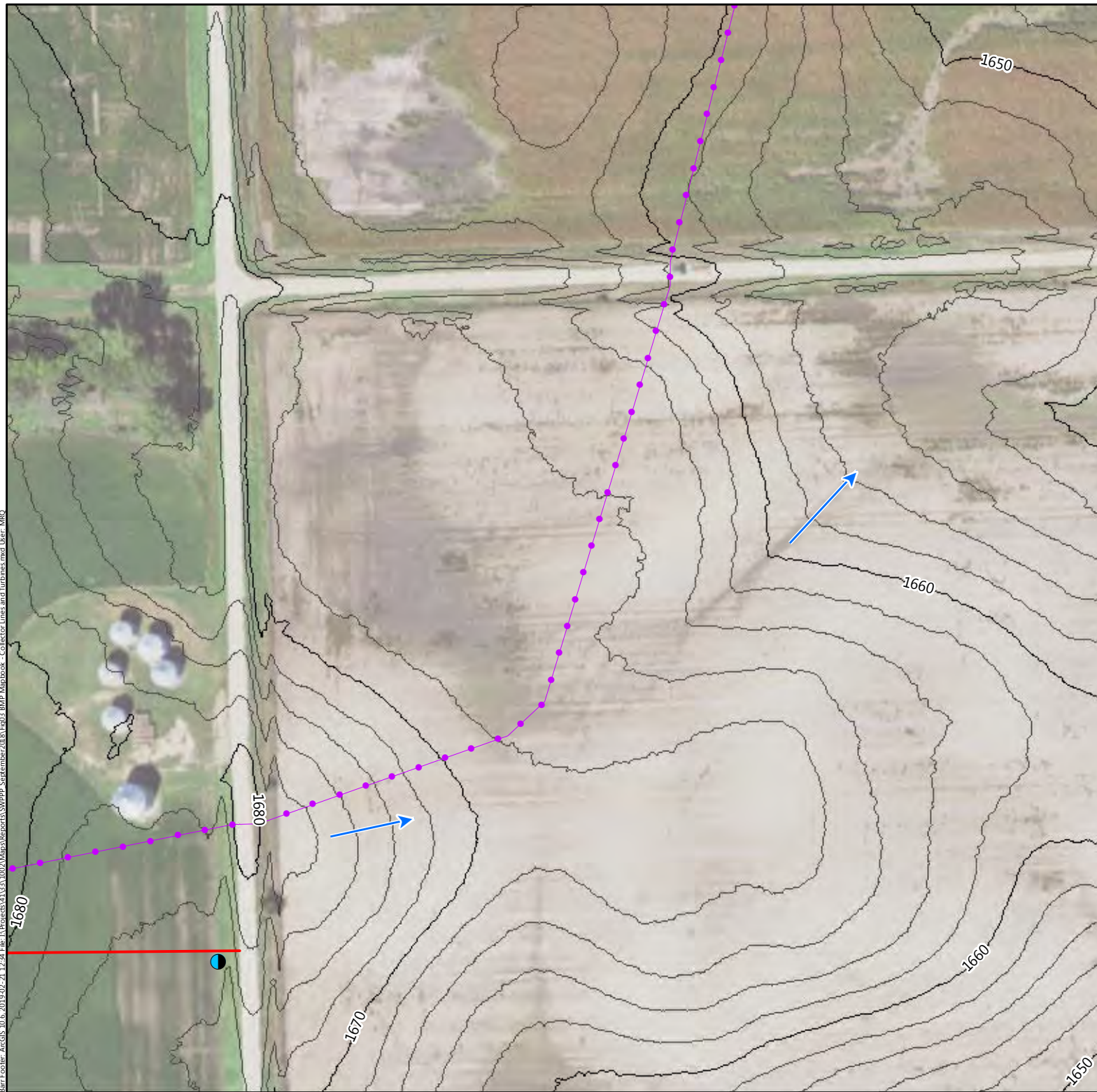
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-4

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota









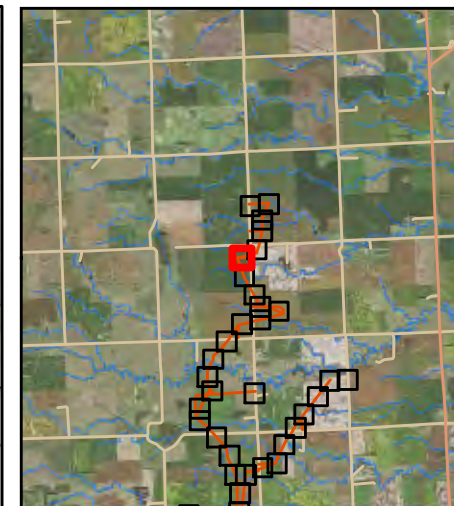
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction



Figure 3-5

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
Berm

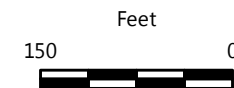
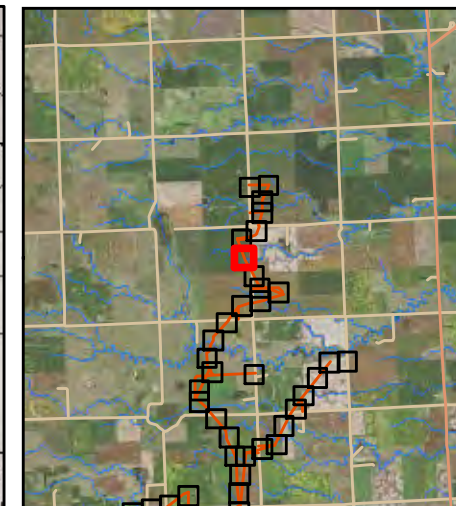


Figure 3-6

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





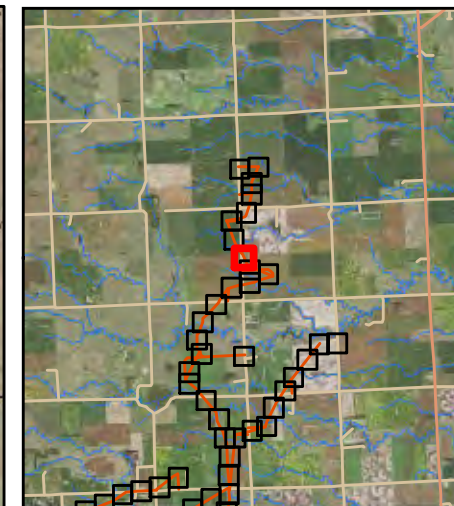
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-7

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





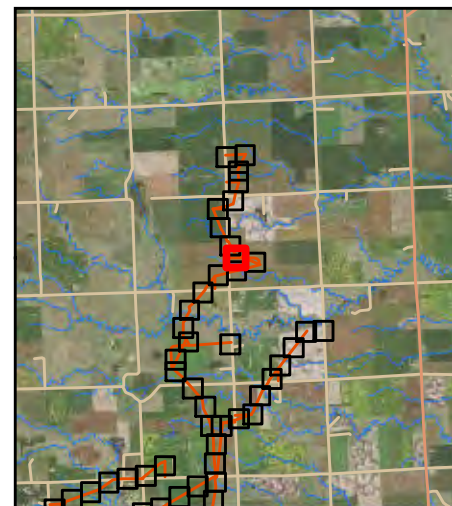
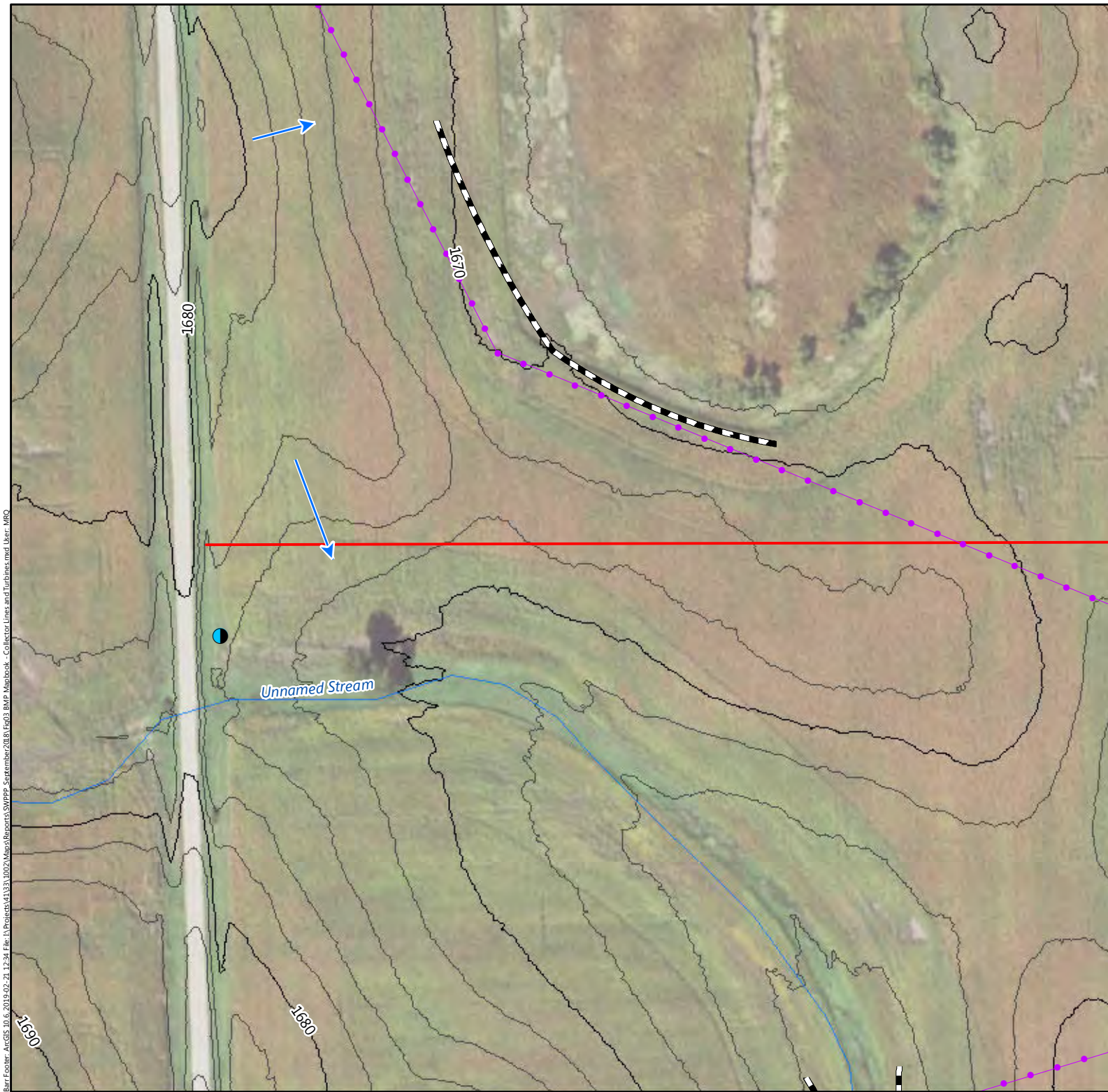
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm









Figure 3-8

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



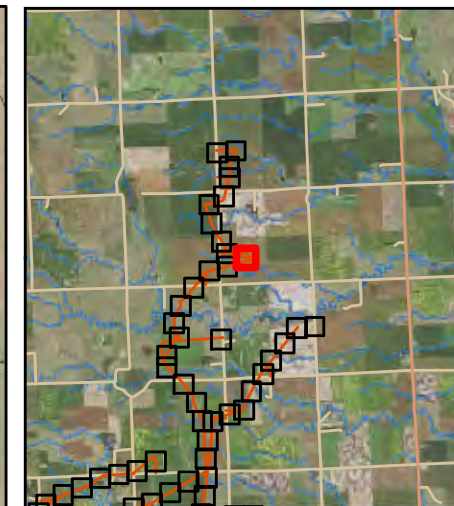
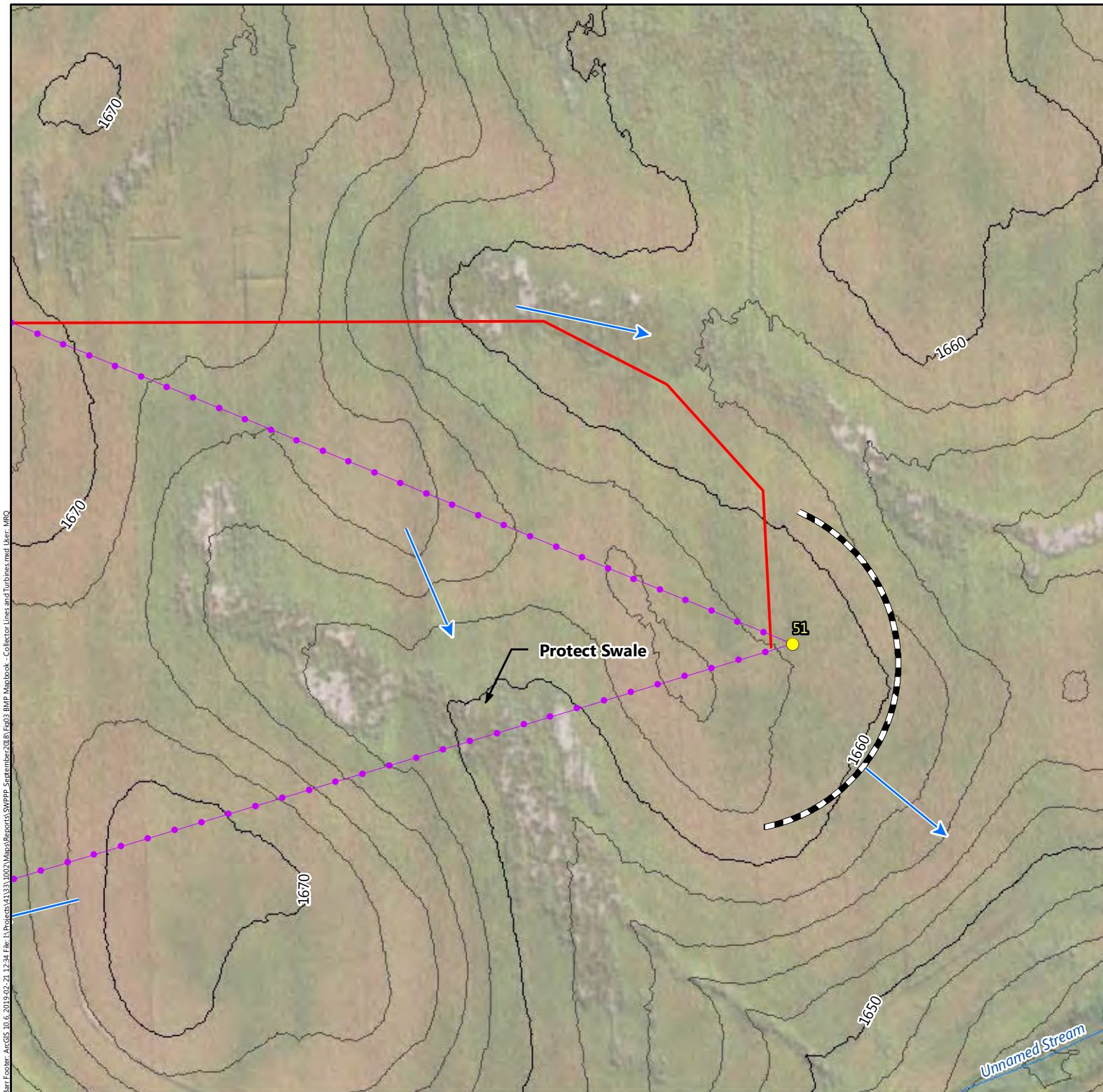
Feet



Figure 3-9

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





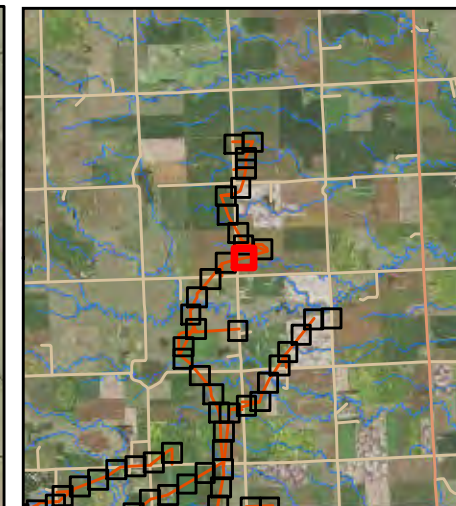
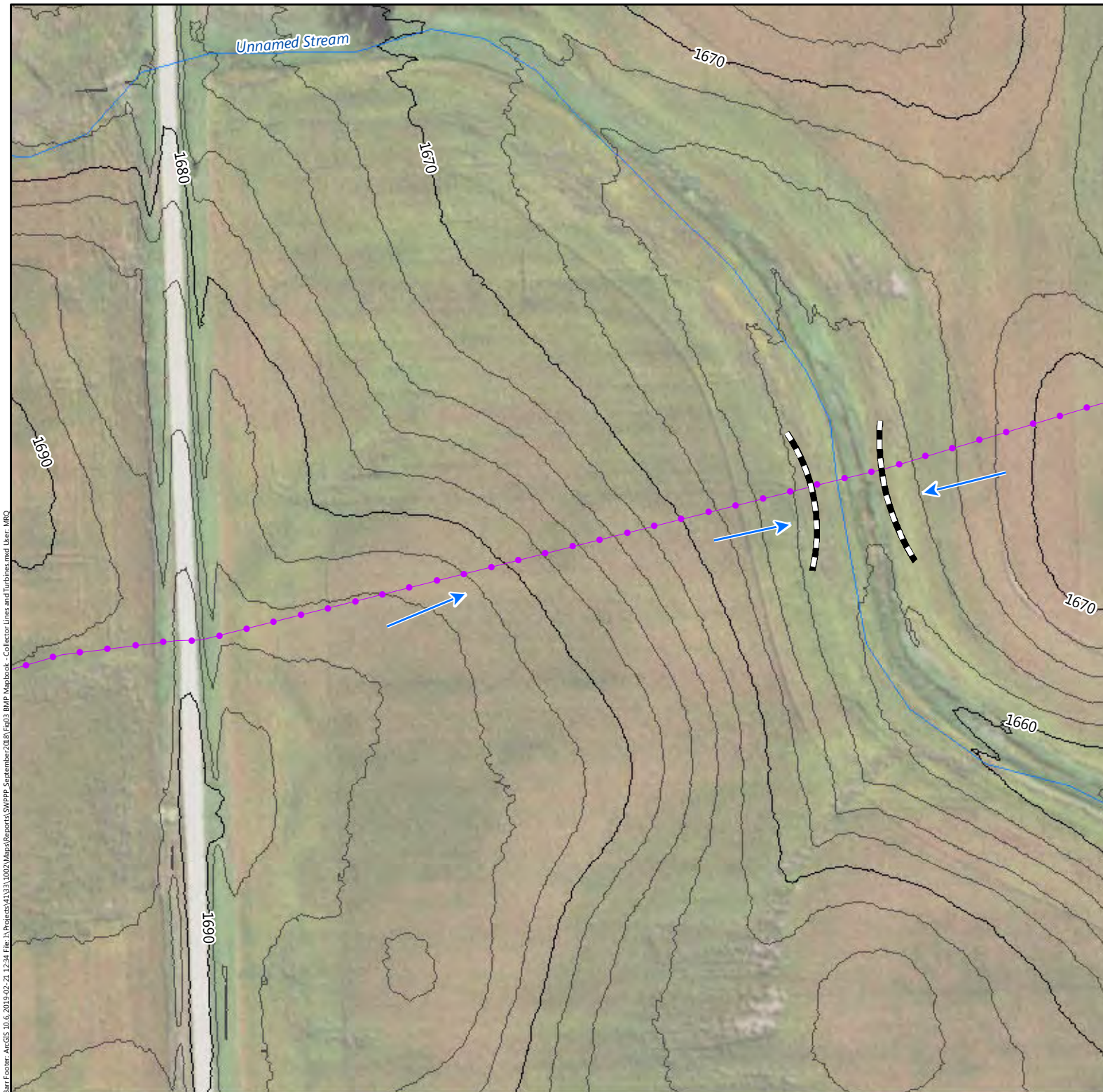
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-10

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
- - - Diversion Ditch, or Earthen Berm



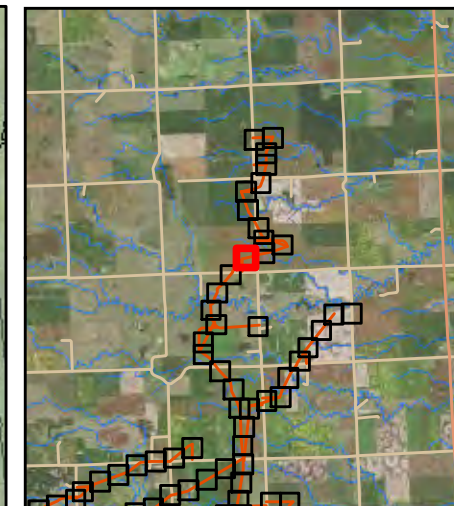
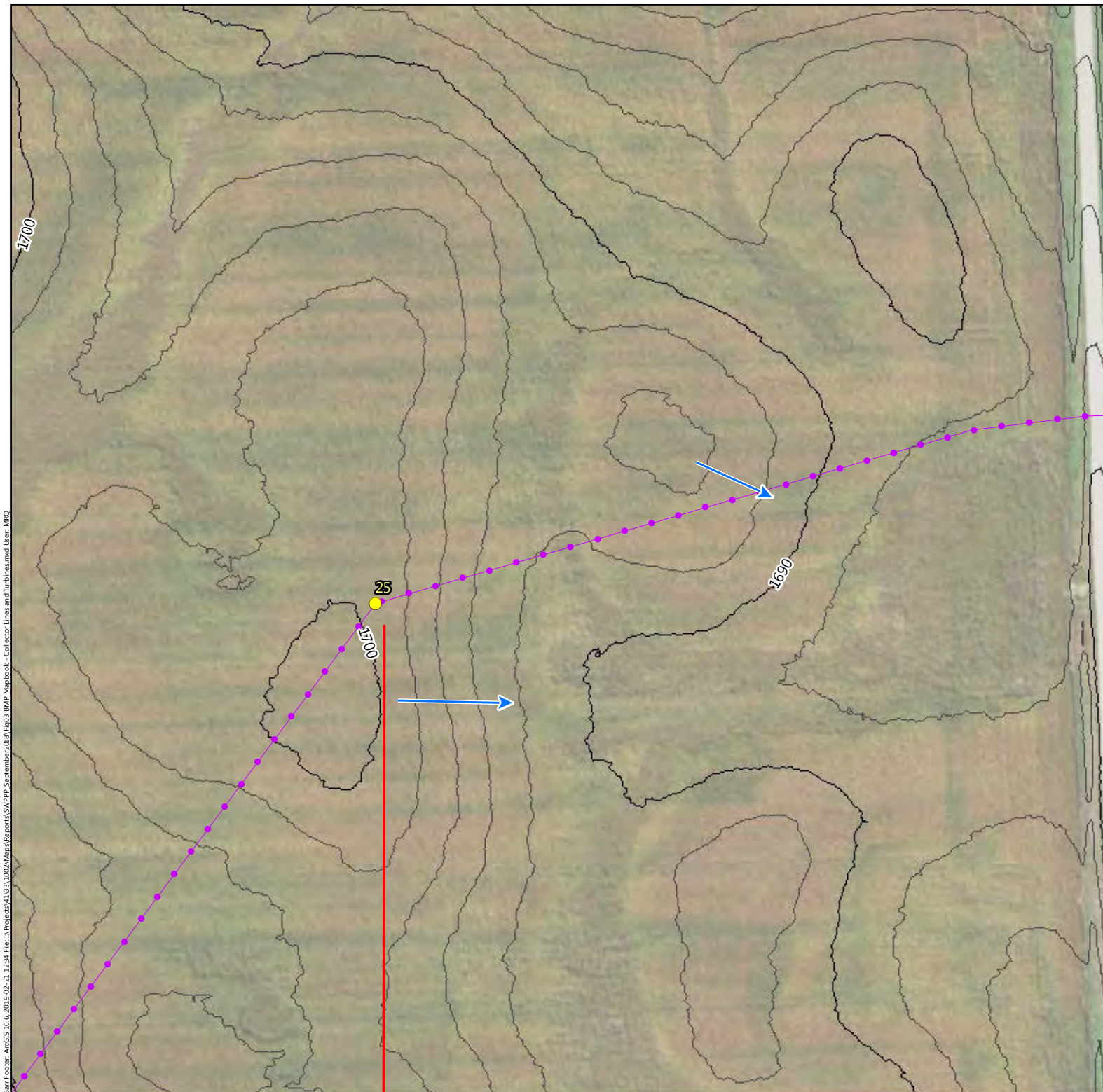
Feet



Figure 3-11

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





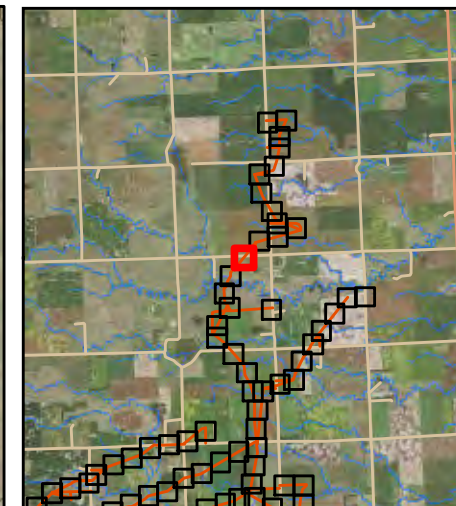
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction



Figure 3-12

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





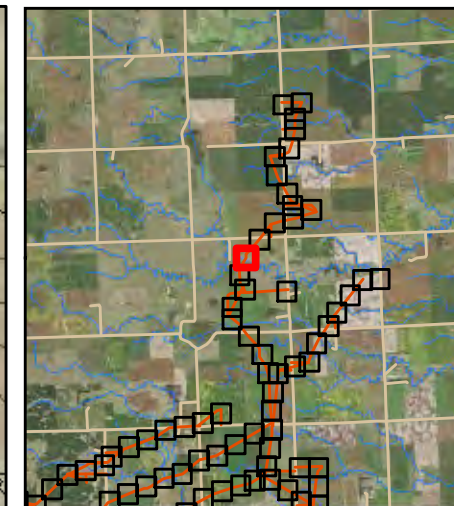
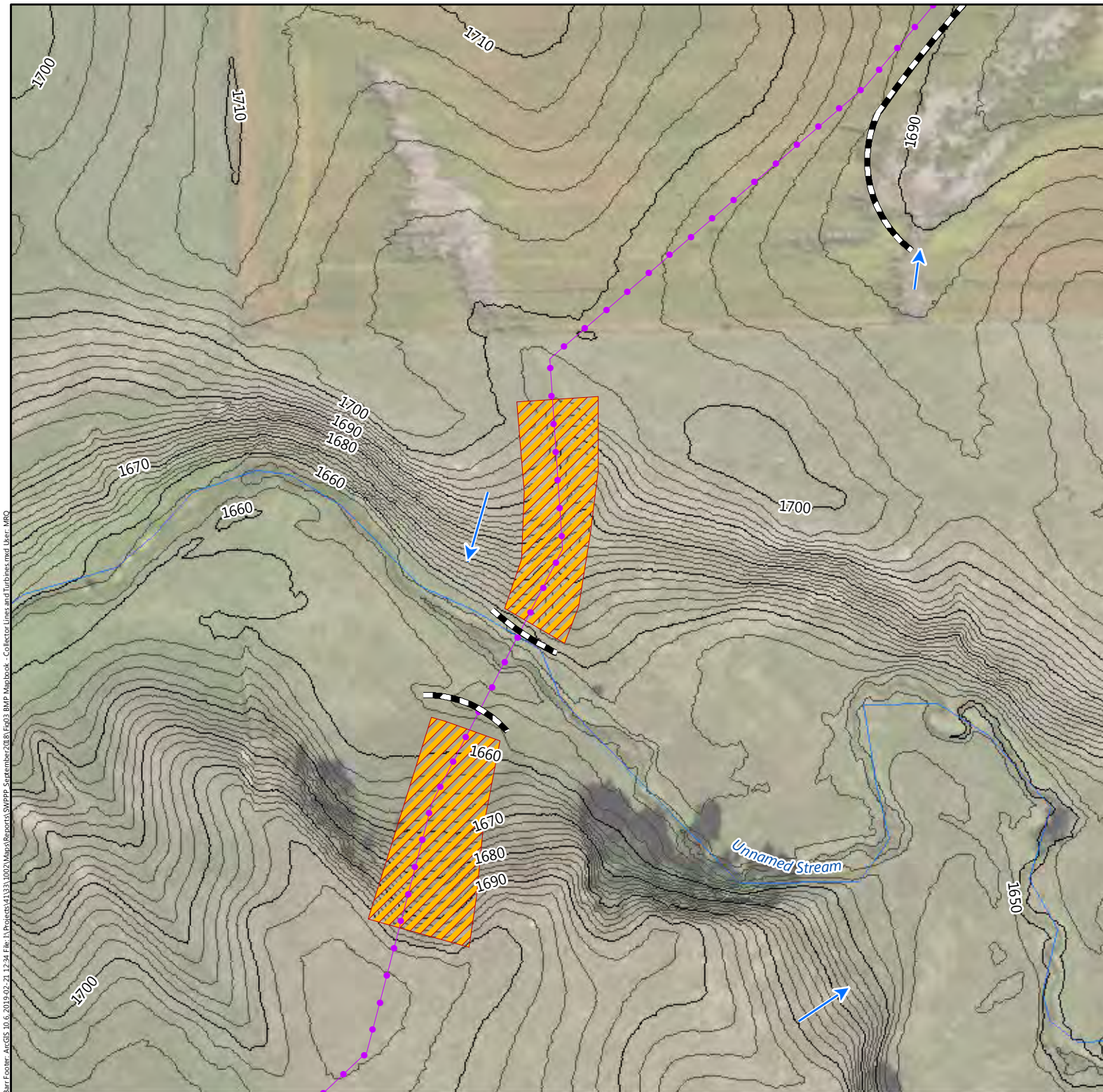
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-13

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm
- Erosion Control Blanket BMP

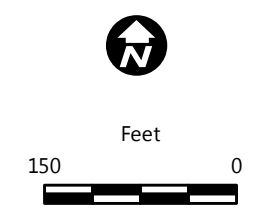
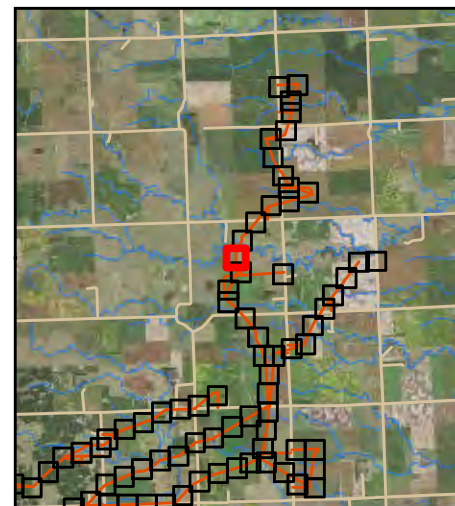
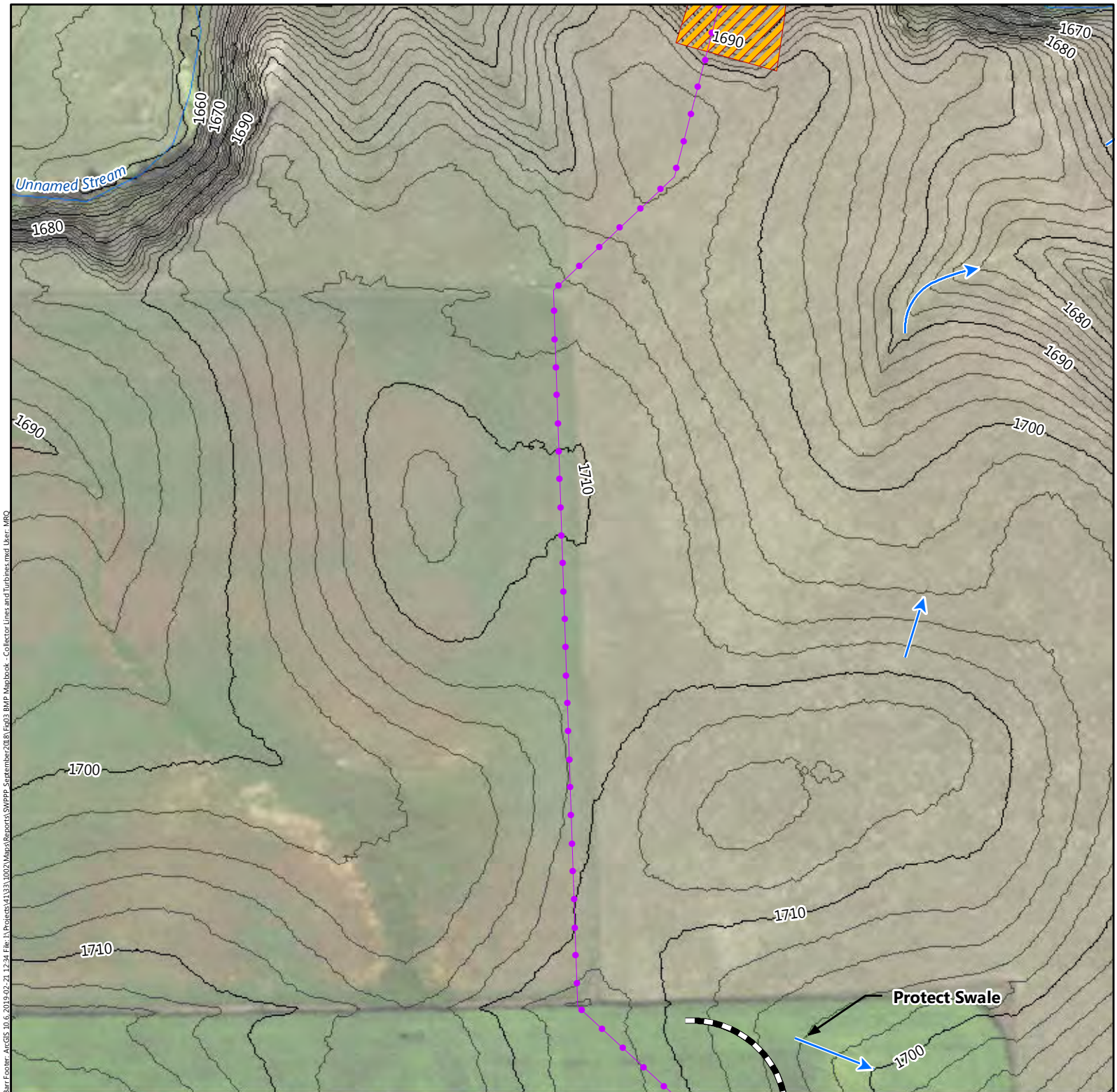


Figure 3-14

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





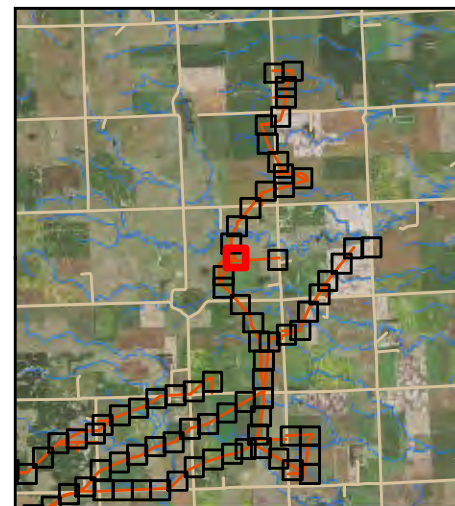
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm
- Erosion Control Blanket BMP



Figure 3-15

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





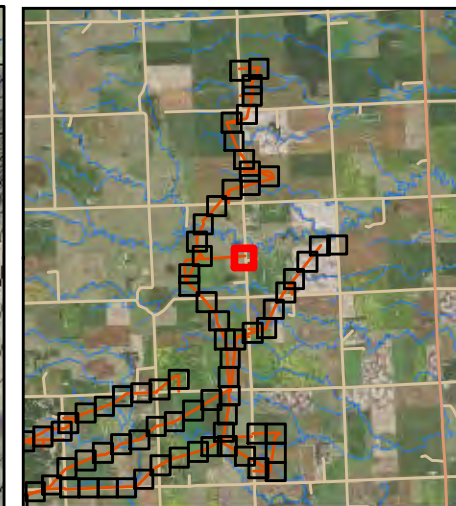
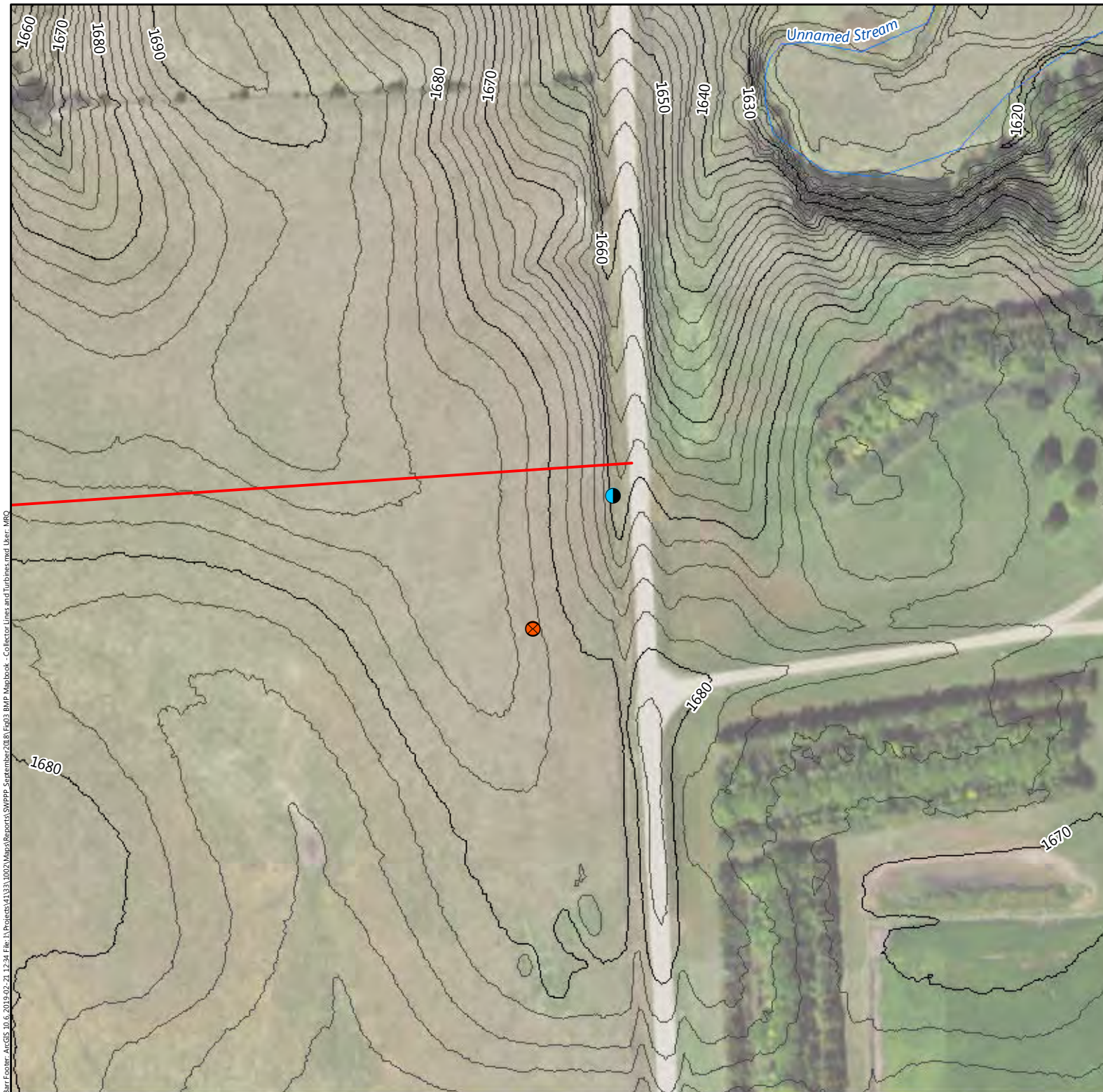
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen Berm







Figure 3-16

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Gate
-  Culvert
-  Access Road (1/18/2019)
-  Stream/River (USGS Dataset)

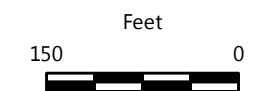
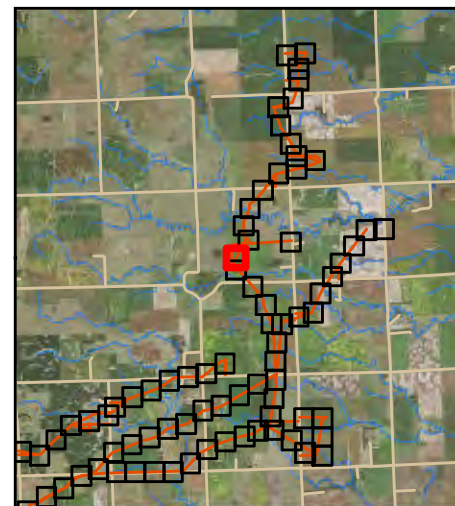
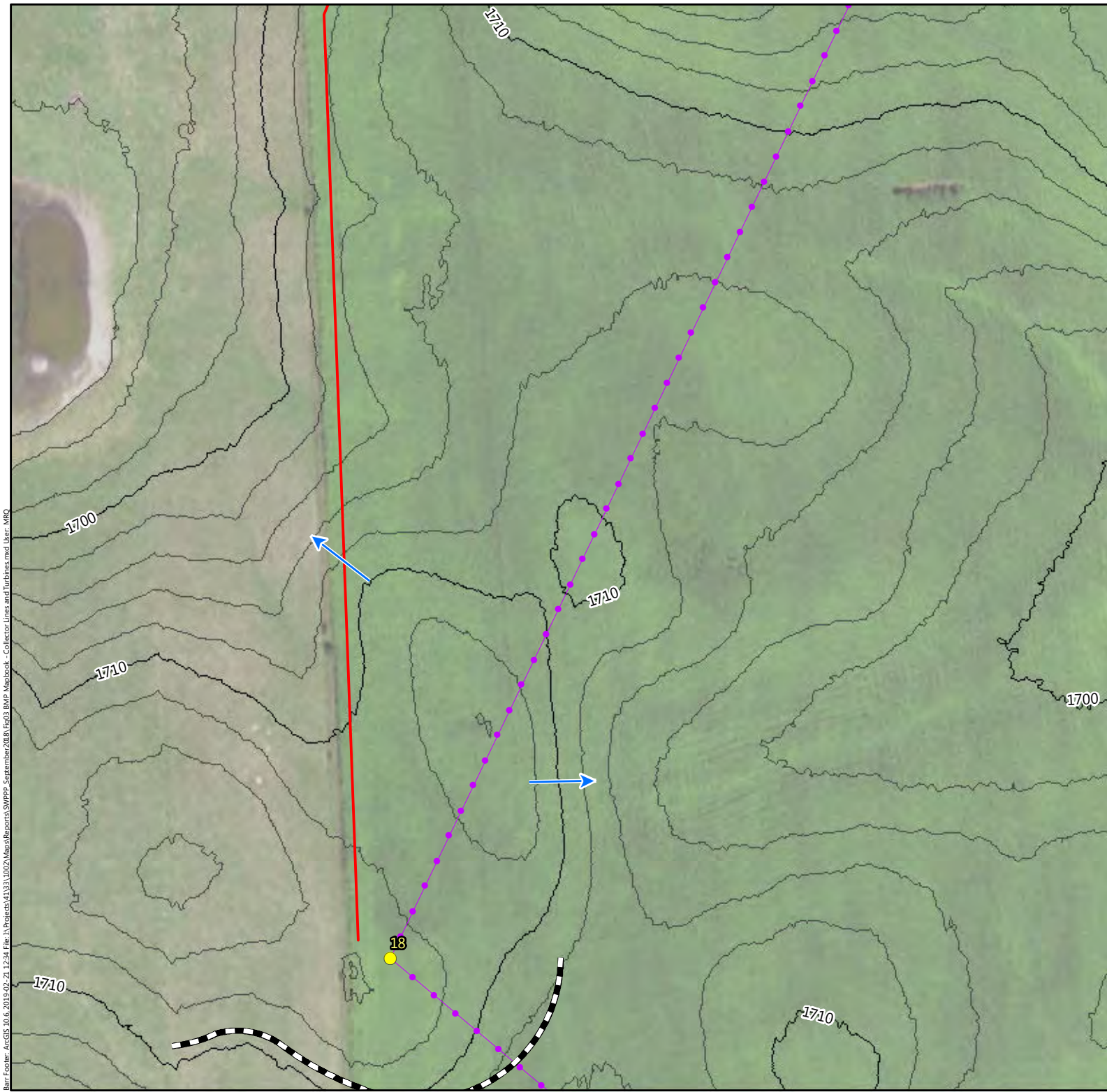


Figure 3-17

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

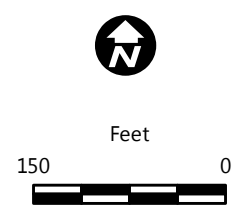
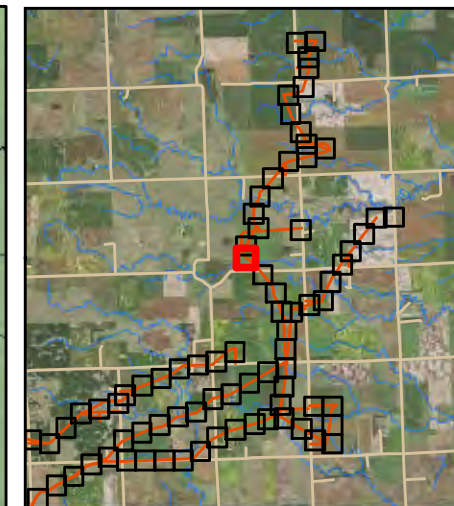
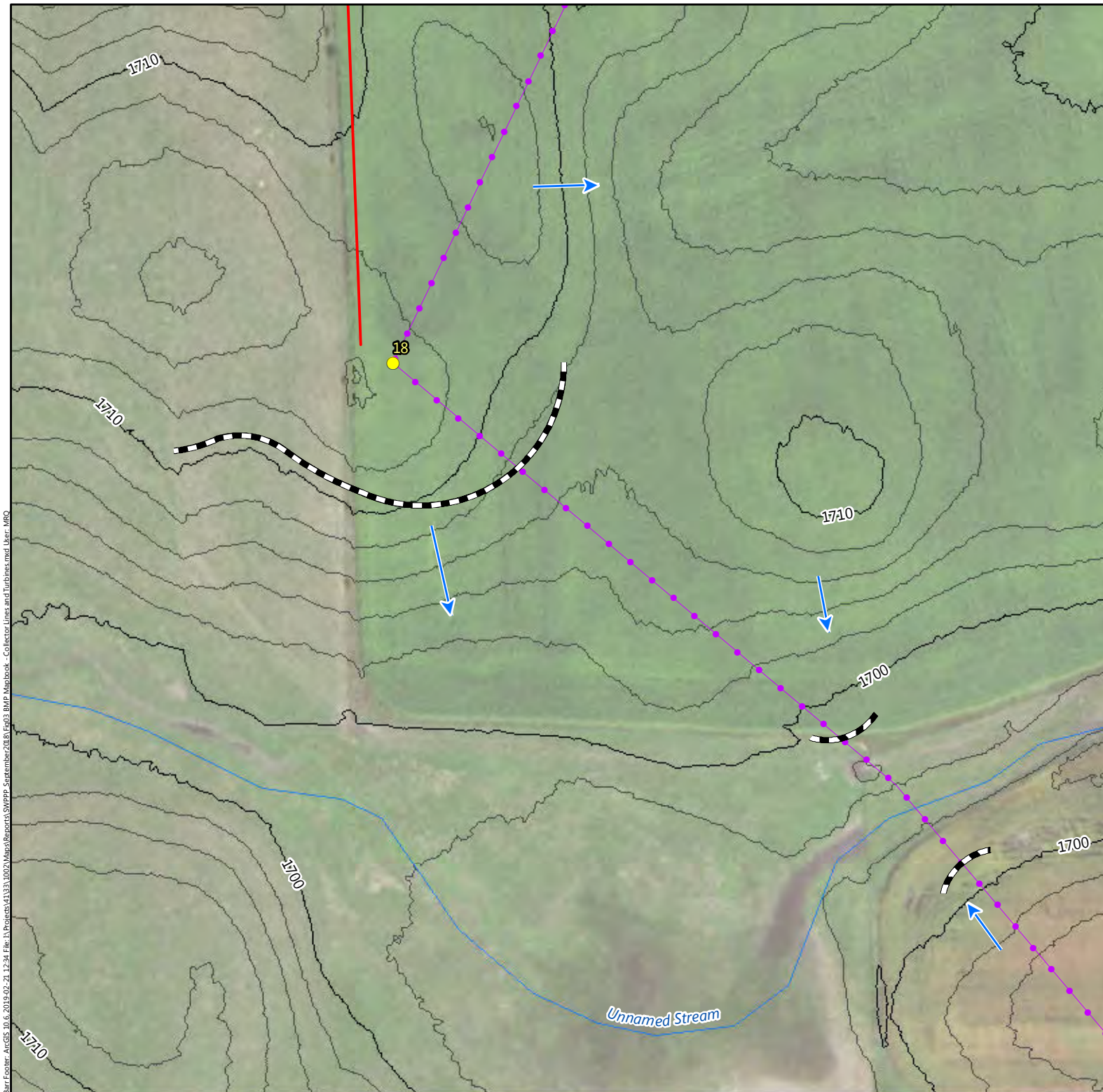


Figure 3-18

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





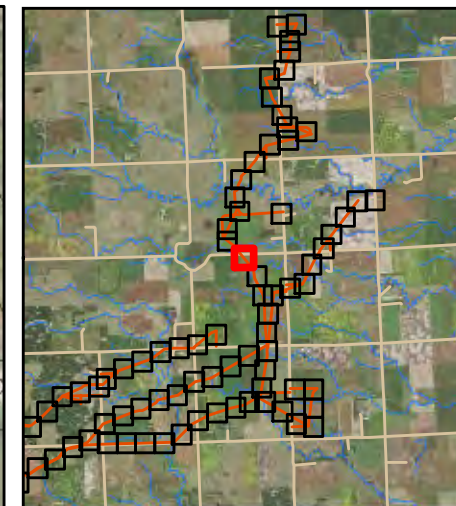
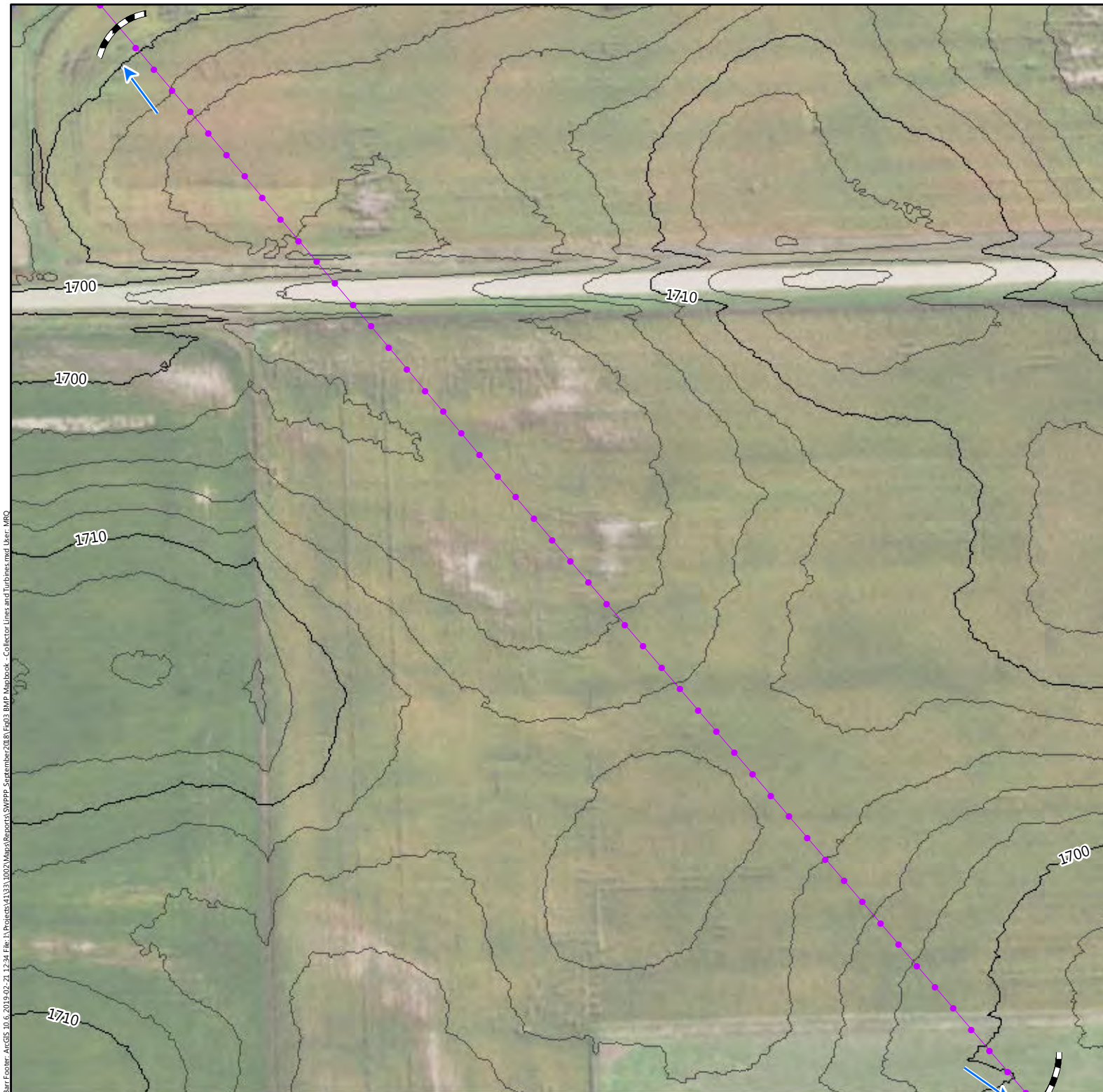
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~~~~~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen  
 Berm



Figure 3-19

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



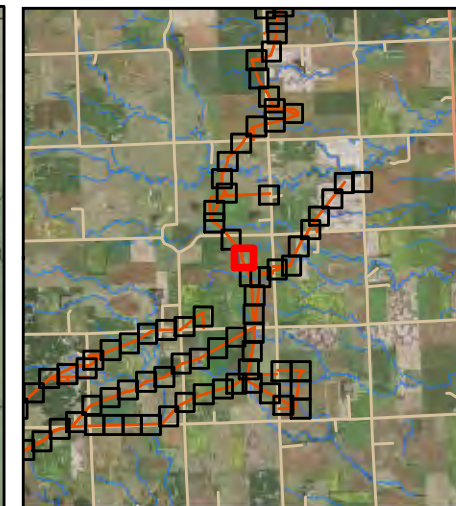
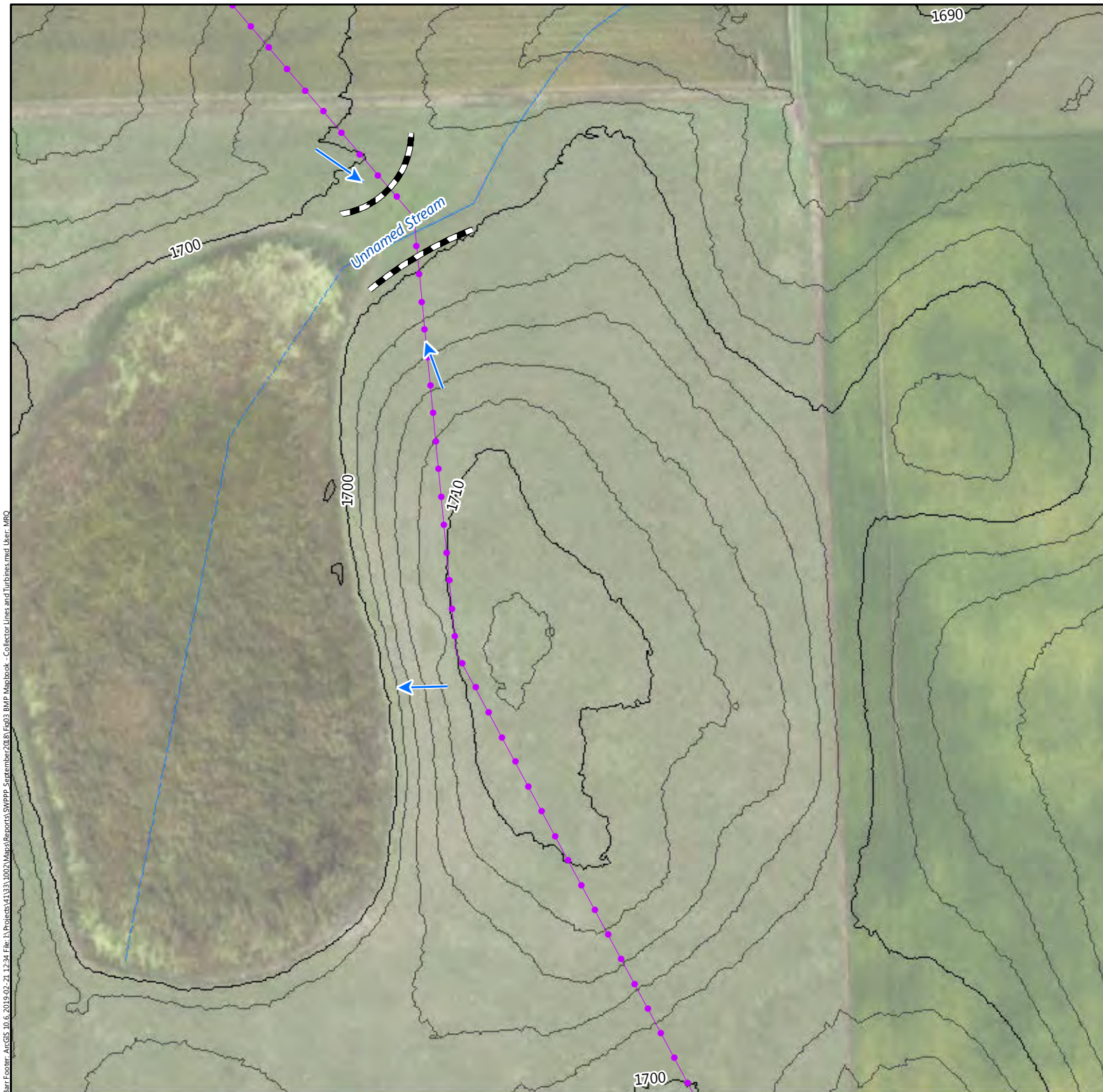
Feet



Figure 3-20

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



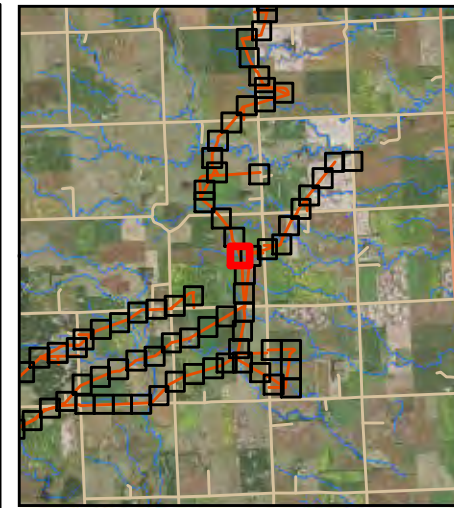
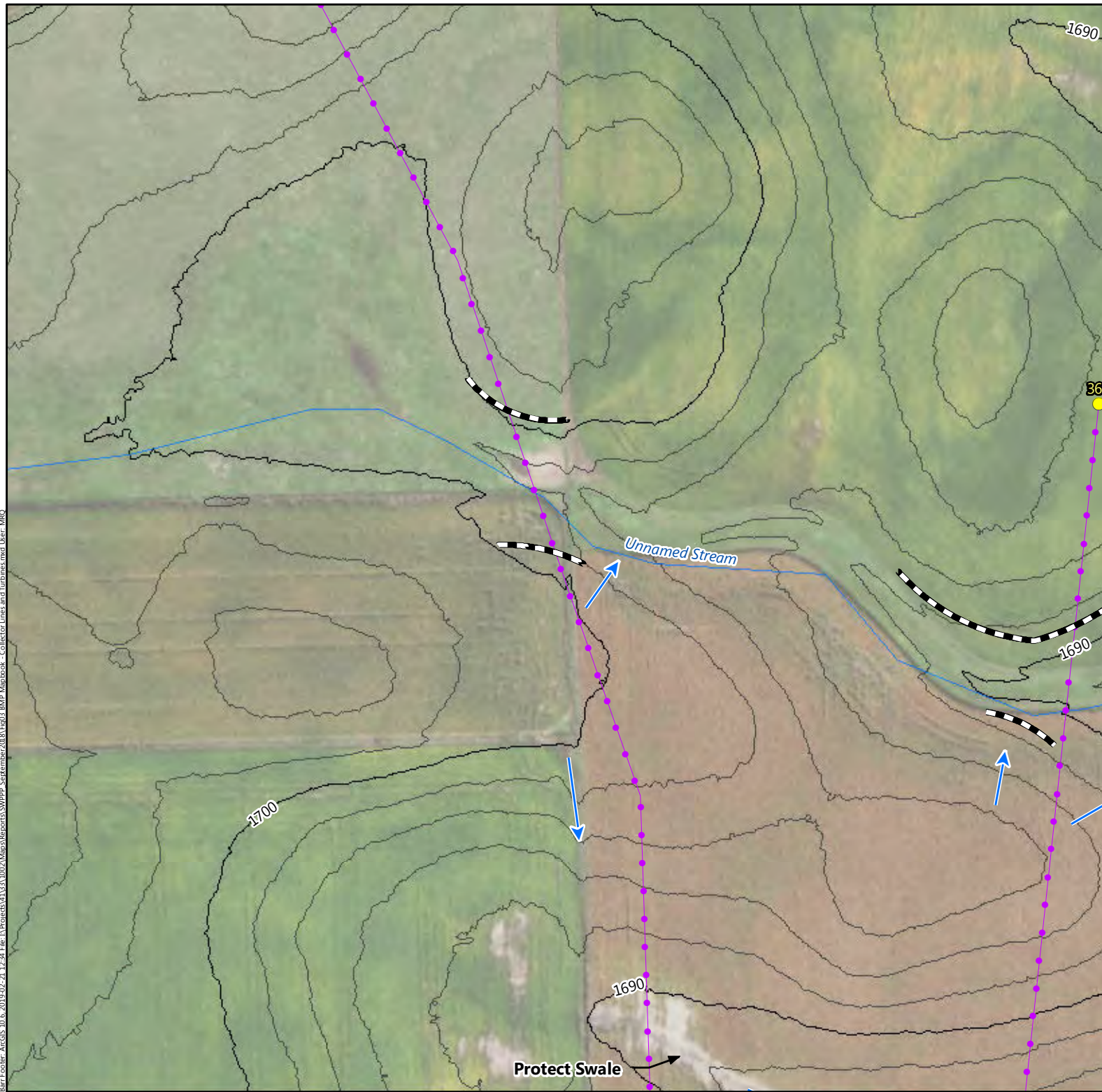
Feet



Figure 3-21

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen  
 Berm



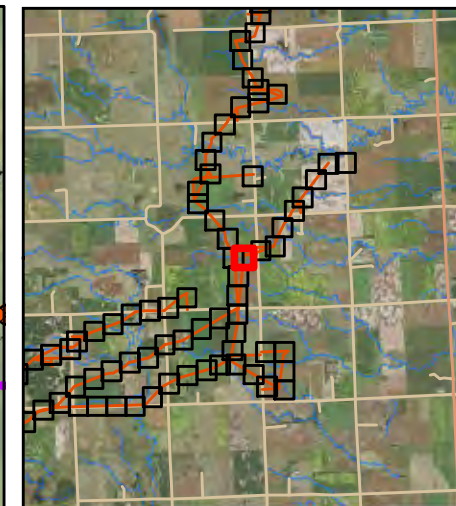
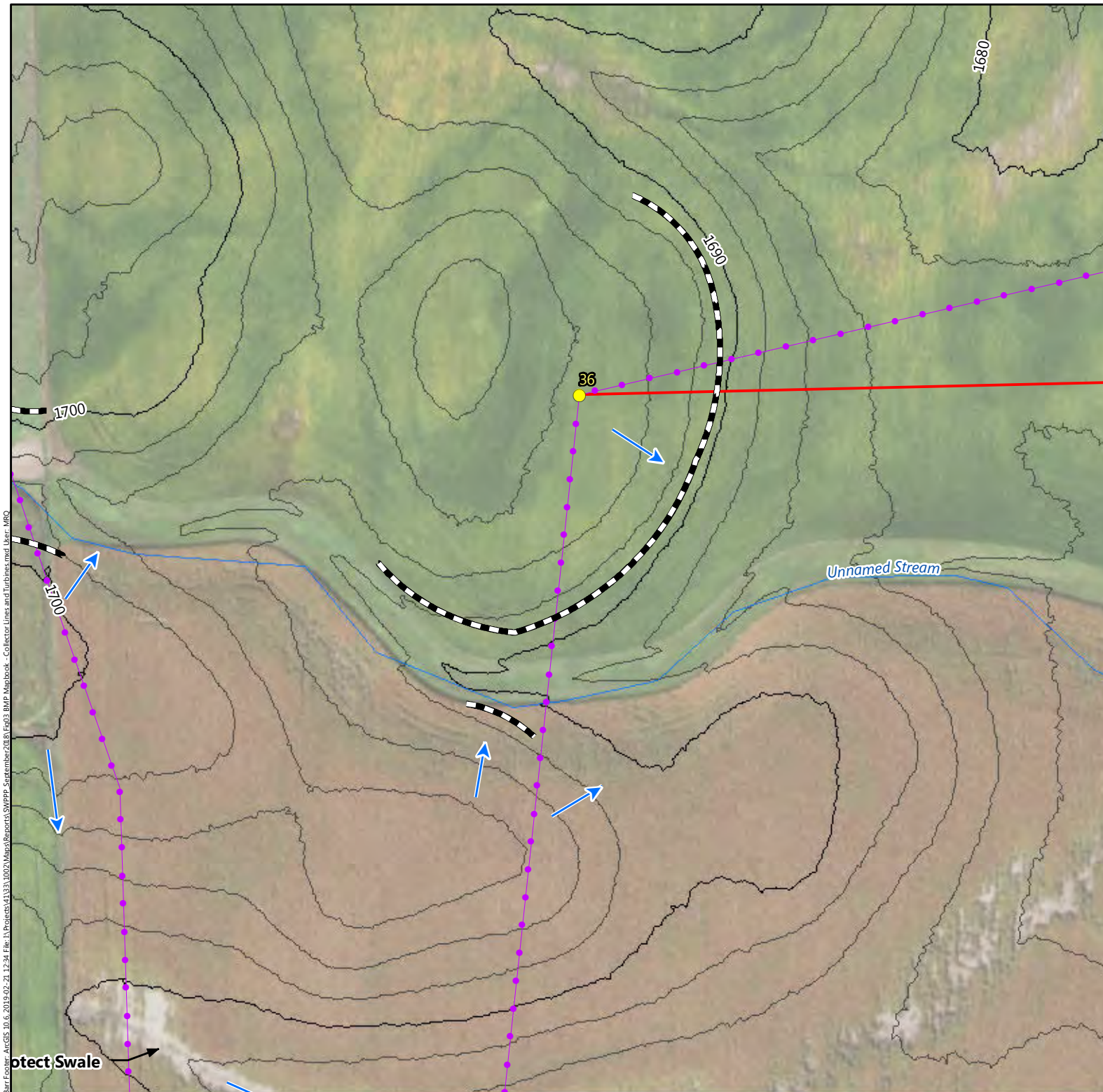
Feet



Figure 3-22

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





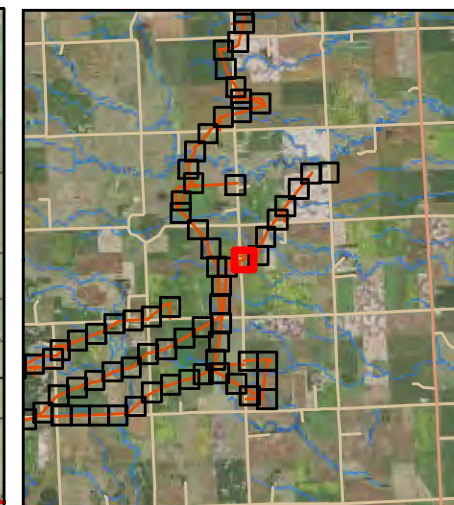
- Turbine Location (4/13/2018)
- ⊗ Gate
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- - - Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-23

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota











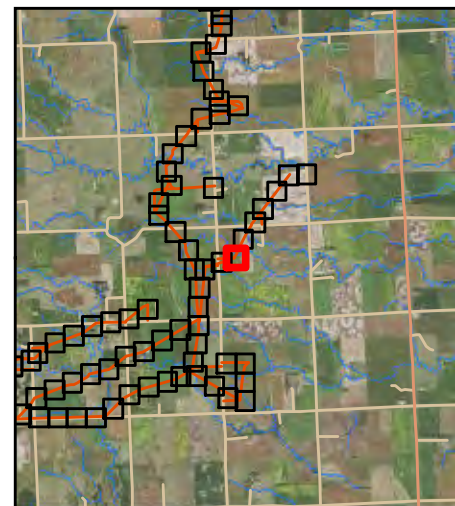
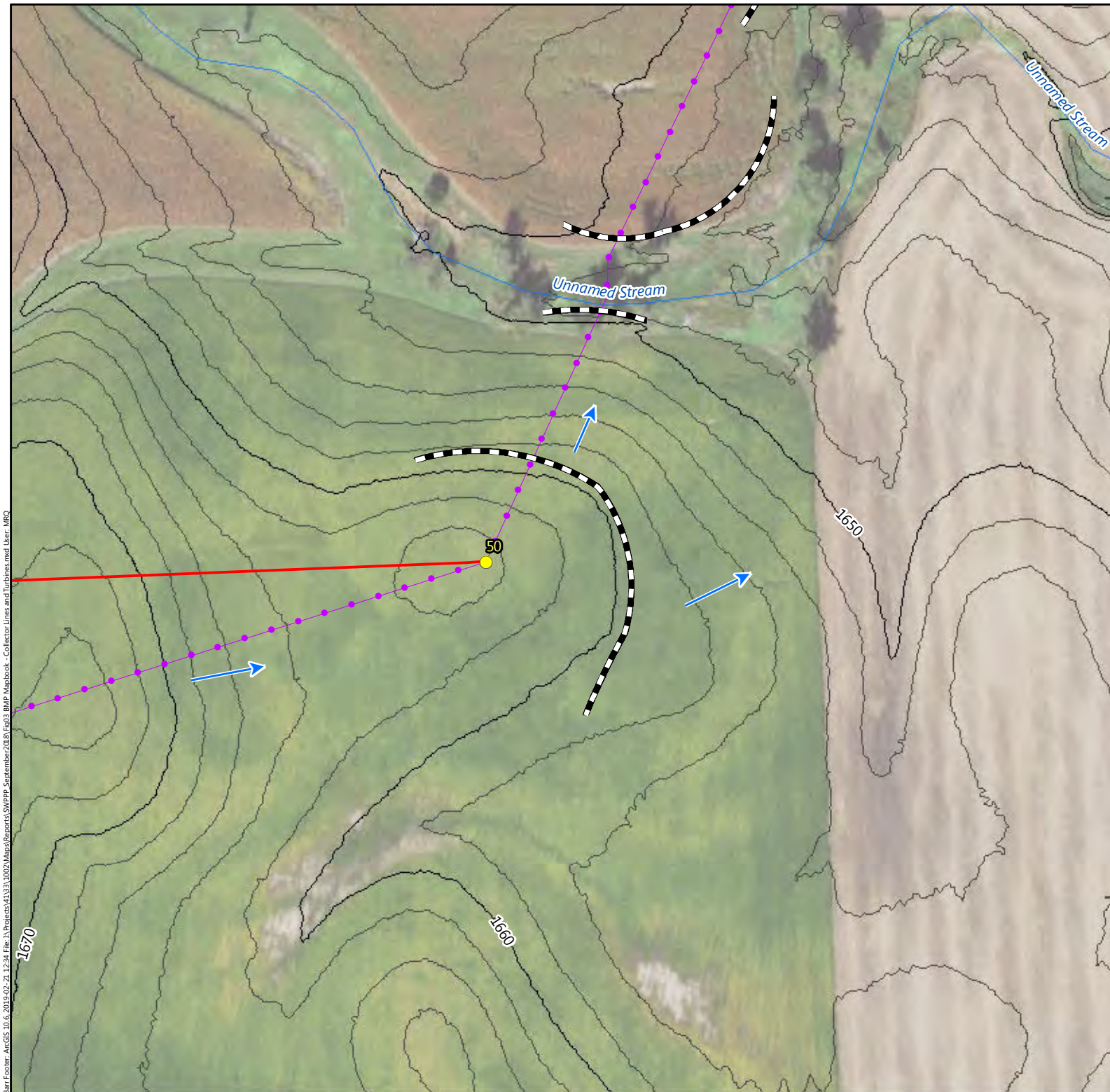
-  Gate
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Stream/River (USGS Dataset)
-  Flow Direction



Figure 3-24

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~~~~~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm

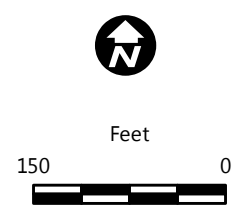
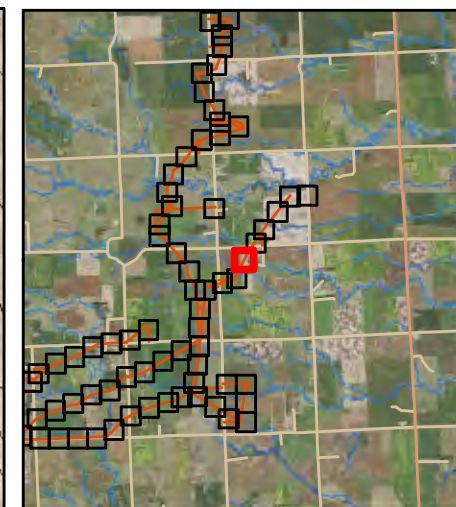
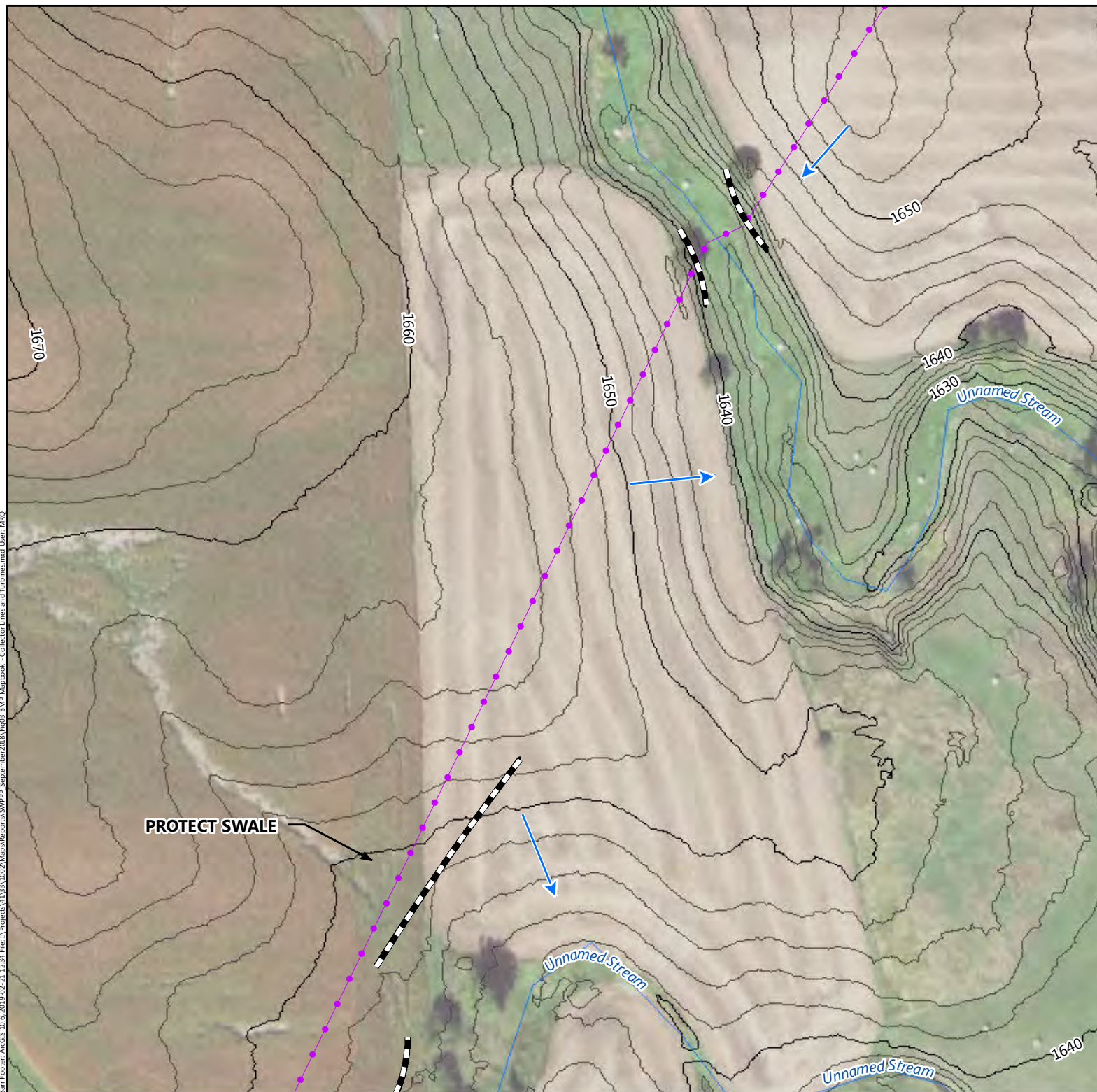


Figure 3-25

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





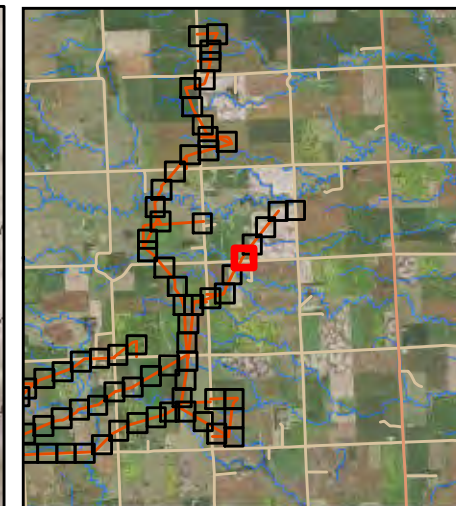
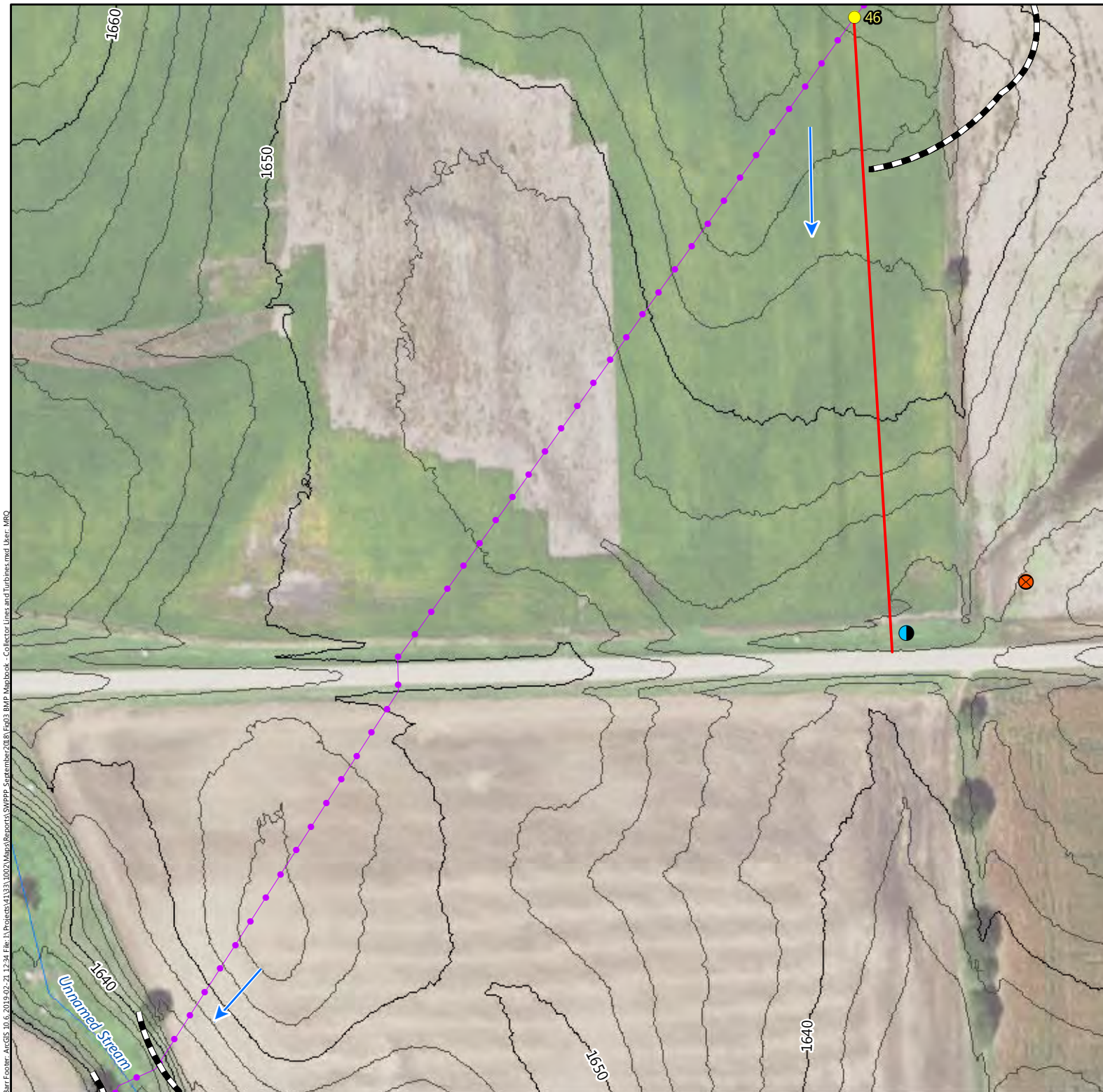
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-26

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





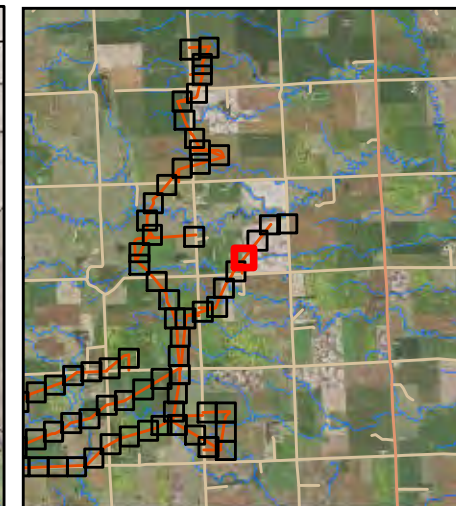
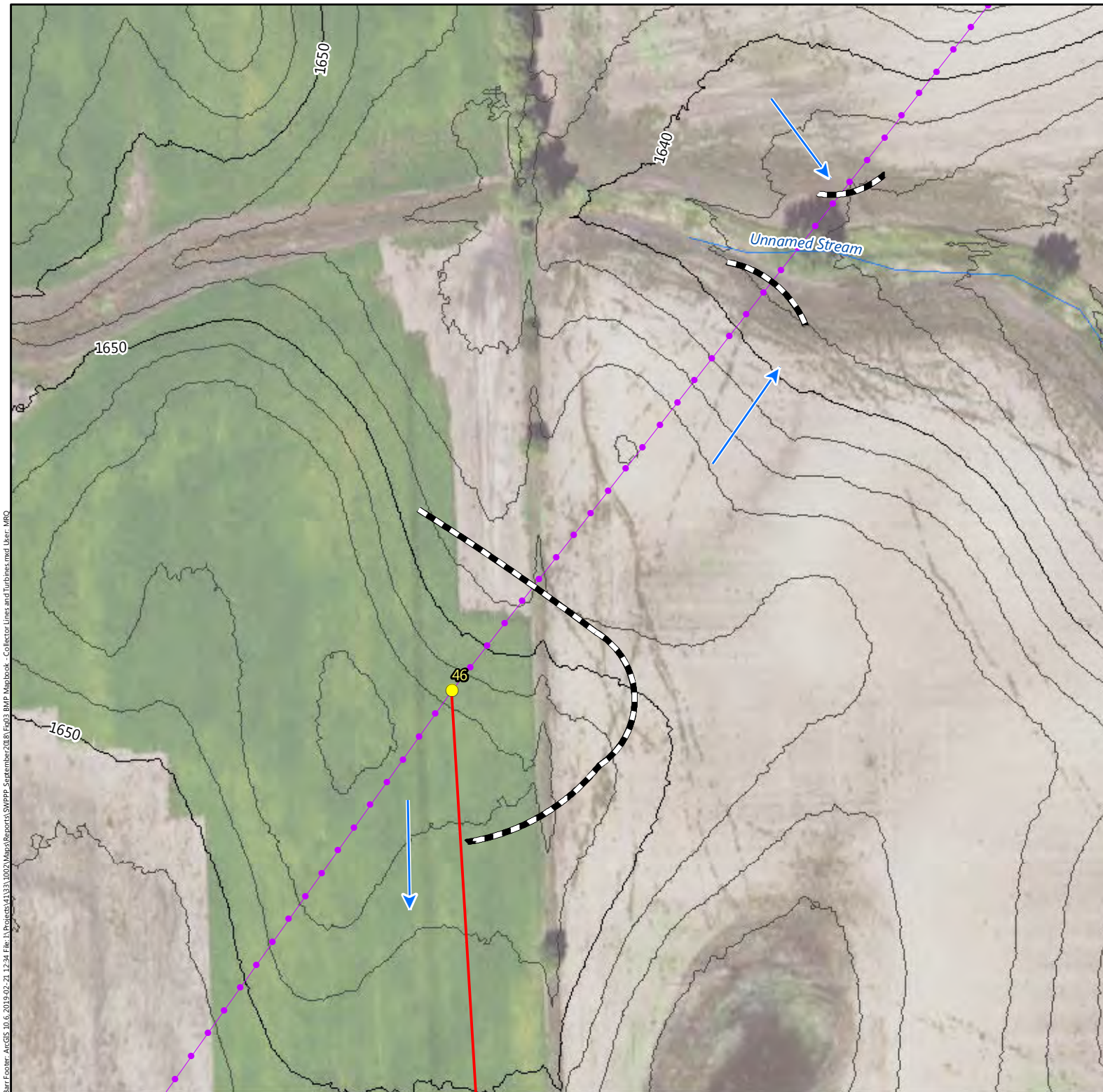
- Turbine Location (4/13/2018)
- ⊗ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-27

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





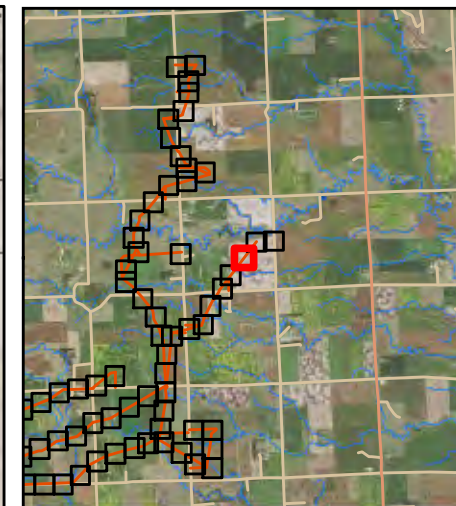
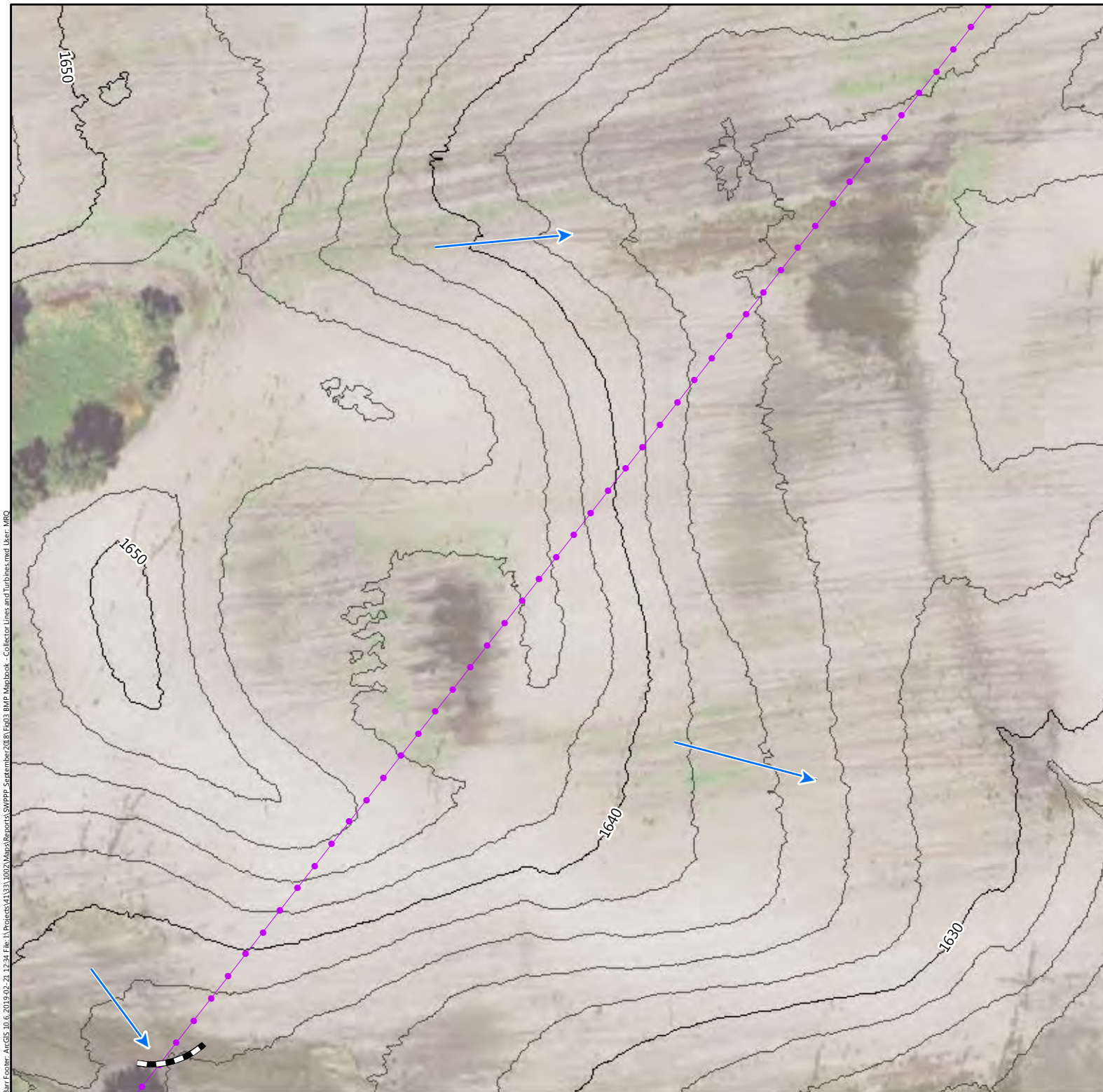
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-28

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





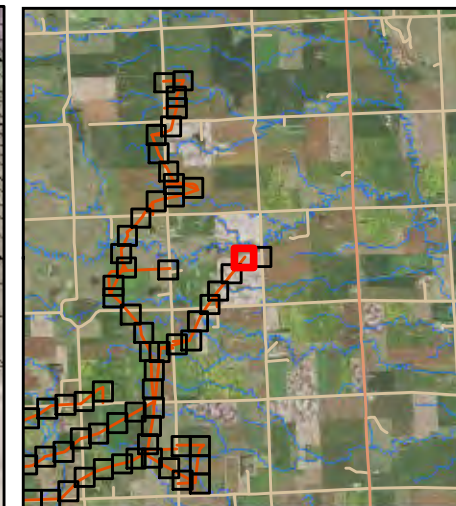
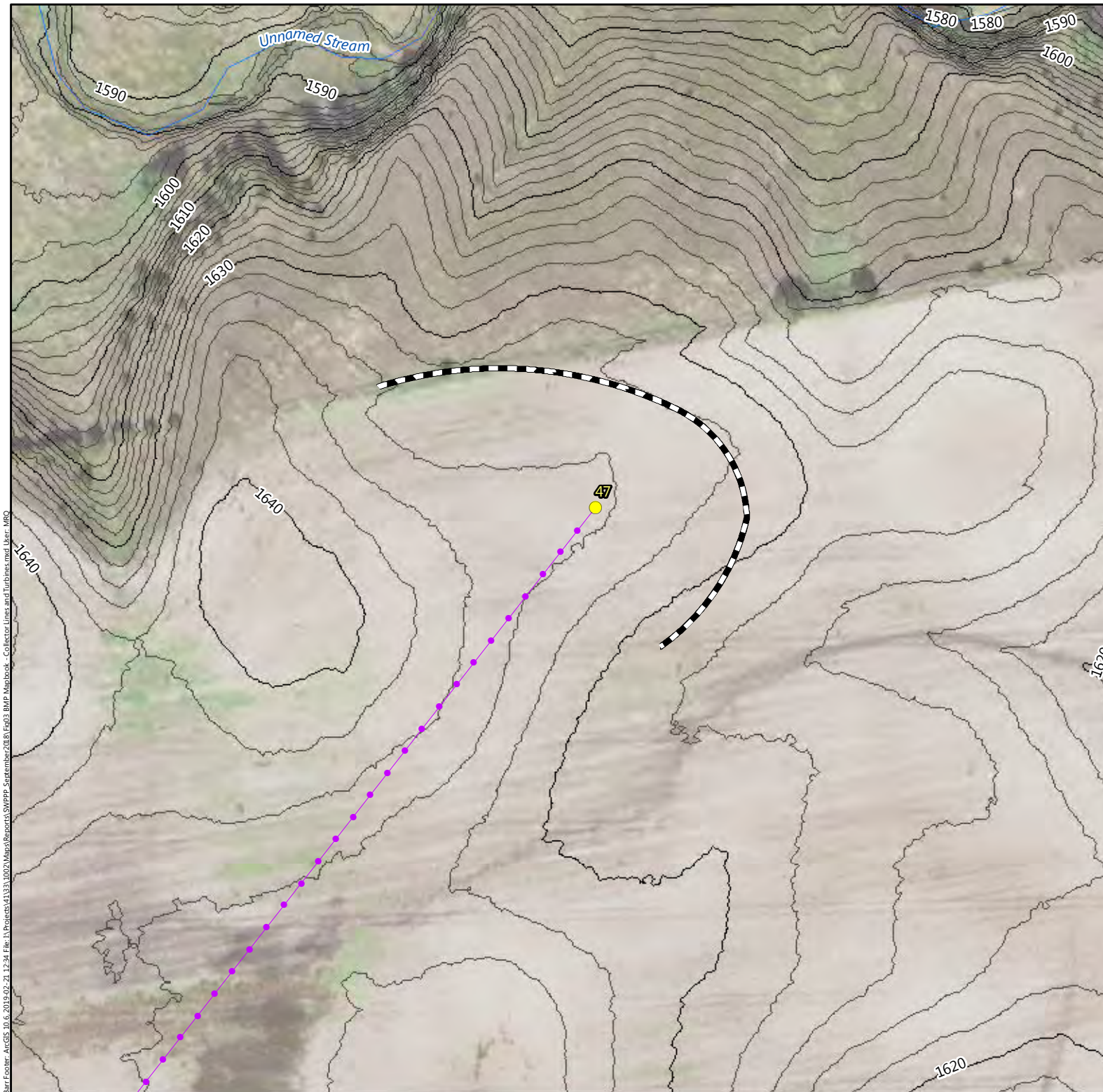
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-29

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





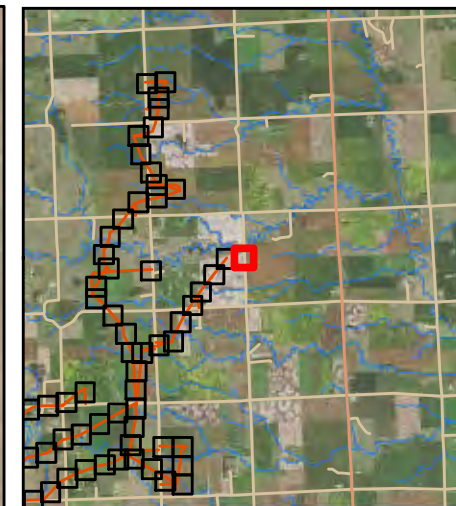
- Turbine Location (4/13/2018)
- Collector Lines (1/18/2019)
- ~~~~~ Stream/River (USGS Dataset)
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen  
 Berm



Figure 3-30

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





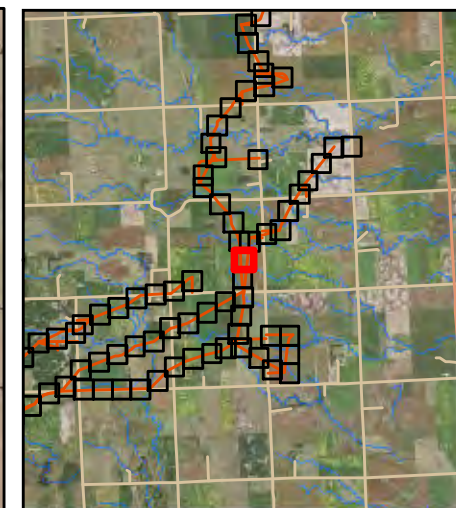
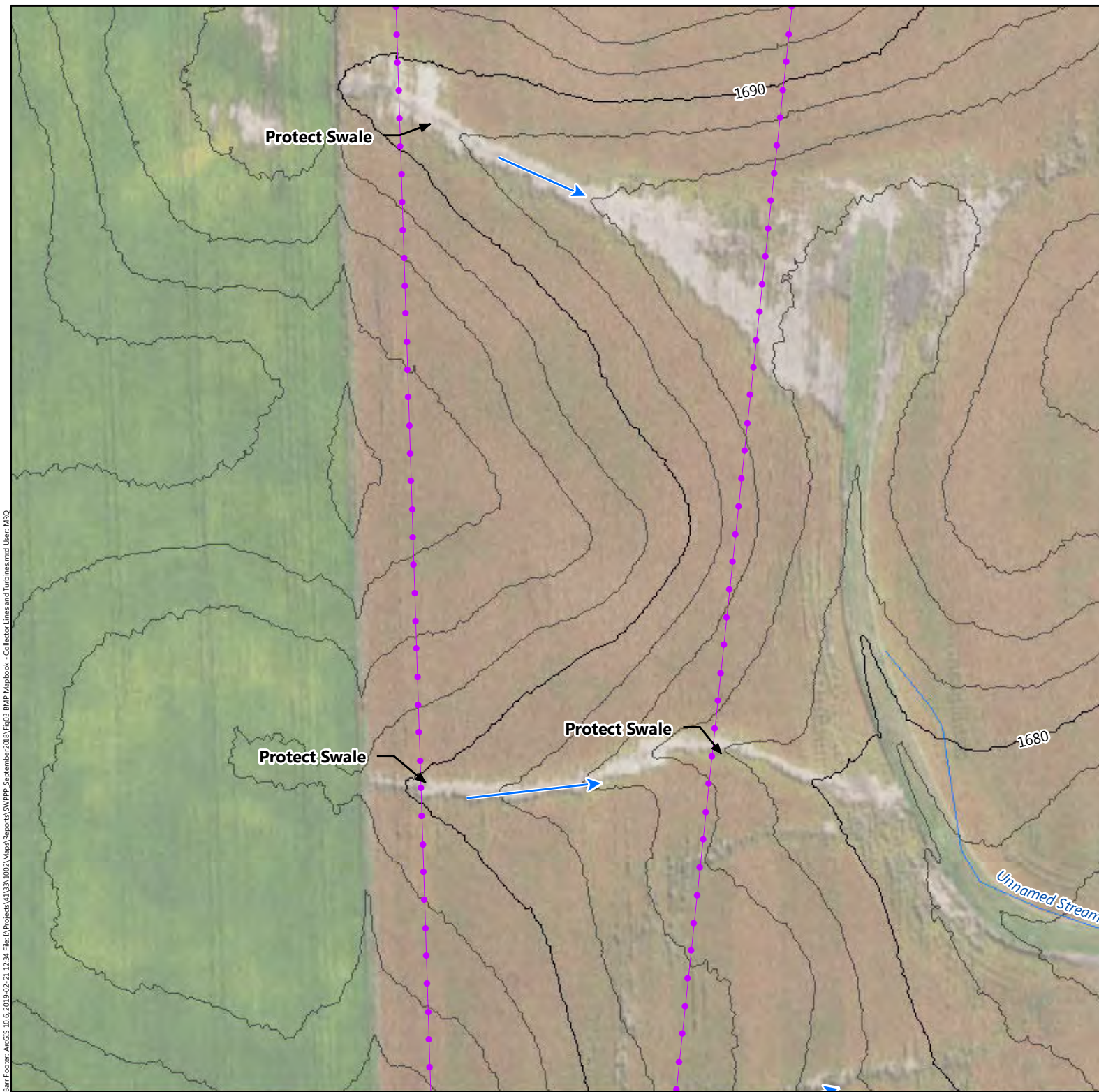
- Culvert
- Stream/River (USGS Dataset)



Figure 3-31

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





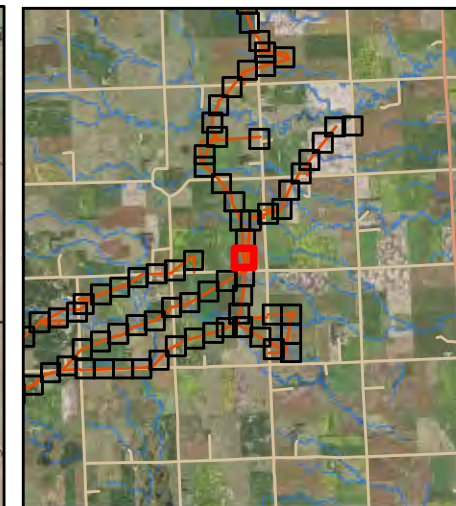
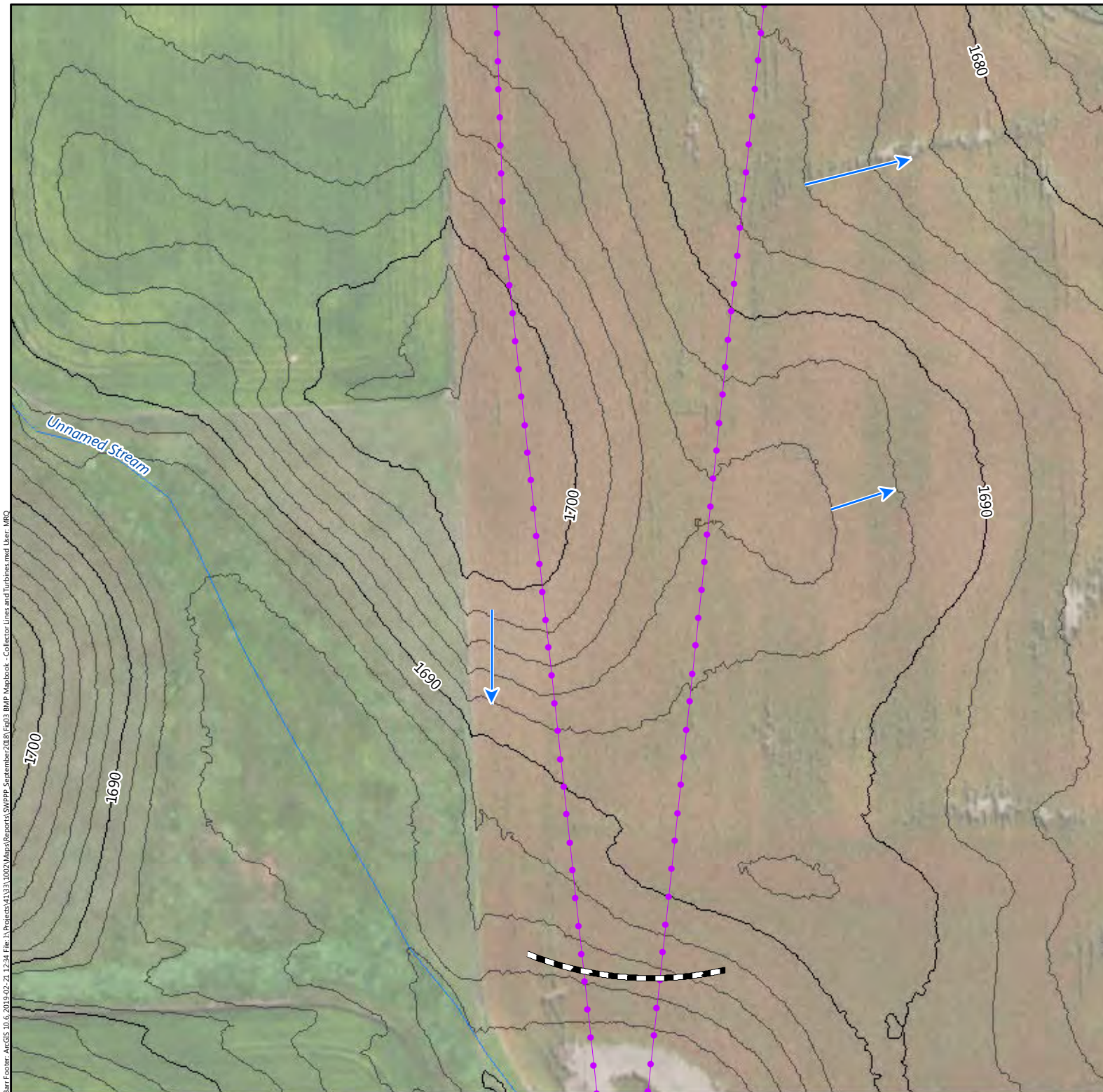
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



Figure 3-32

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm



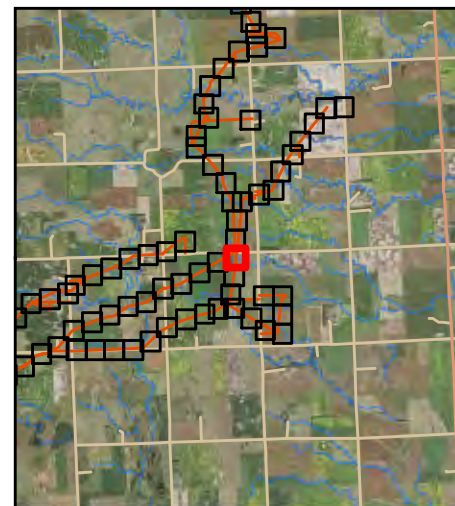
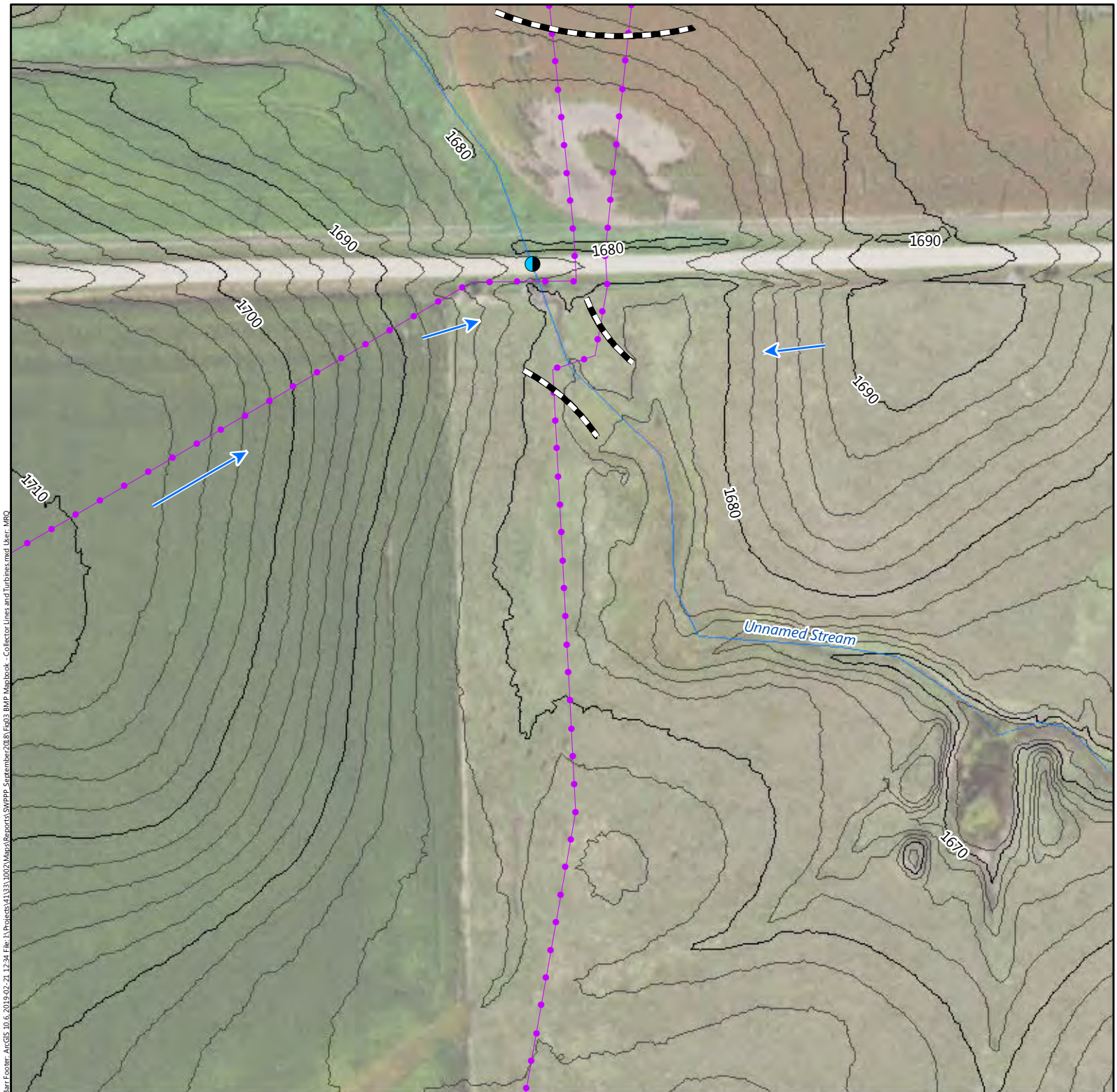
Feet









Figure 3-33

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Culvert
-  Collector Lines (1/18/2019)
-  Stream/River (USGS Dataset)
-  Ditch/Other (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

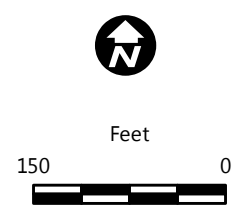
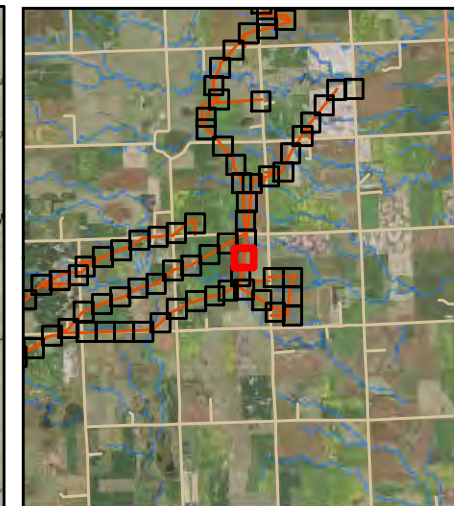
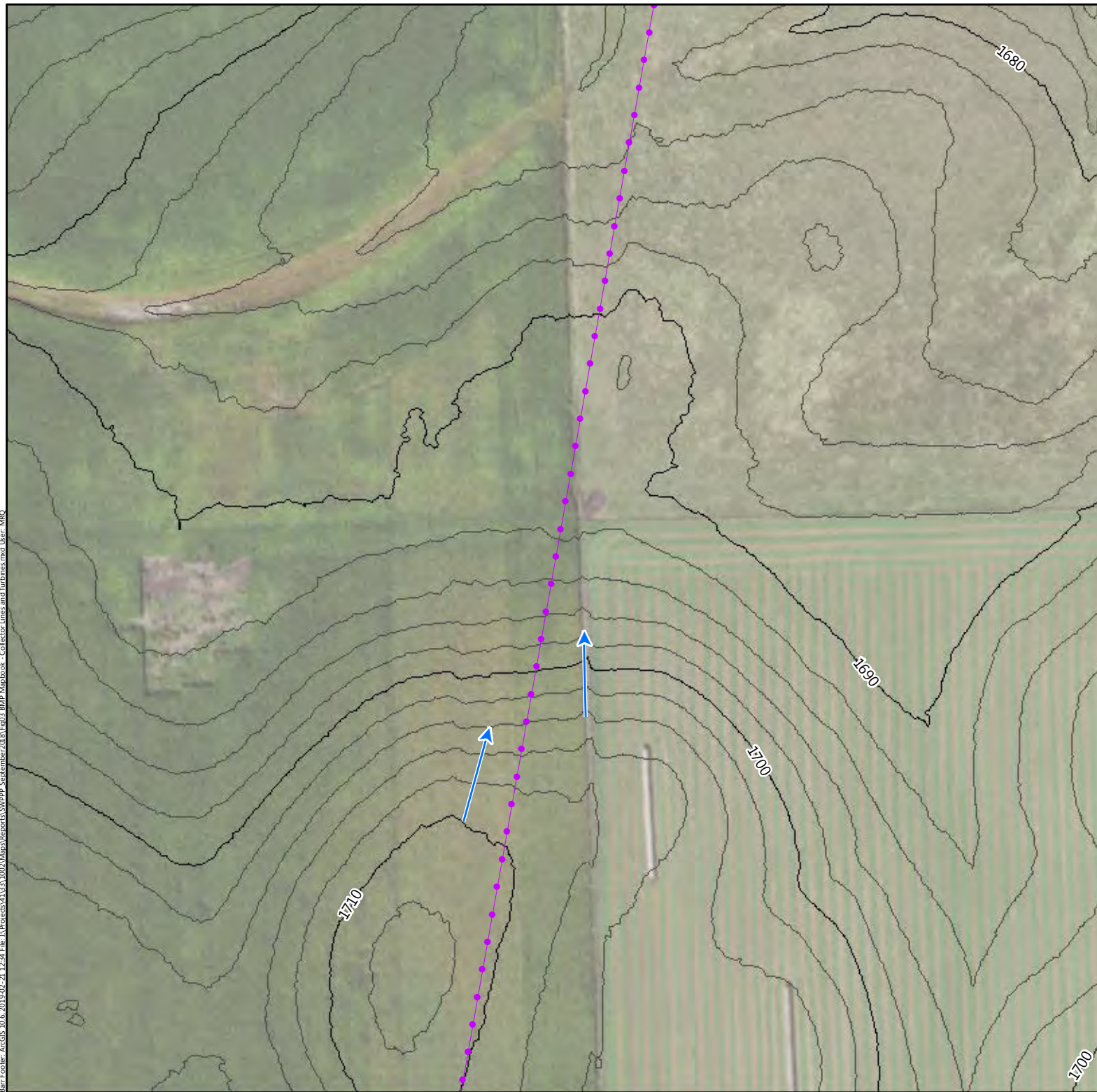


Figure 3-34

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





Collector Lines (1/18/2019)

Flow Direction

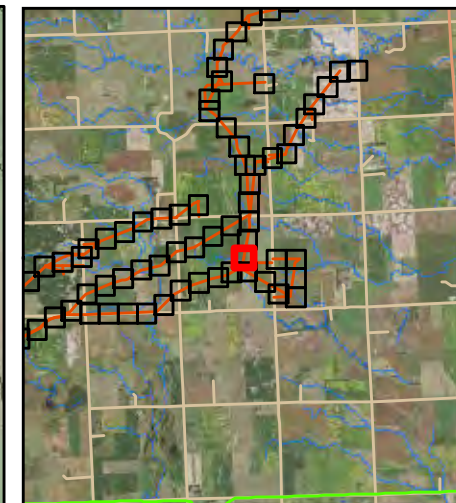
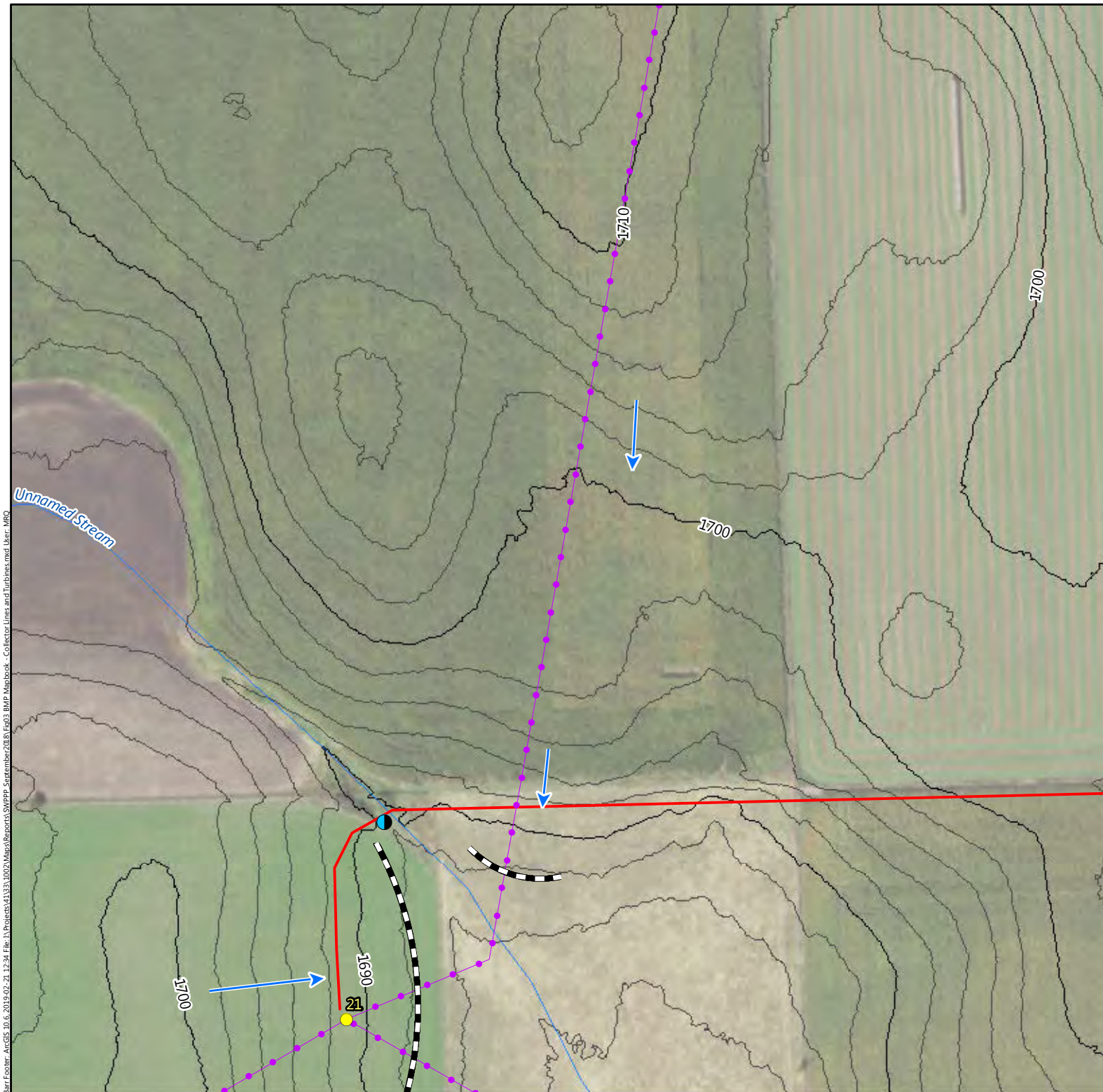


Feet  
150 0

Figure 3-35

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





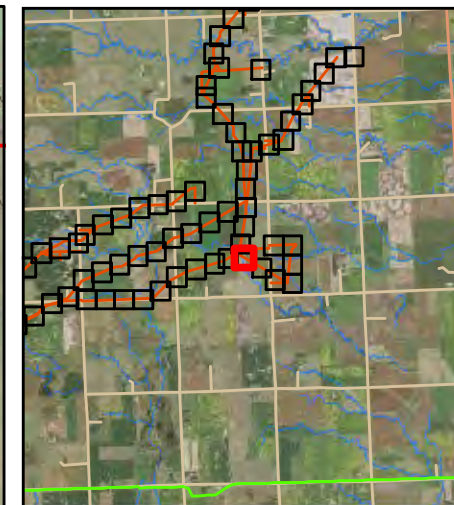
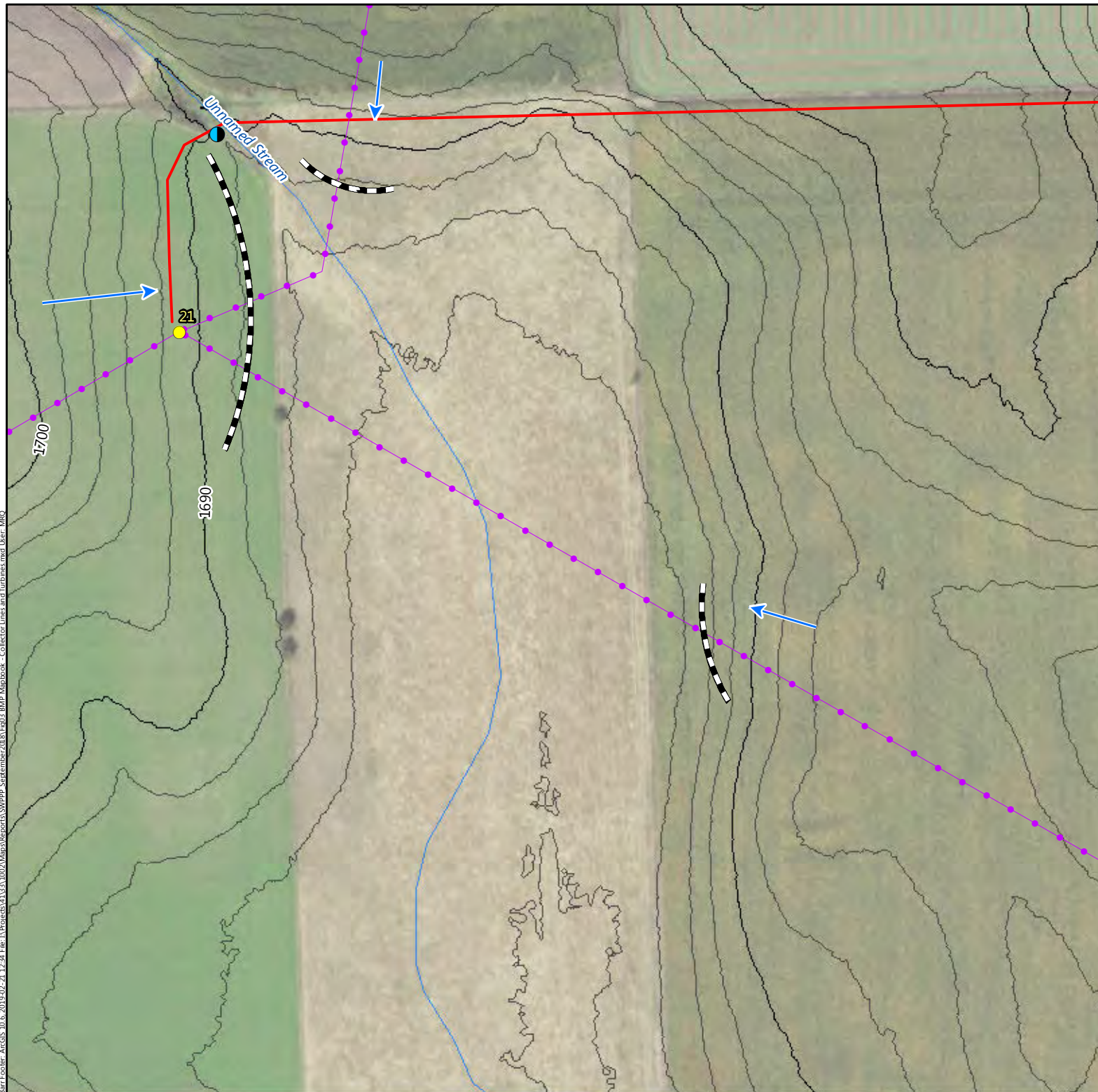
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-36

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





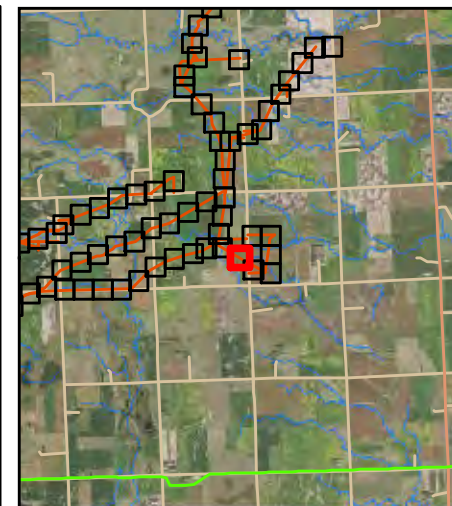
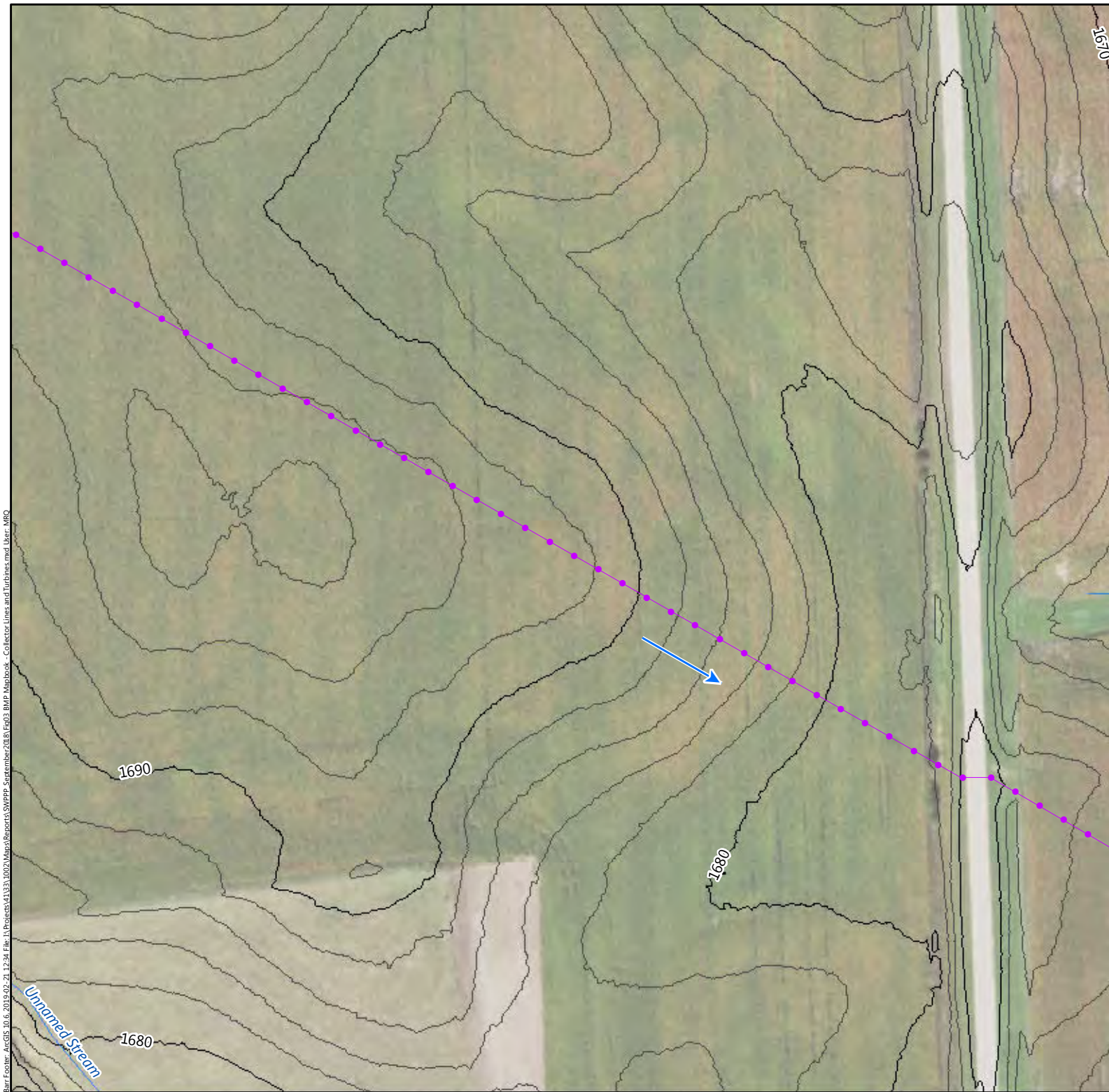
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- - - Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-37

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction



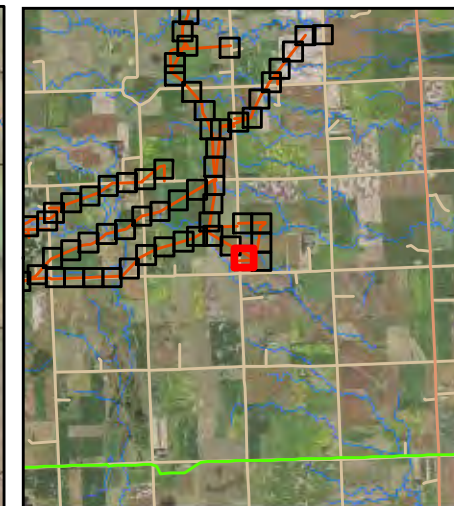
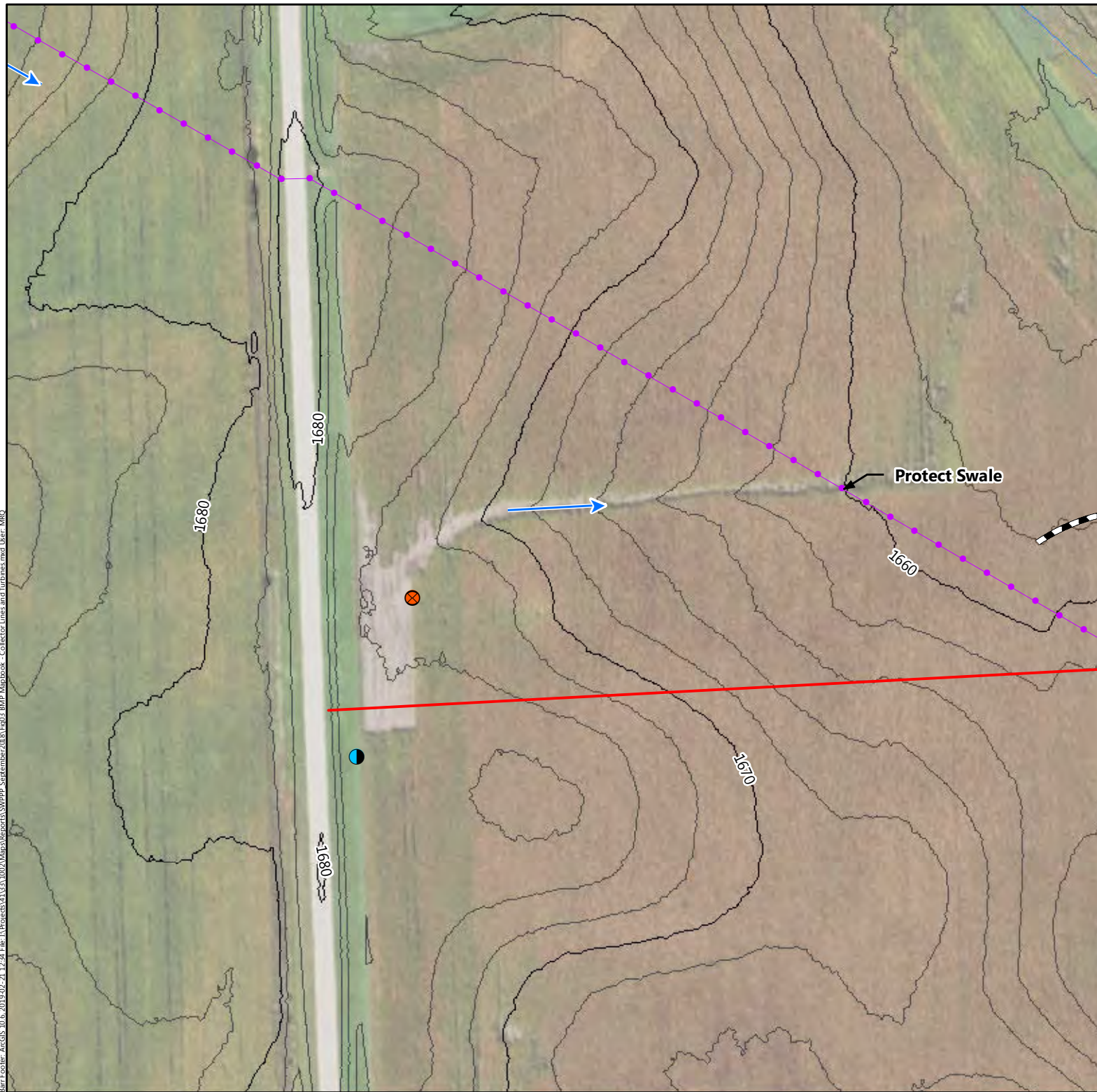
Feet










Figure 3-38

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Gate
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Log, Silt Fence, Diversion Ditch, or Earthen Berm

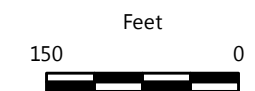
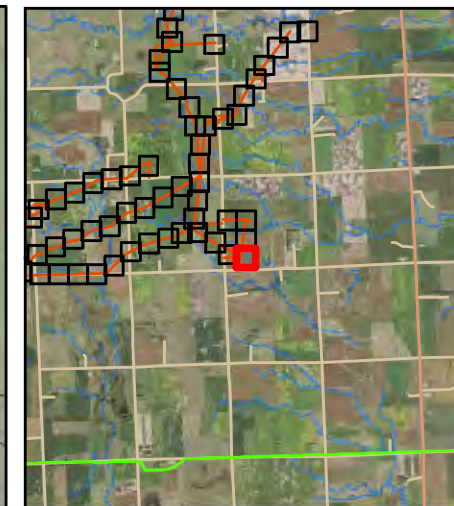
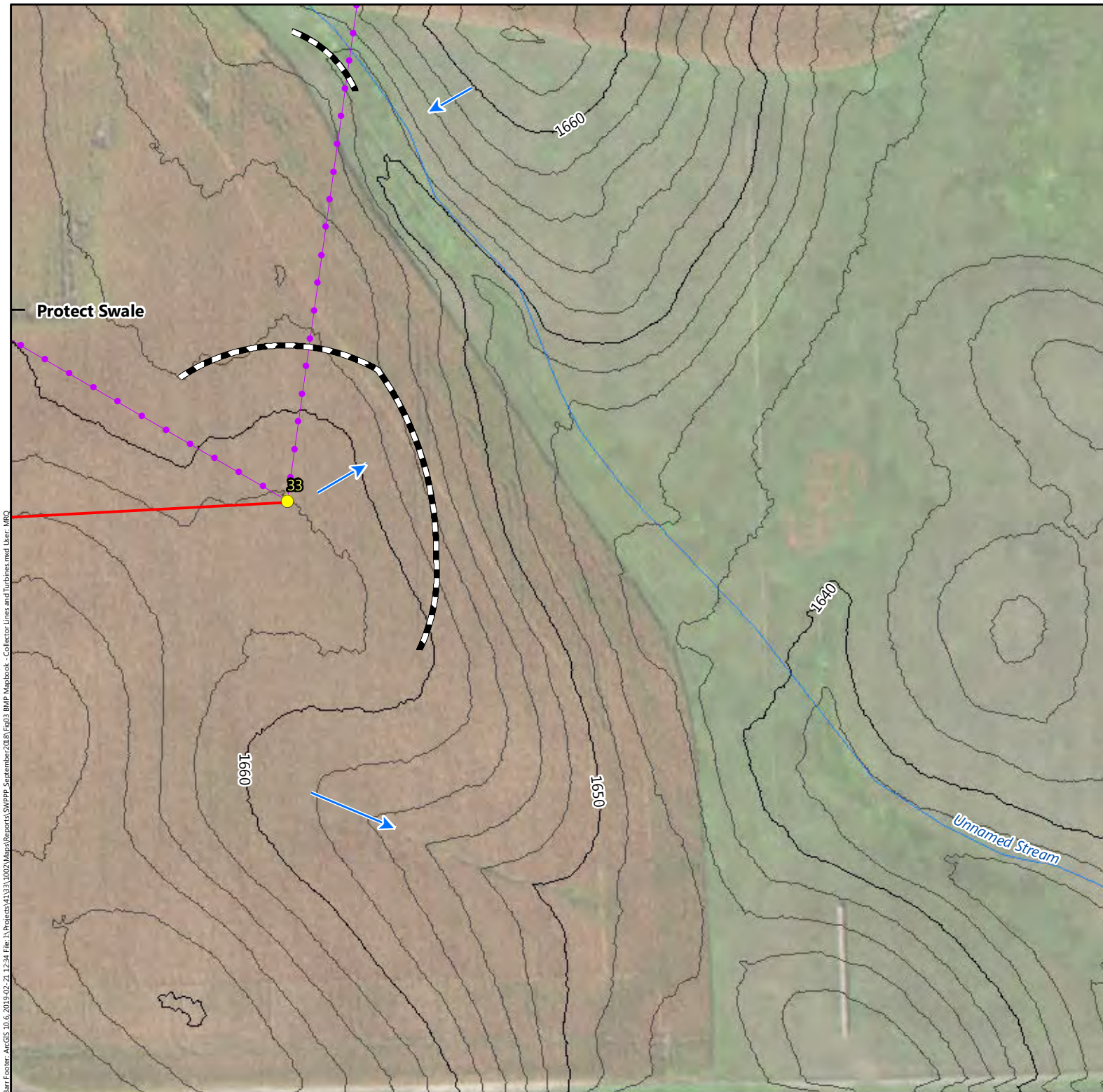


Figure 3-39

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





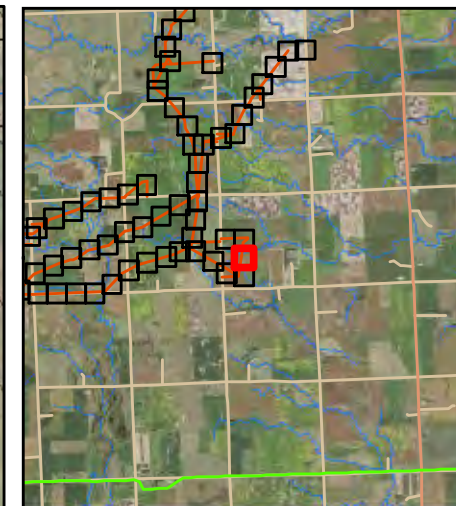
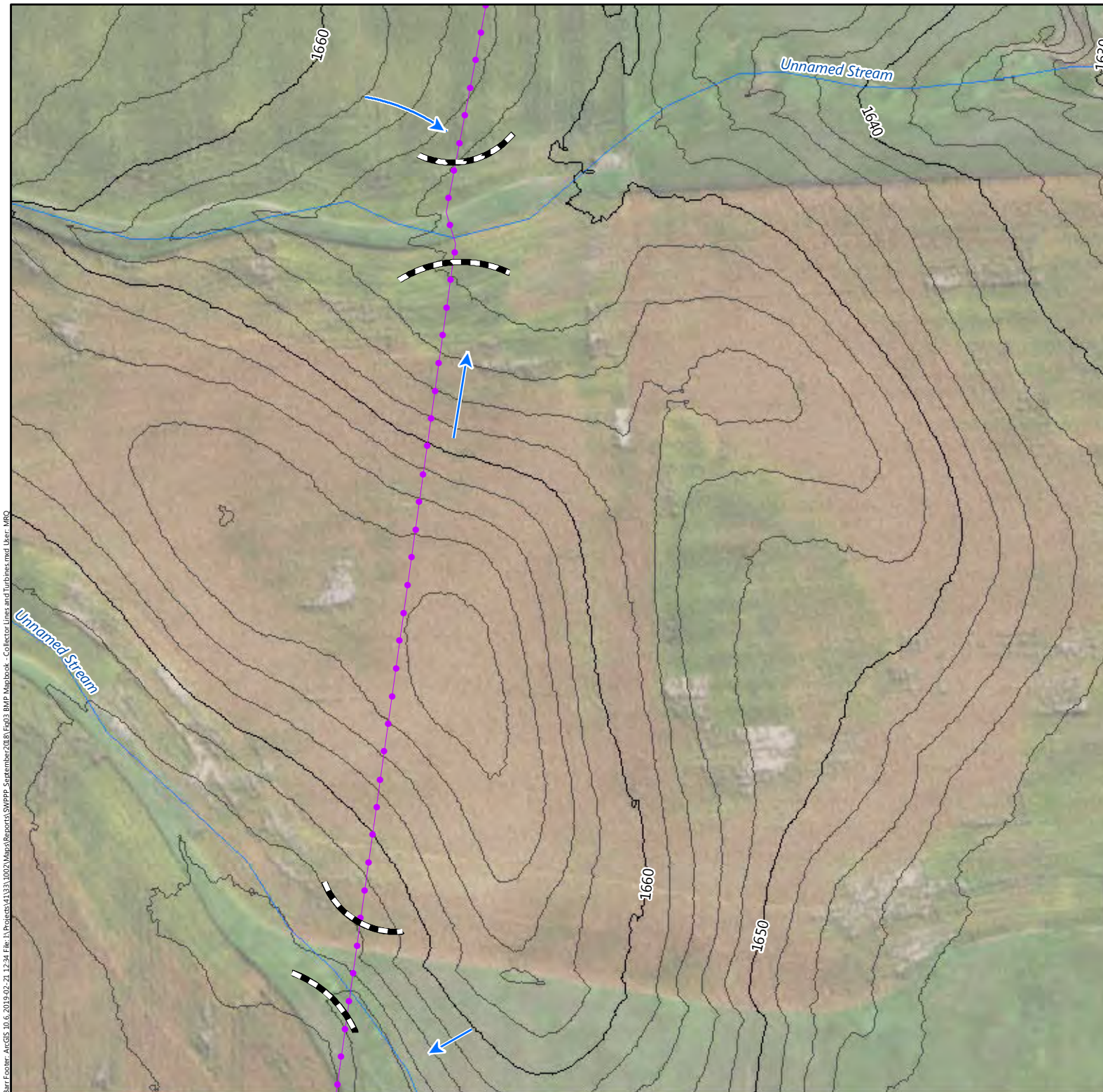
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-40

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm



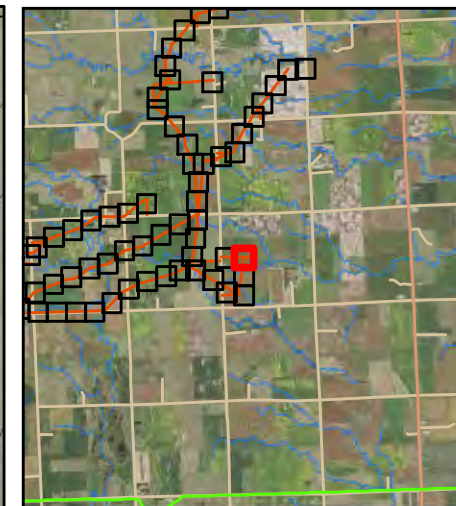
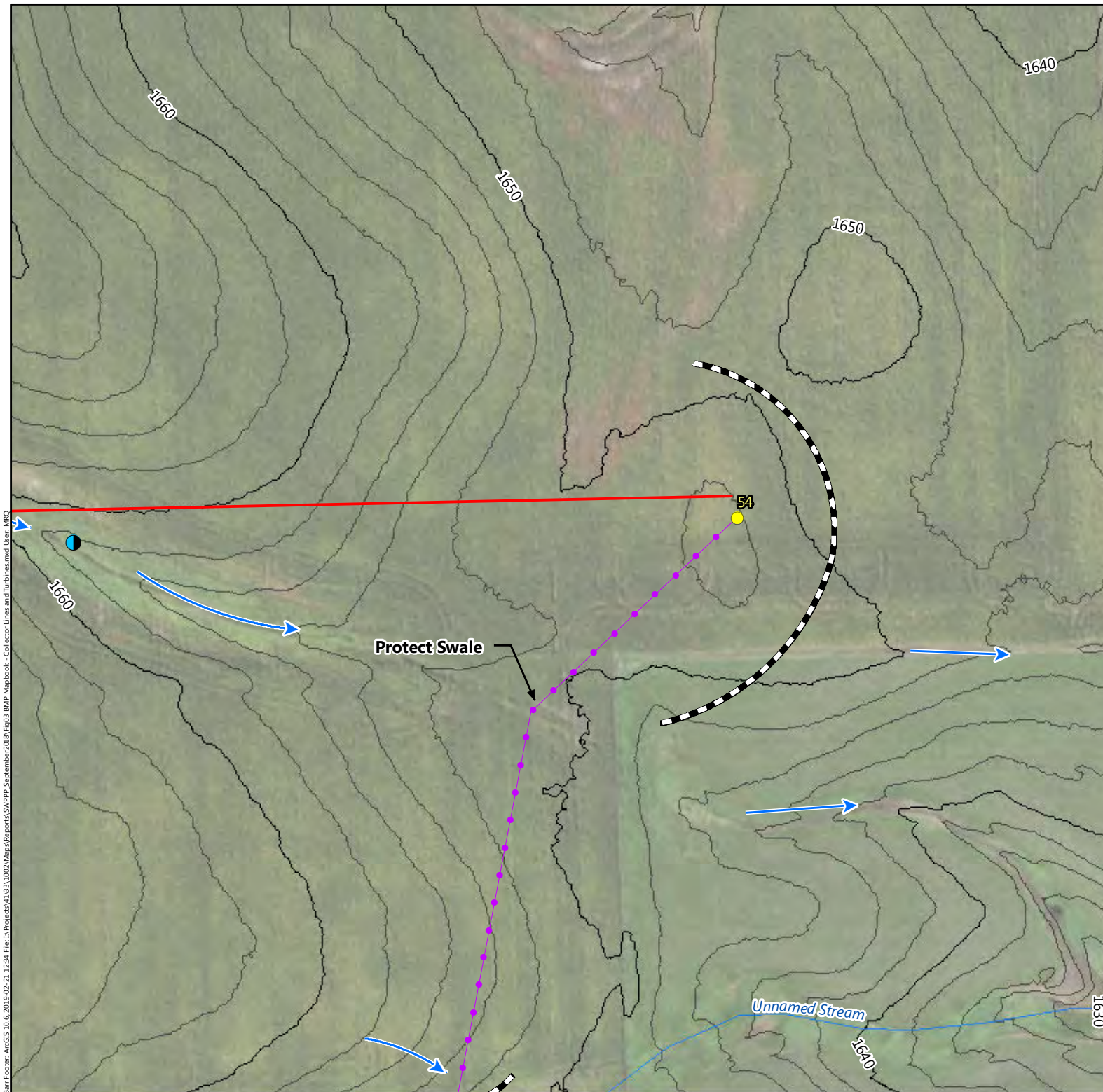
Feet



Figure 3-41

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





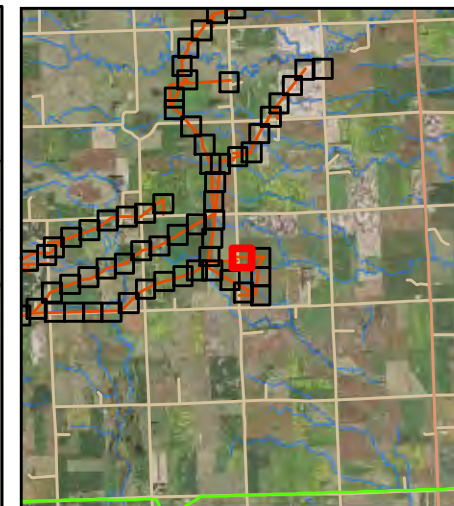
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
- - - Diversion Ditch, or Earthen  
 Berm



Figure 3-42

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Gate
- Culvert
- Access Road (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



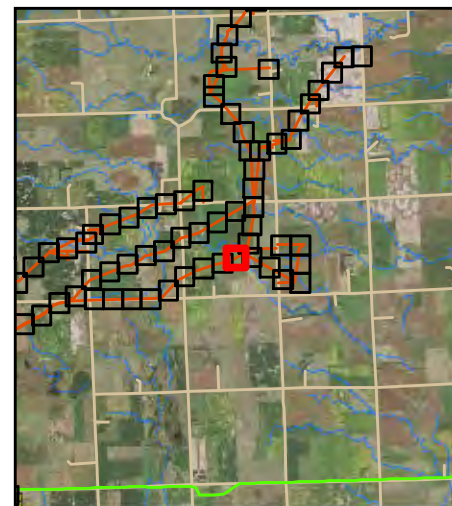
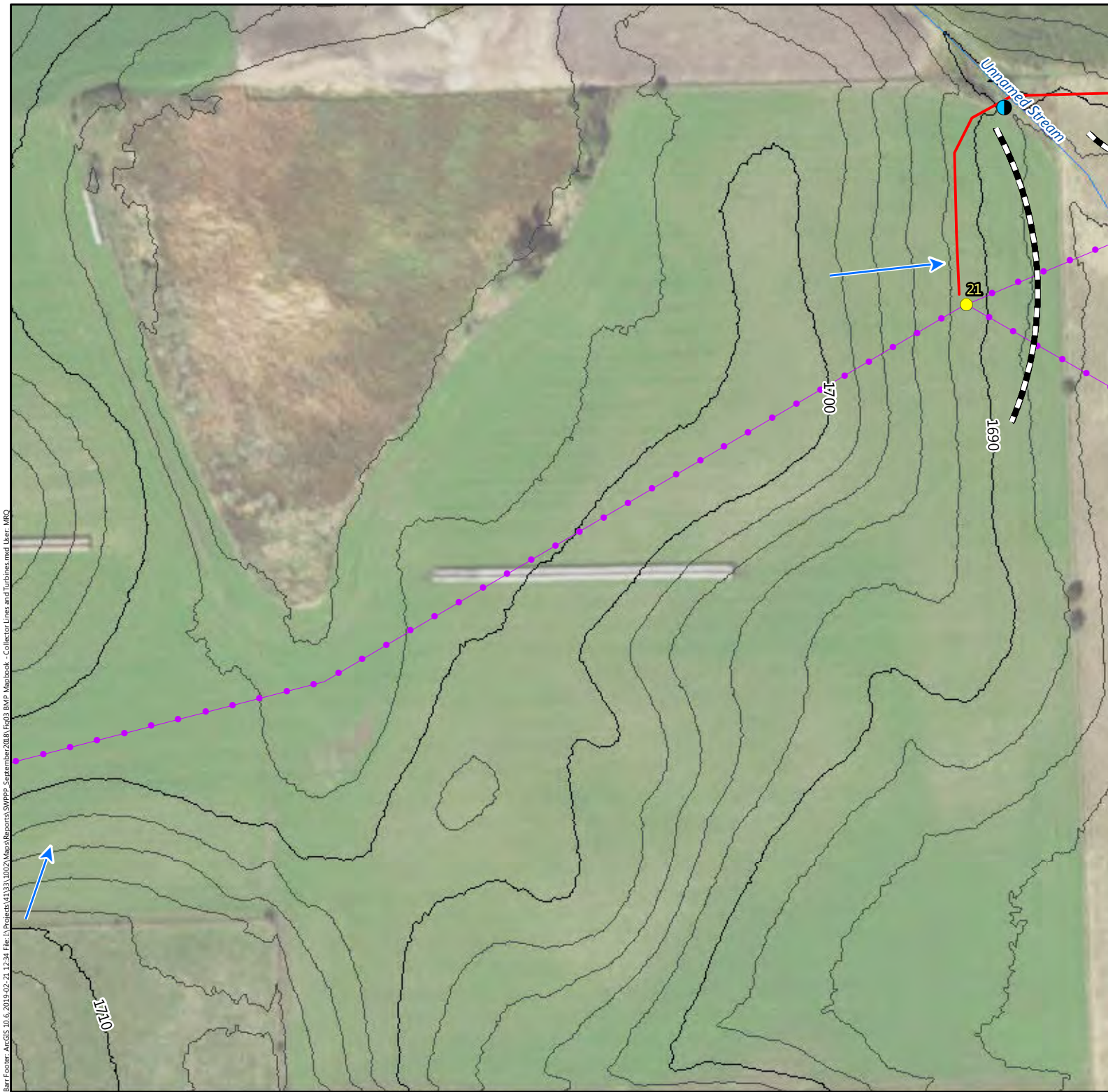
Feet



Figure 3-43

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
Diversiion Ditch, or Earthen  
Berm



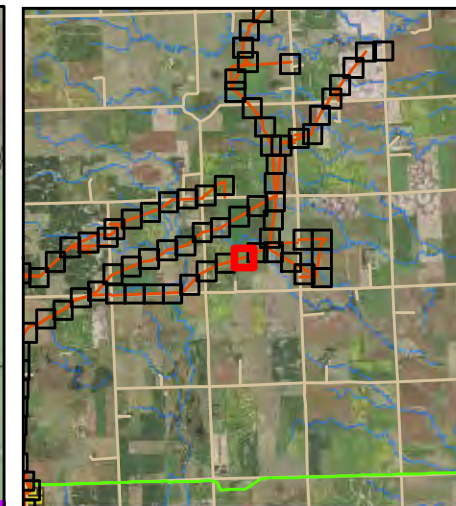
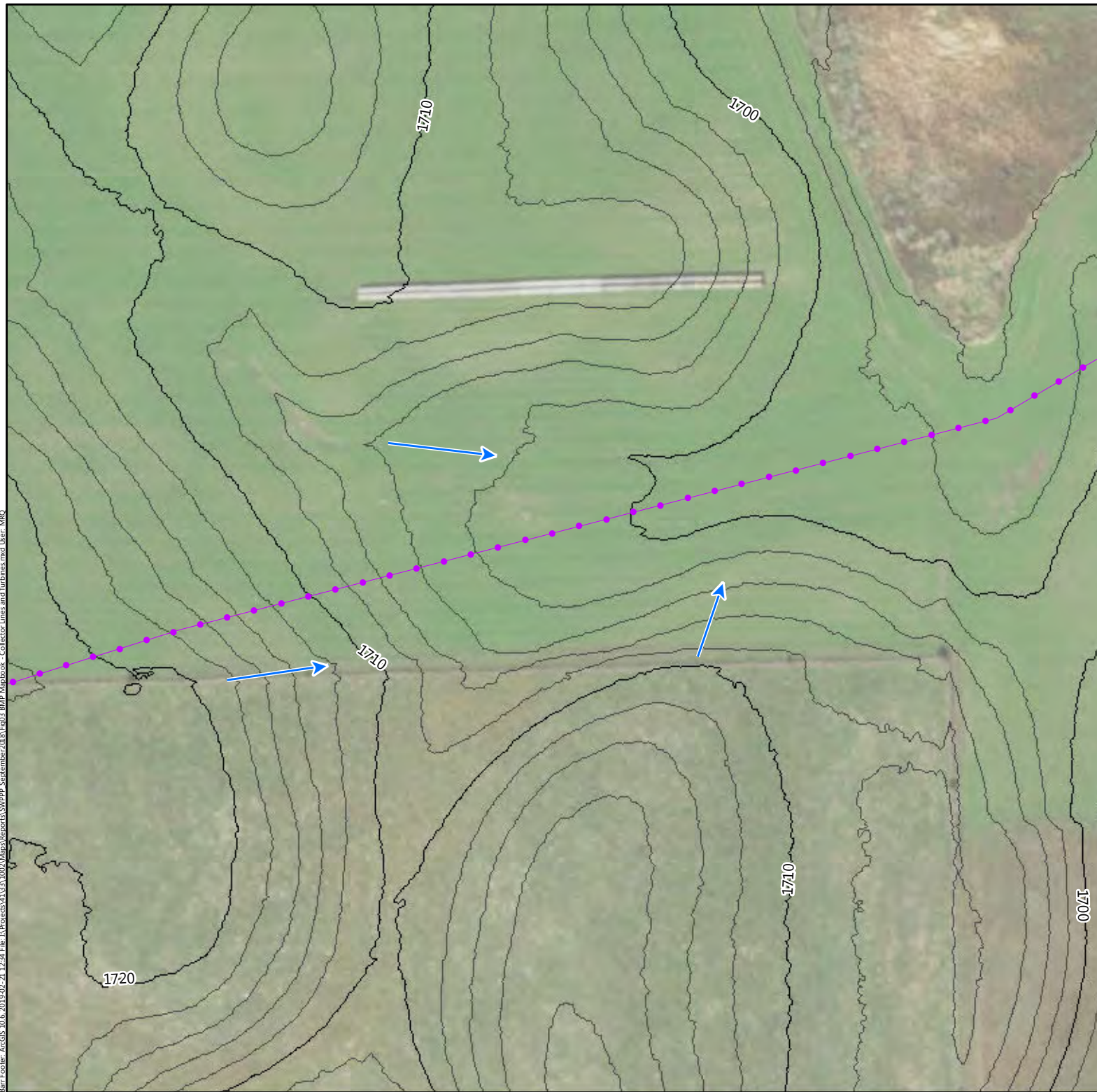
Feet



Figure 3-44

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





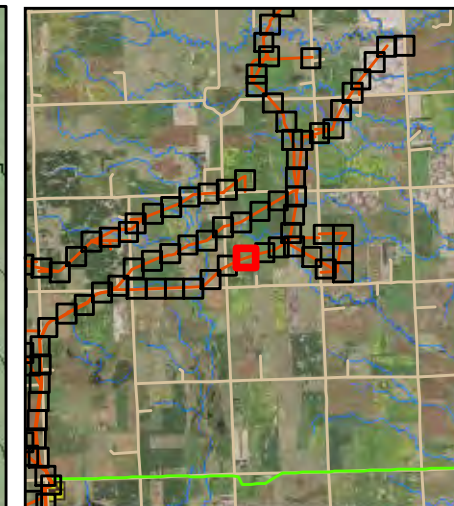
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-45

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





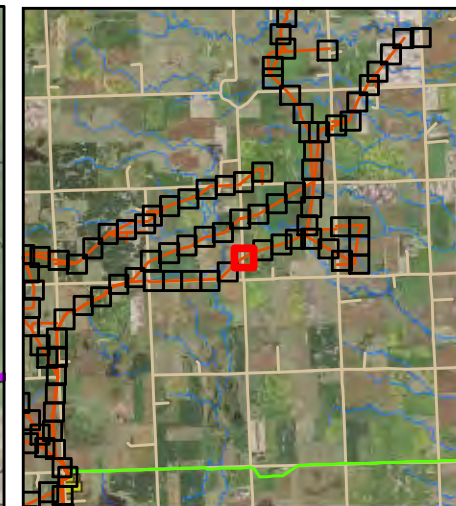
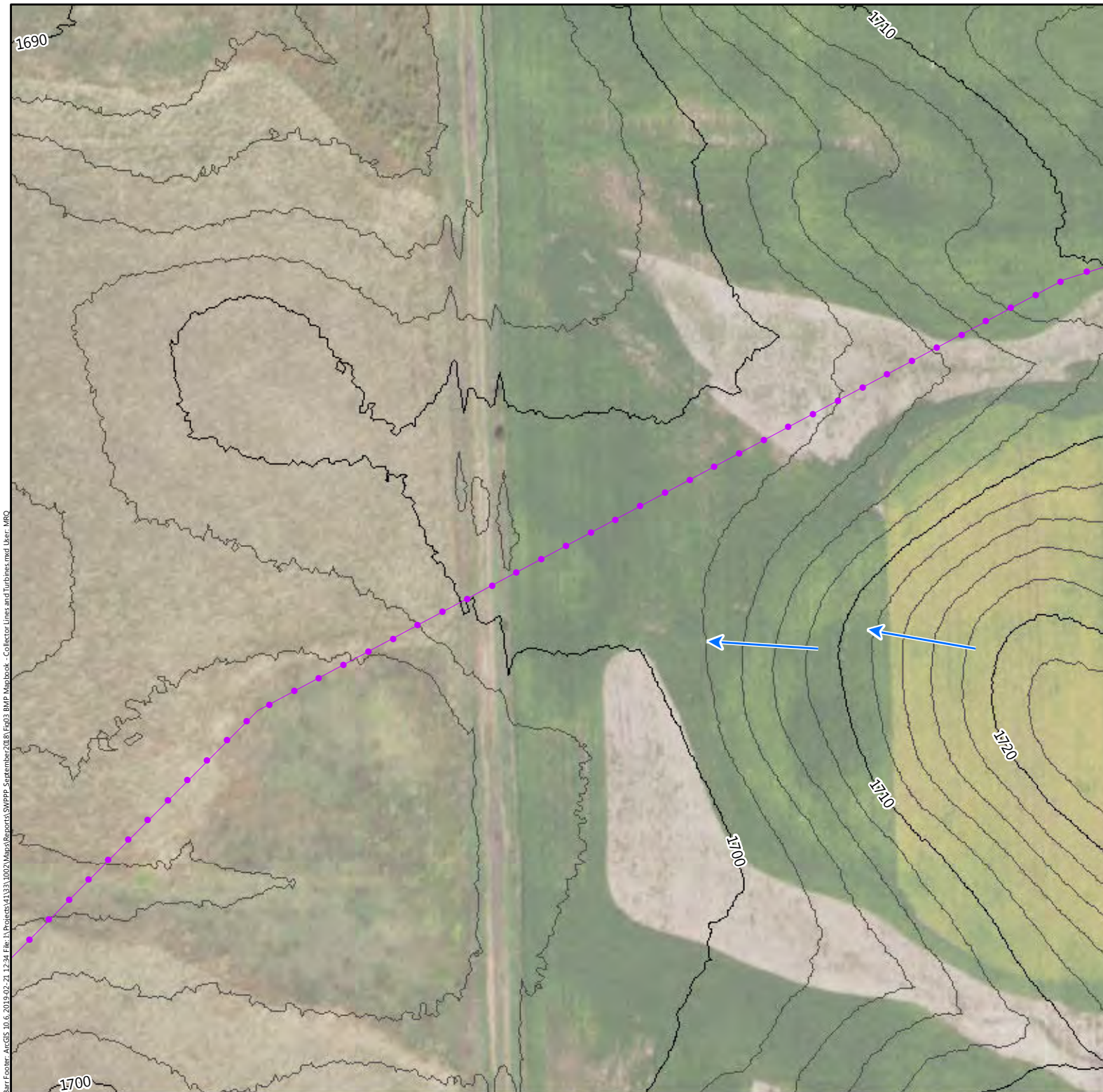
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-46

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





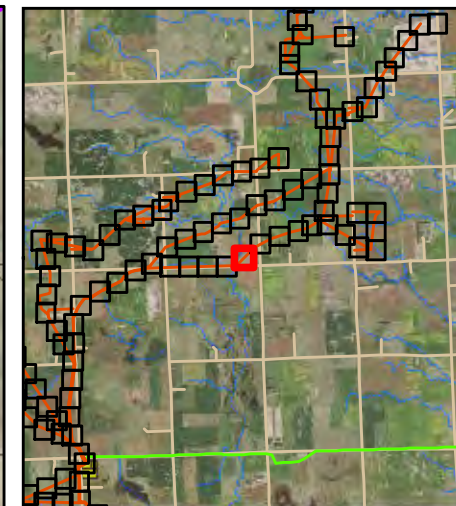
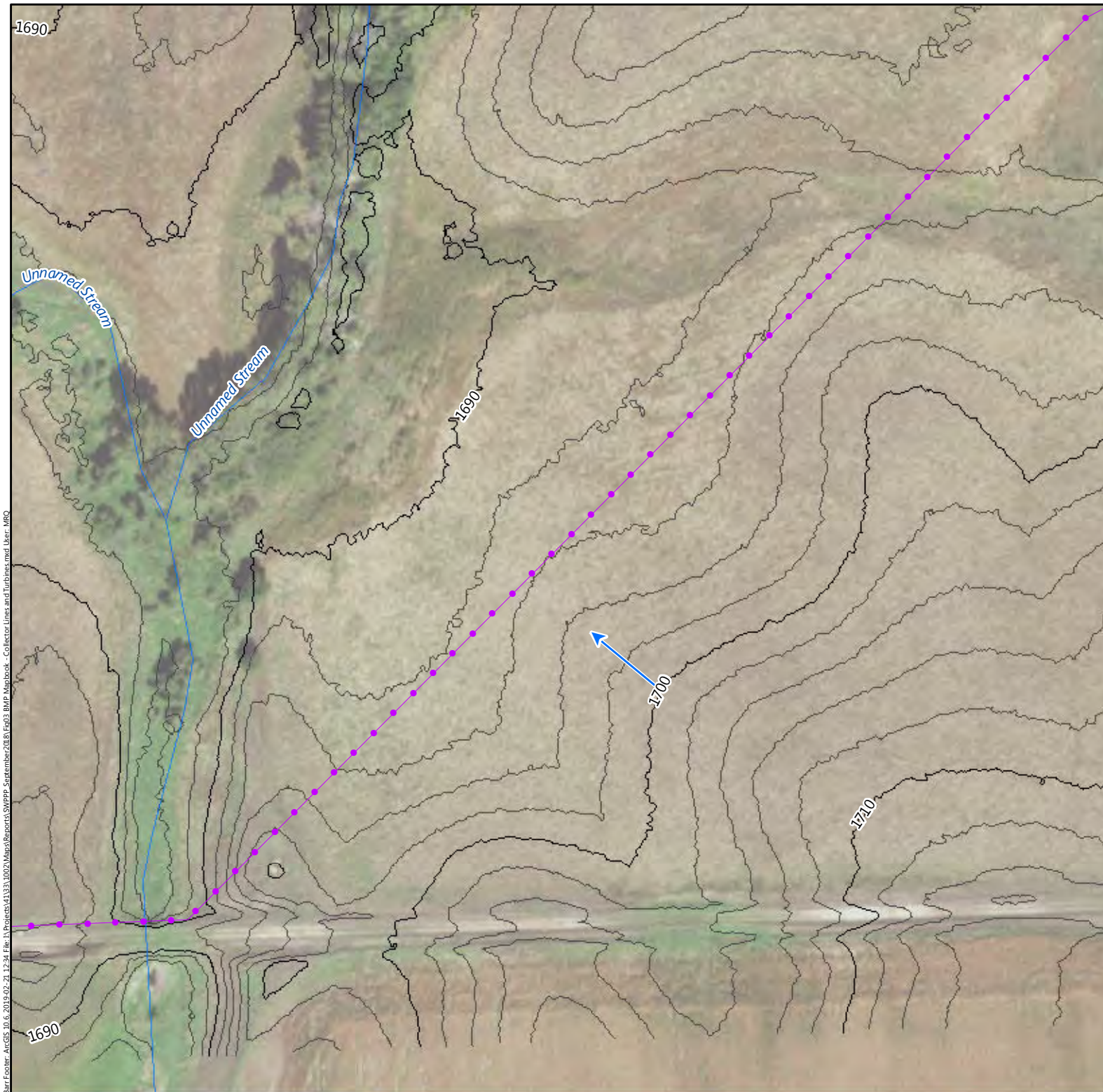
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-47

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





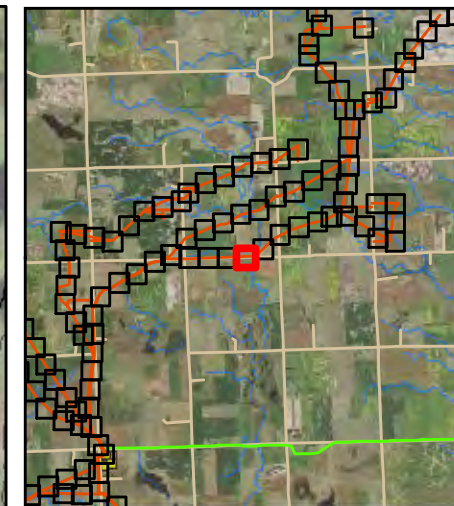
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



Figure 3-48

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





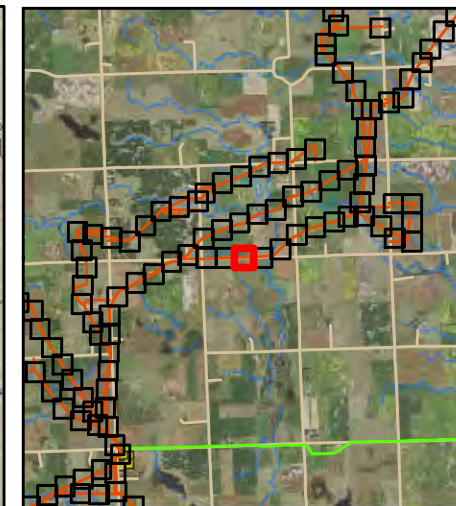
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)



Figure 3-49

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)



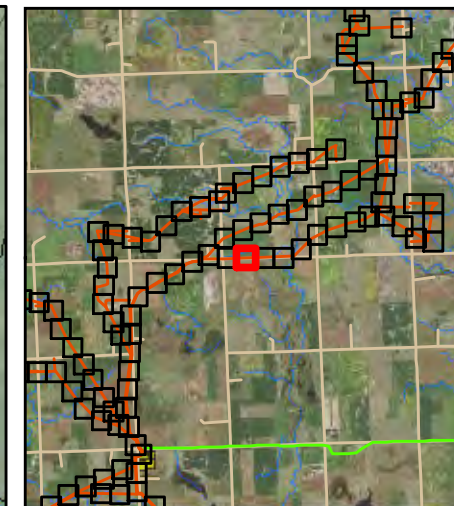
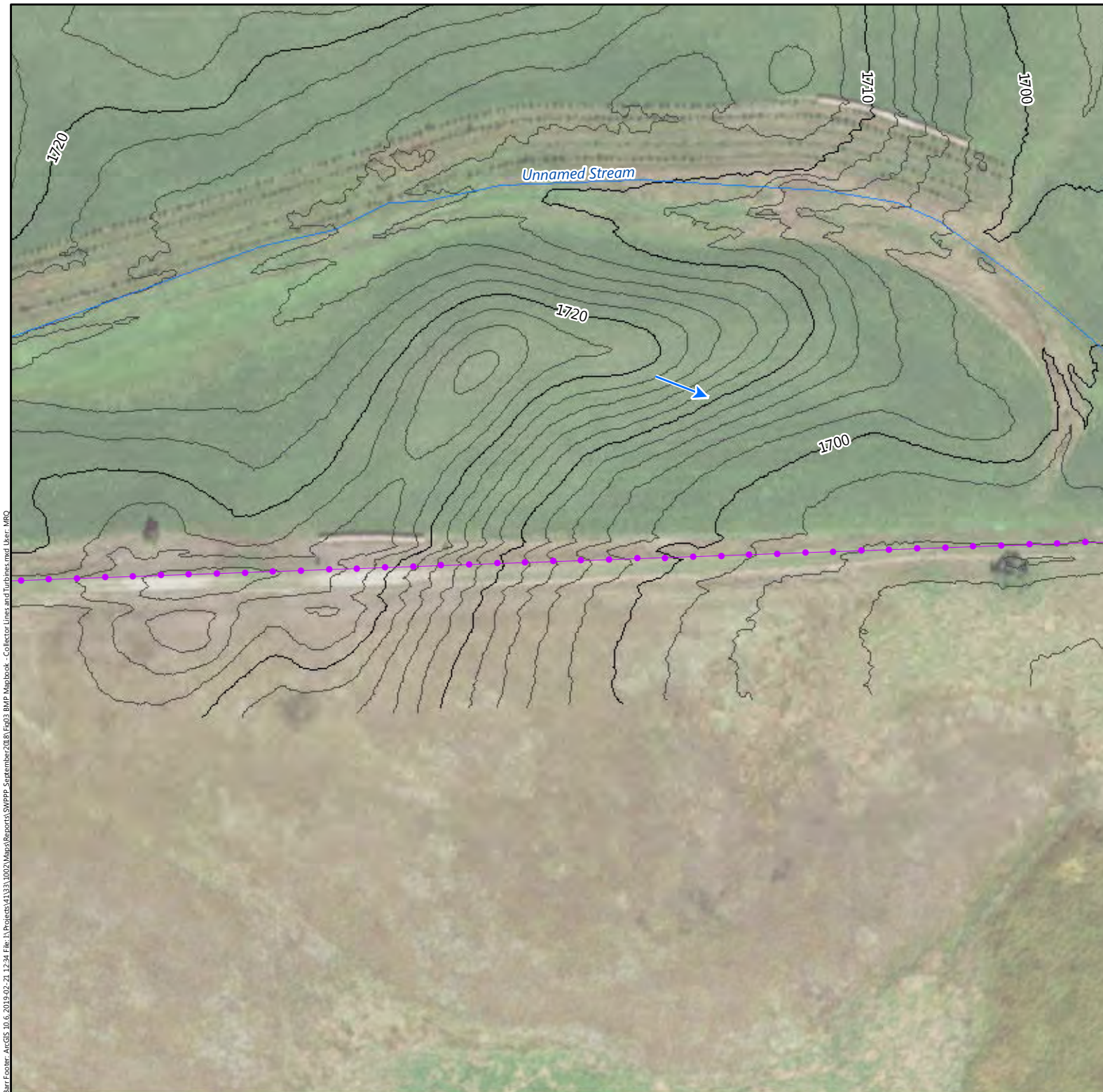
Feet



Figure 3-50

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





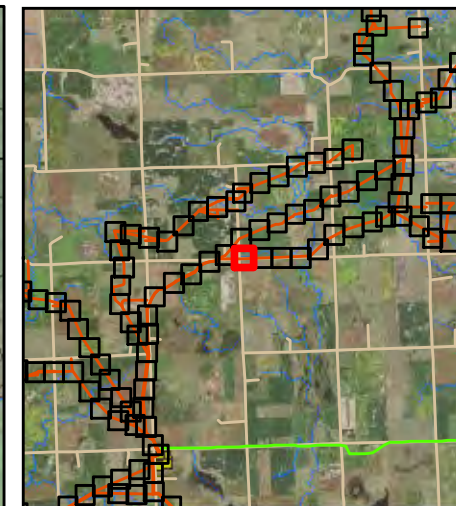
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



Figure 3-51

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- ➔ Flow Direction



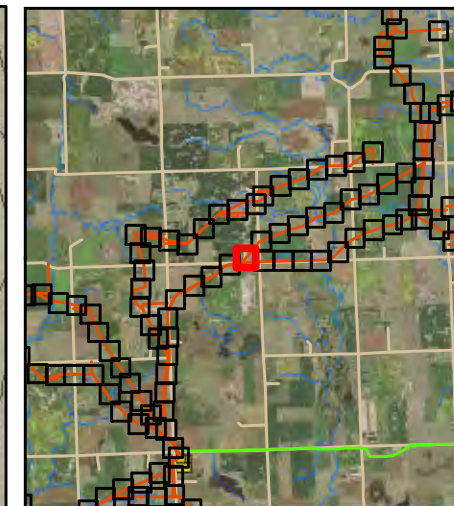
Feet



Figure 3-52

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

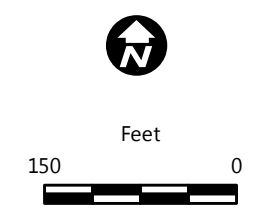
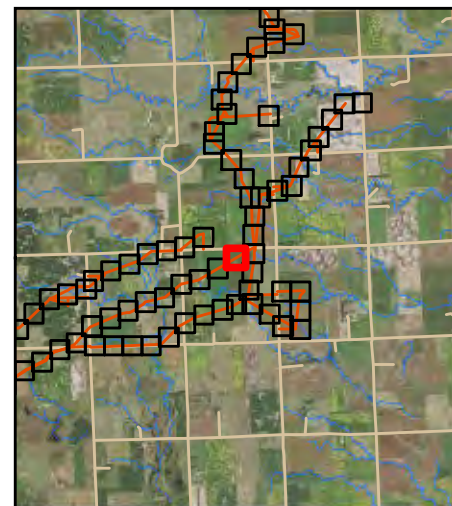
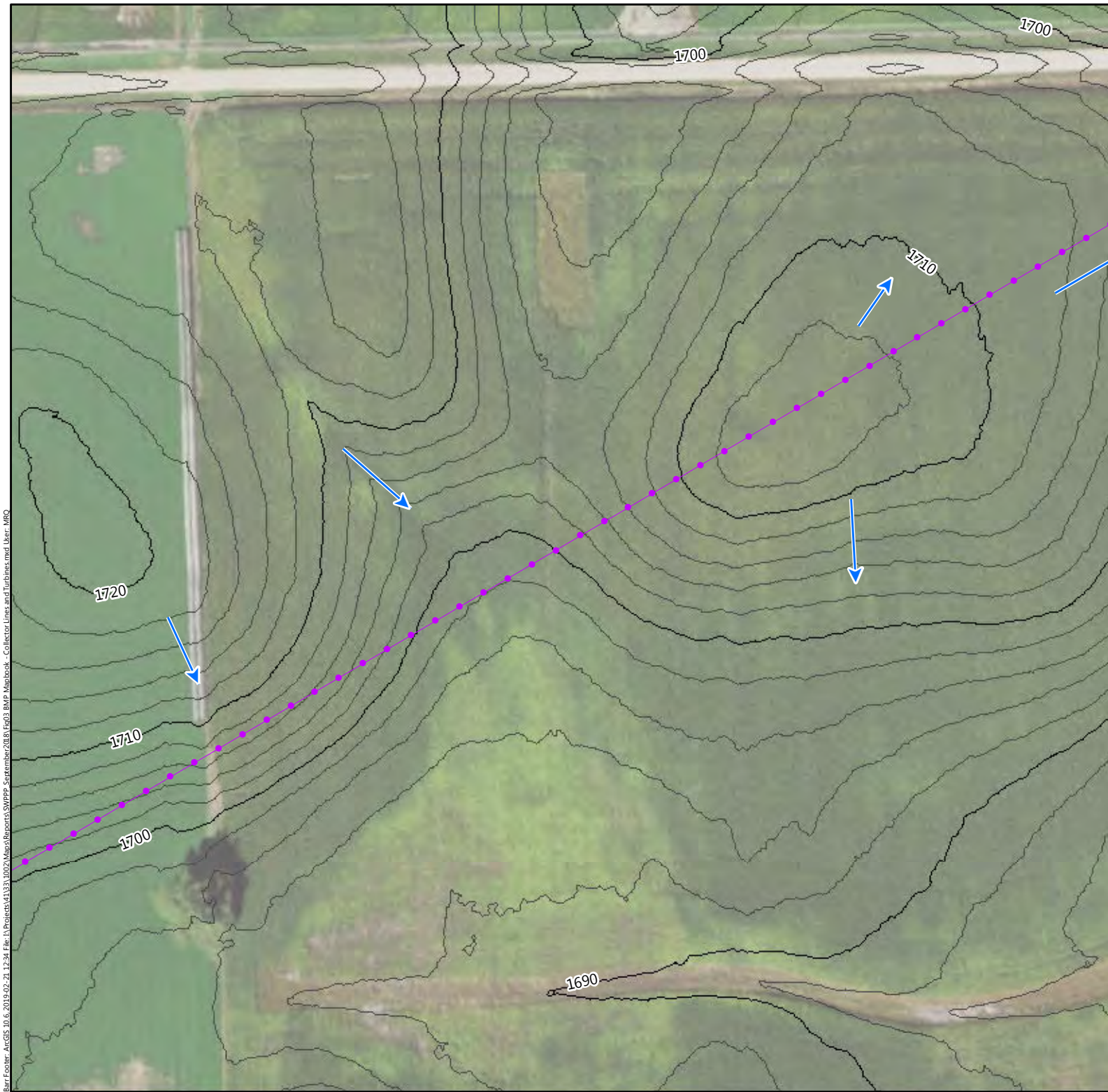


Figure 3-53

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

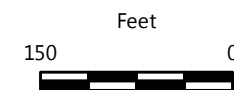
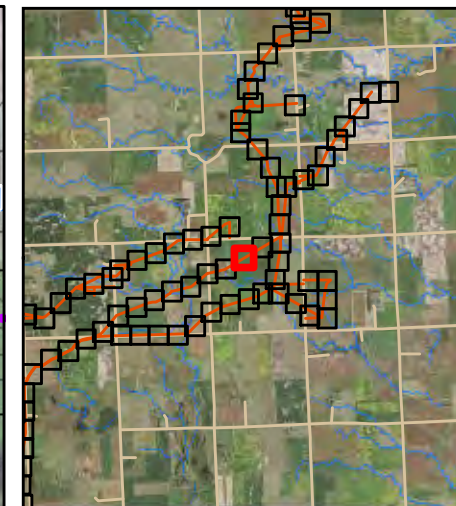
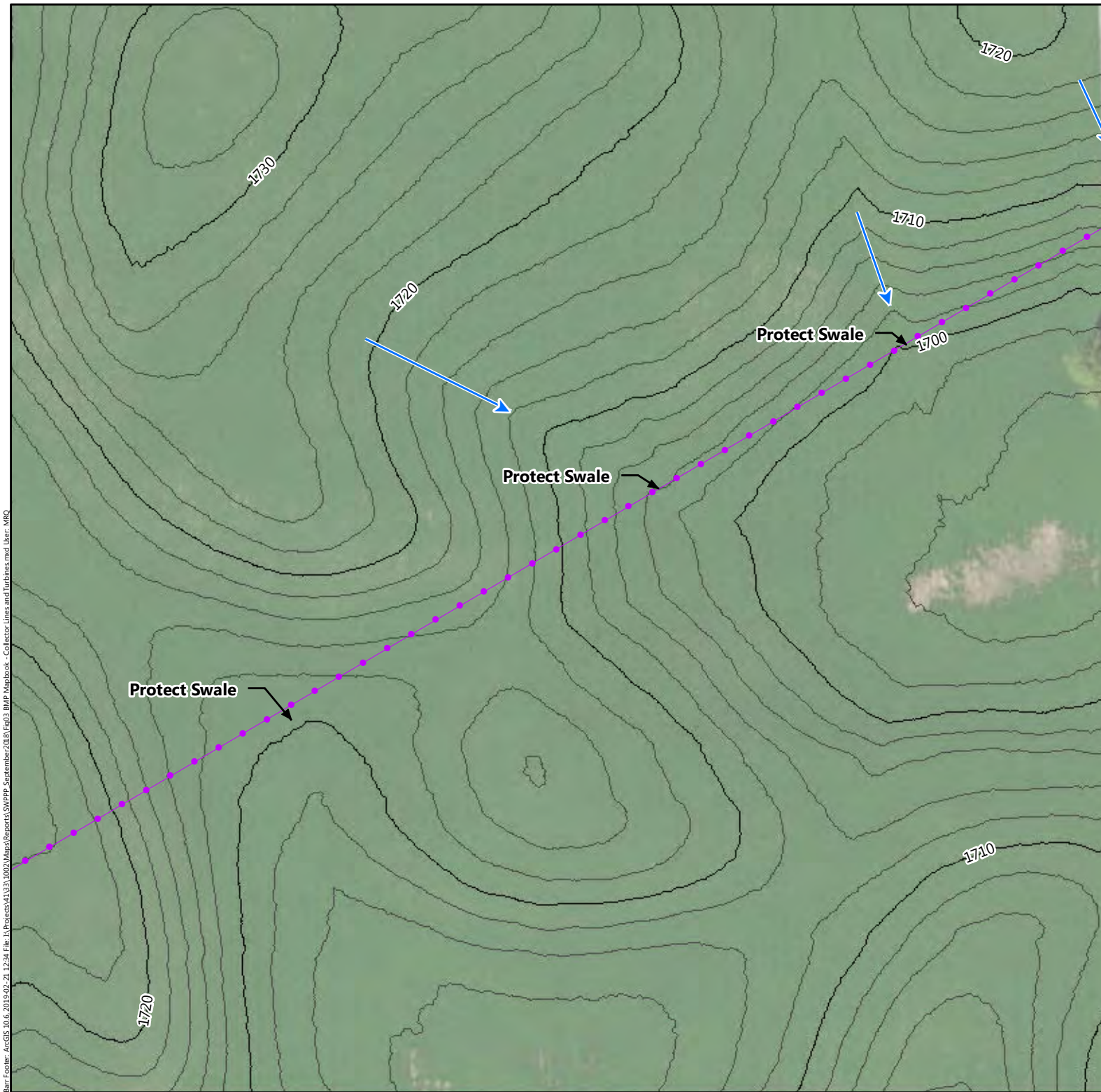


Figure 3-54

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





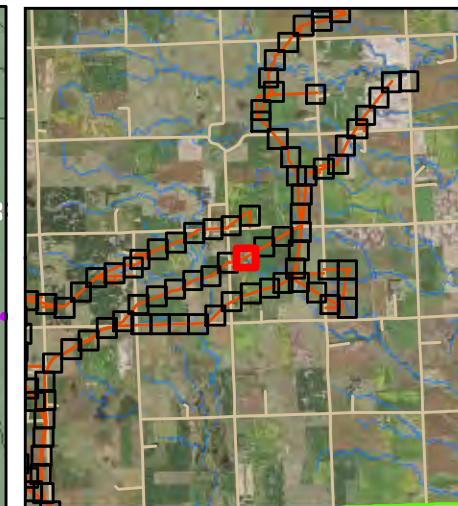
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-55

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~~~~~ Stream/River (USGS Dataset)
- ~~~~~ Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Ditch/Other, or Earthen  
Berm



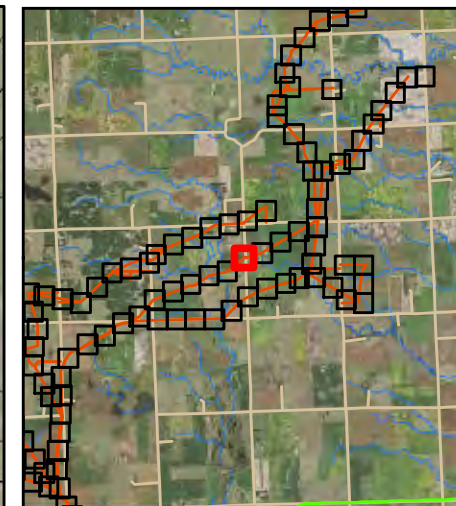
Feet



Figure 3-56

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





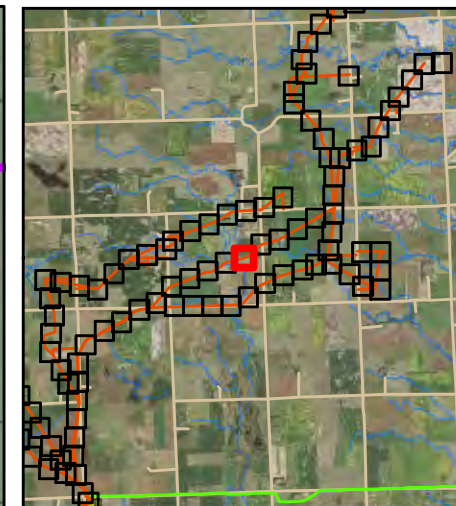
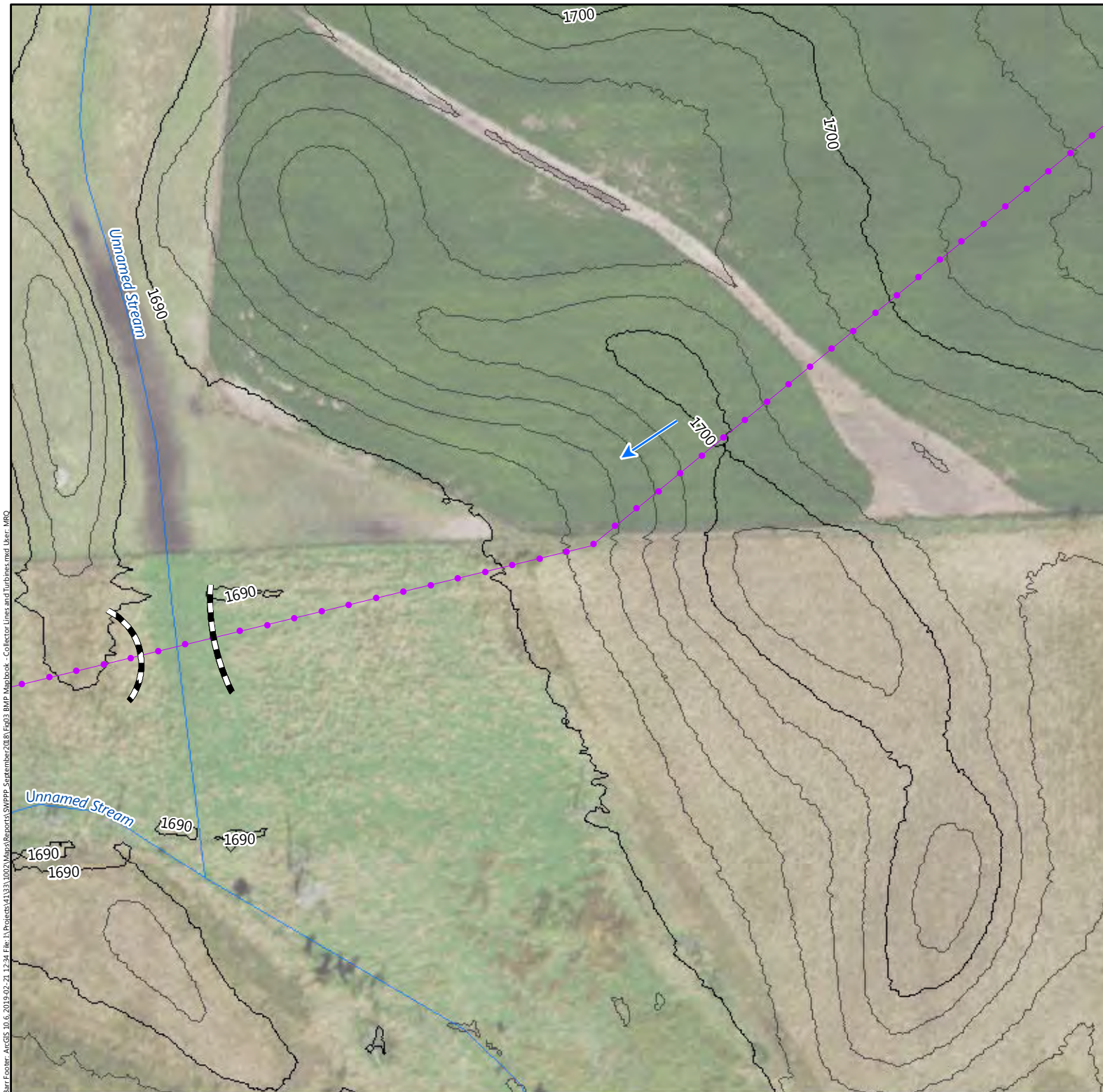
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-57

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





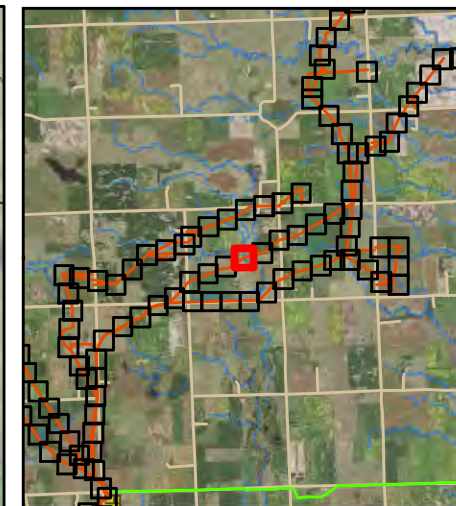
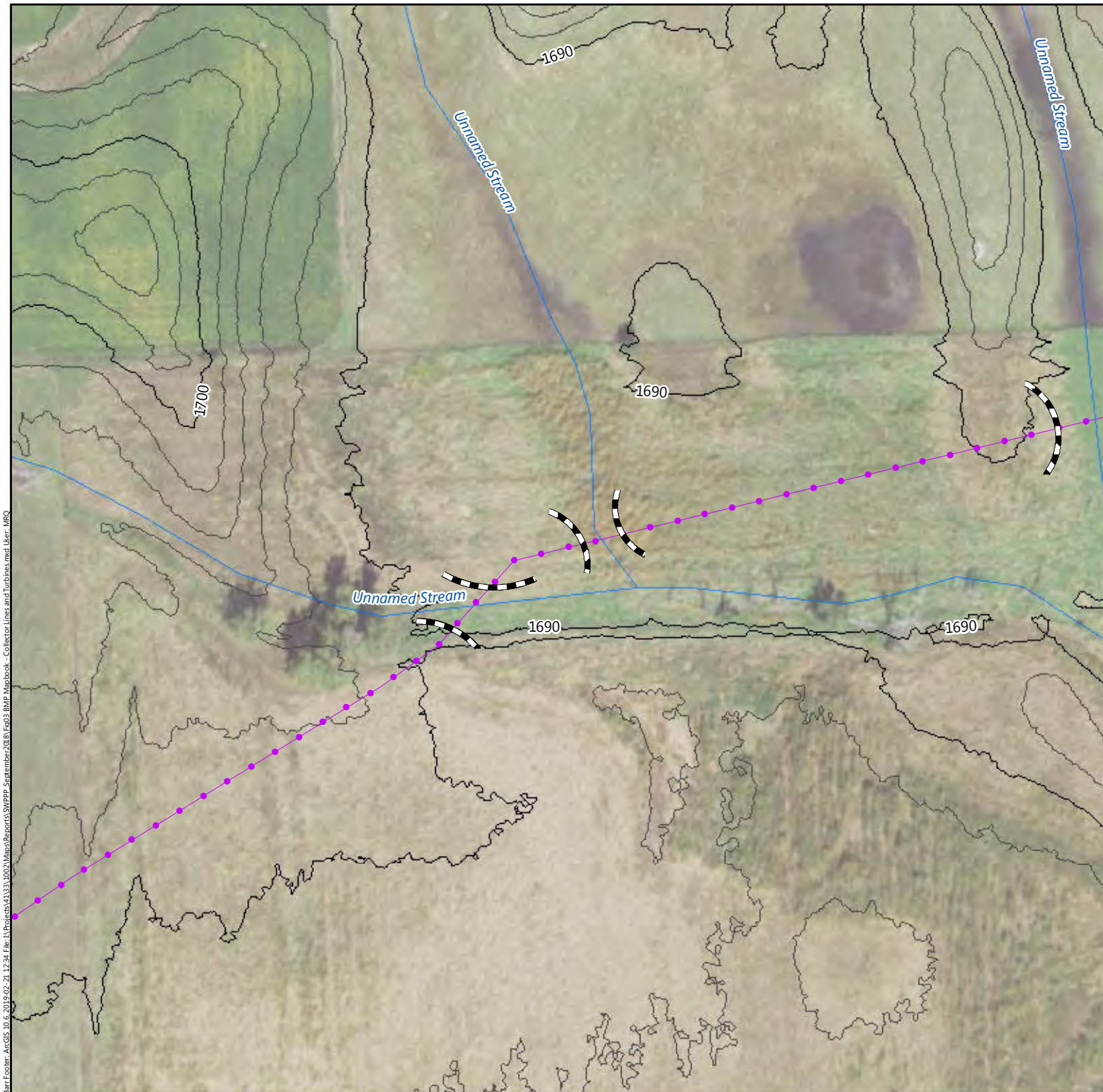
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-58

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





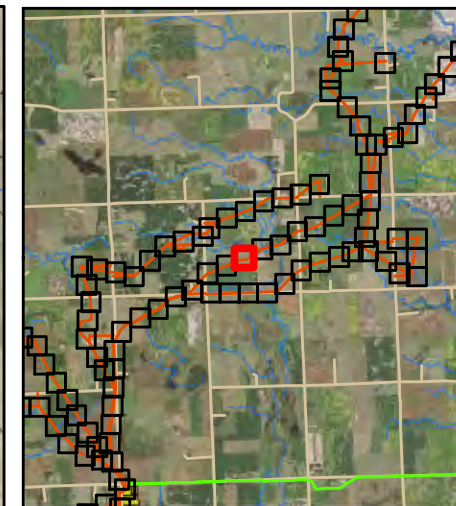
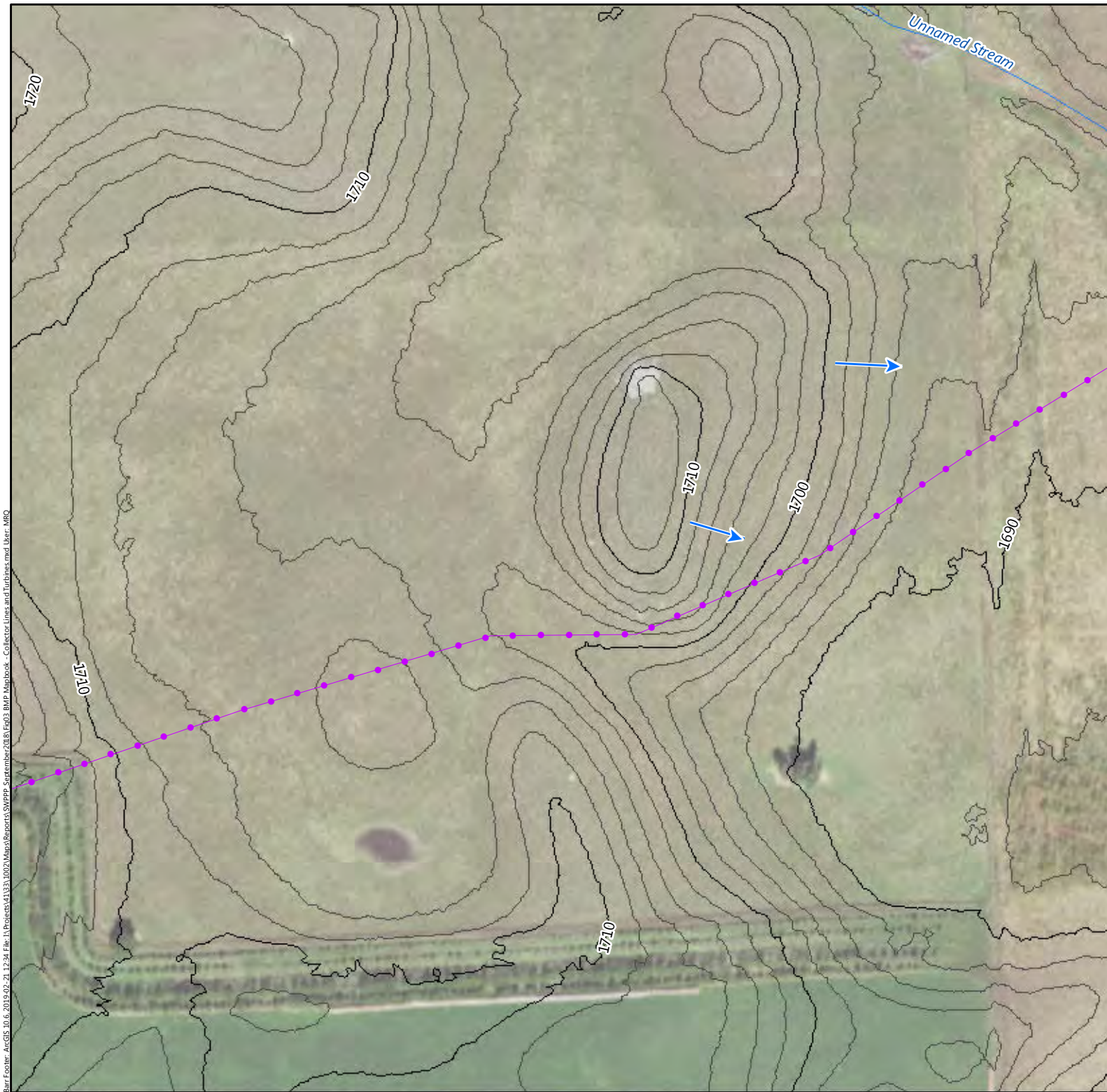
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Sediment Logs, Silt Fence,  
- - - Diversion Ditch, or Earthen Berm



Figure 3-59

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction



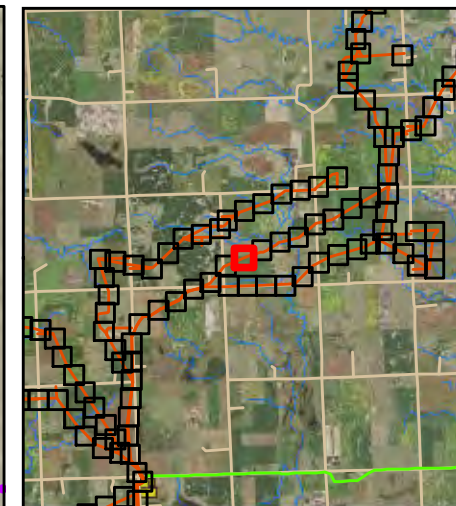
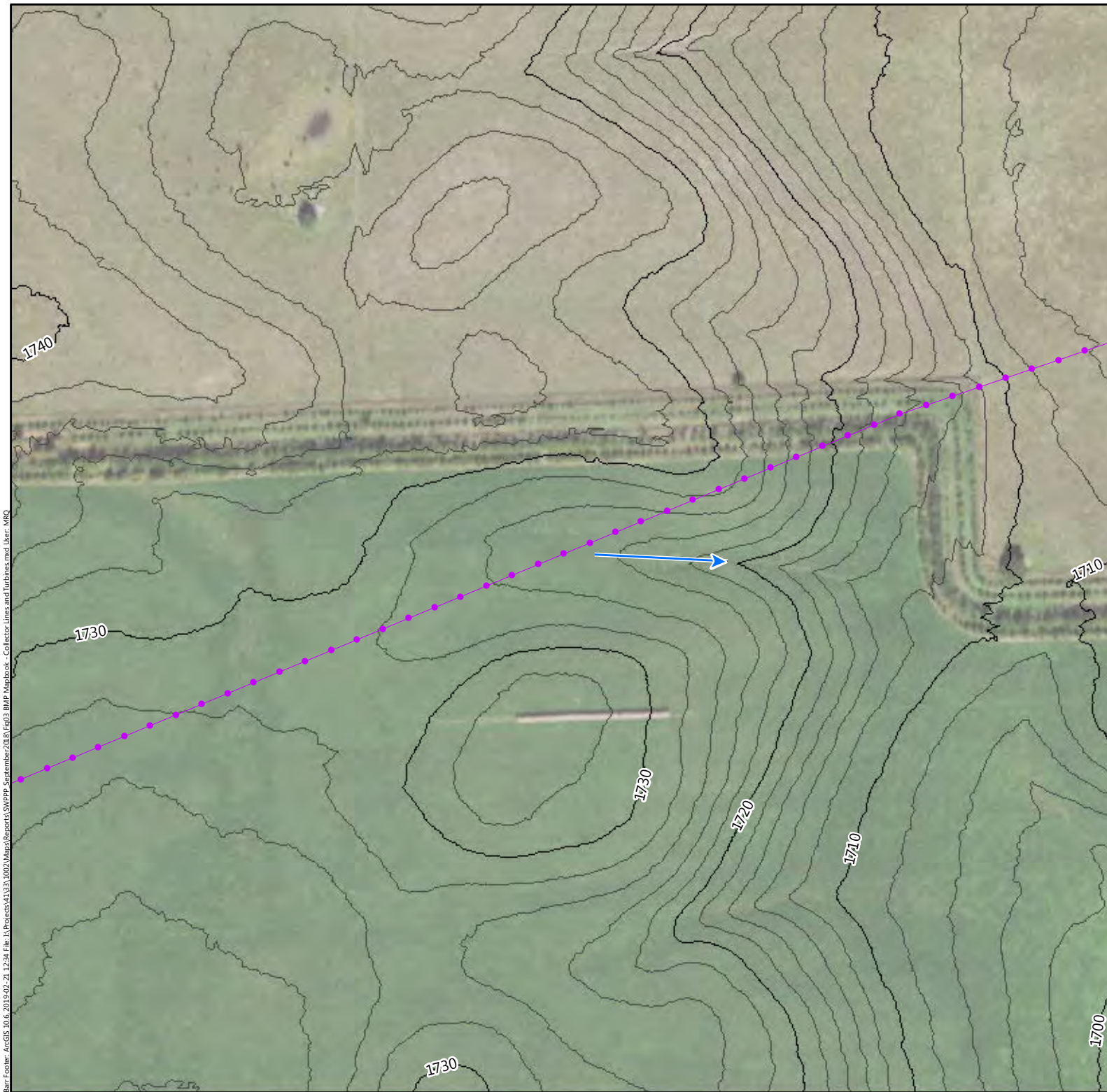
Feet



Figure 3-60

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





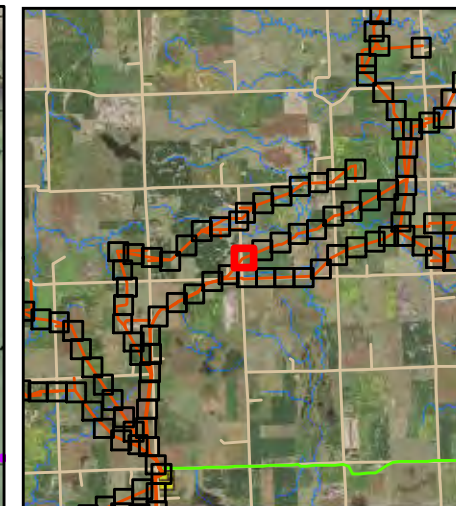
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-61

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

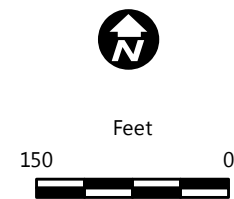
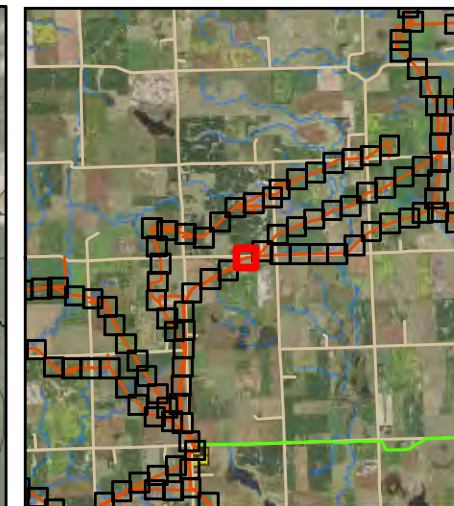


Figure 3-62

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





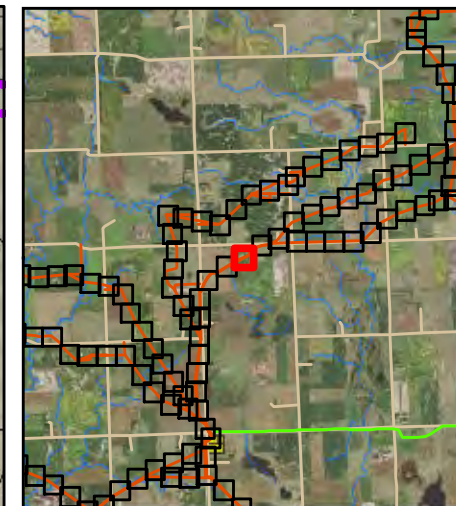
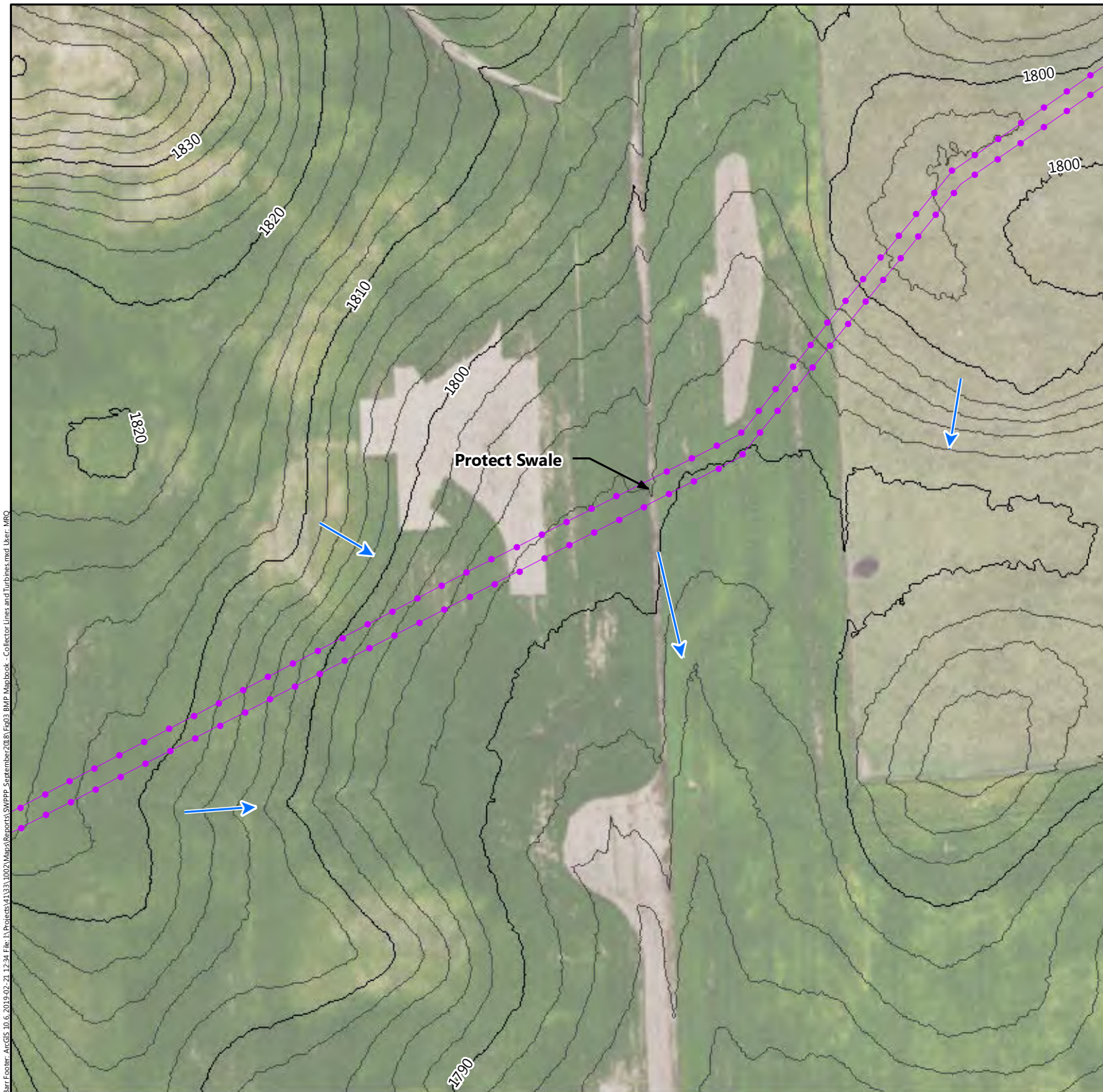
- Collector Lines (1/18/2019)
- ➔ Flow Direction



Figure 3-63

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





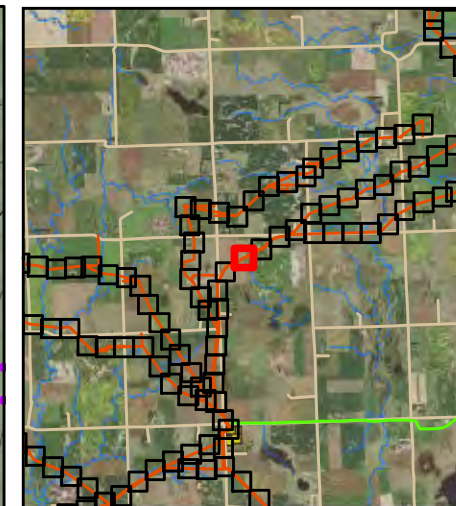
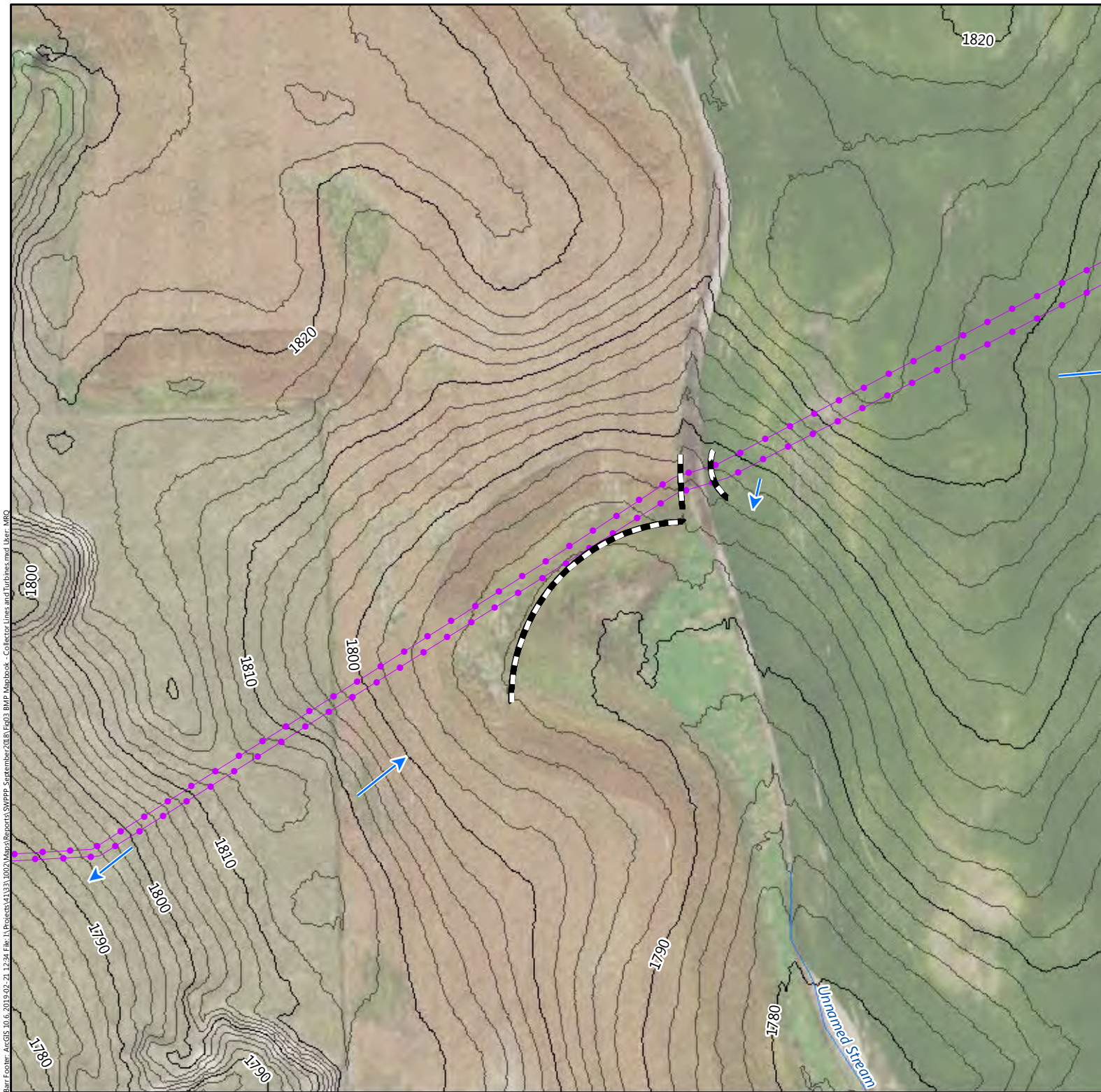
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-64

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm

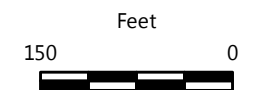
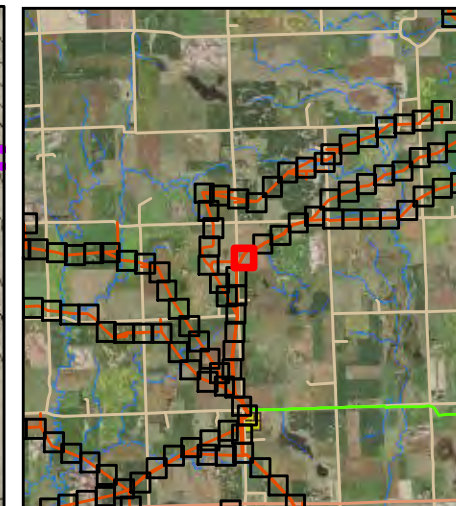


Figure 3-65

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





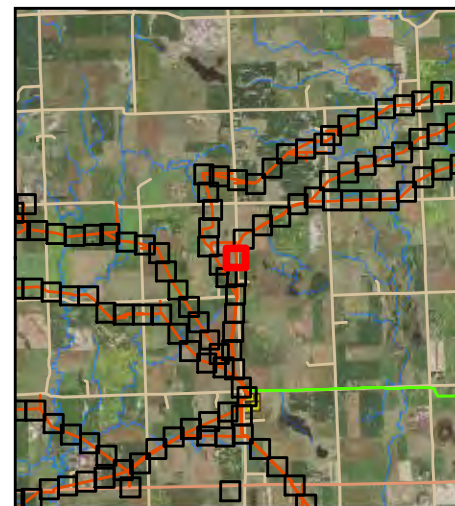
- ⊗ Gate
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➡ Flow Direction



Figure 3-66

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

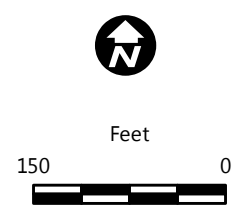
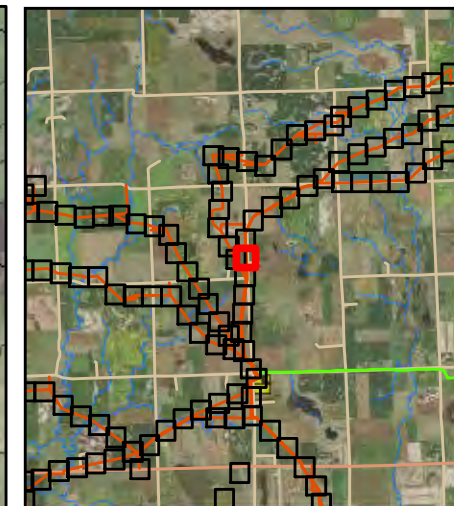


Figure 3-67

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





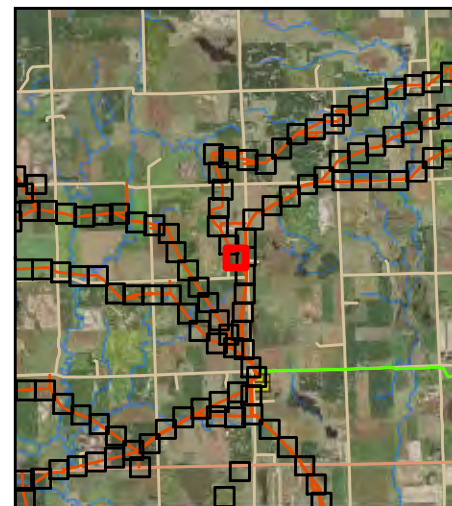
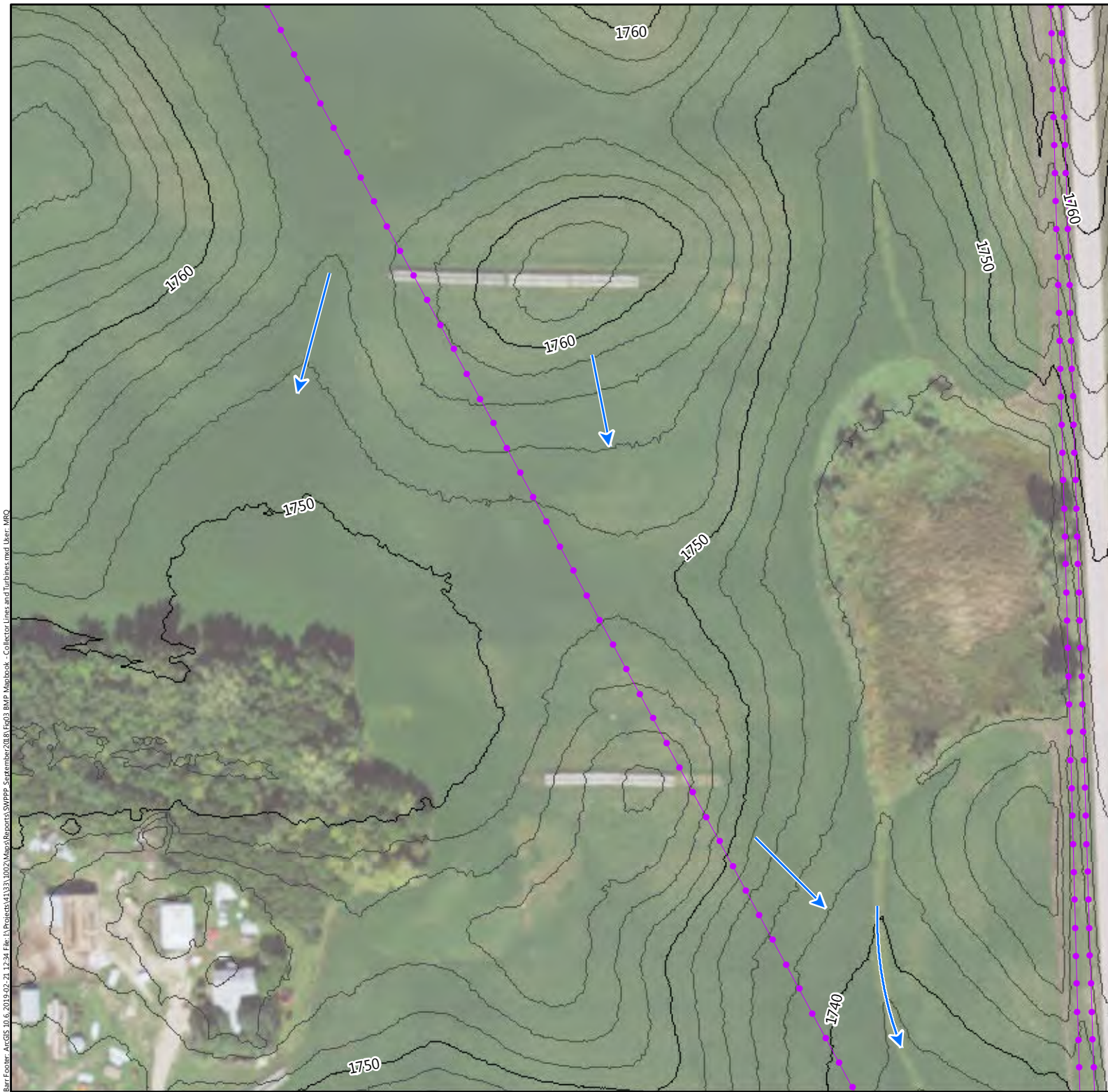
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-68

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

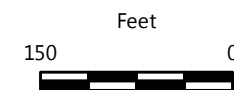
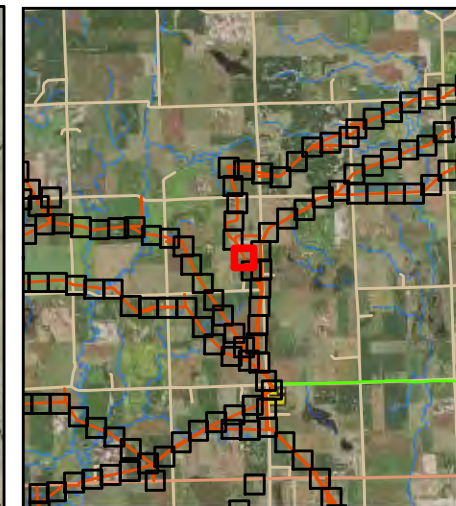
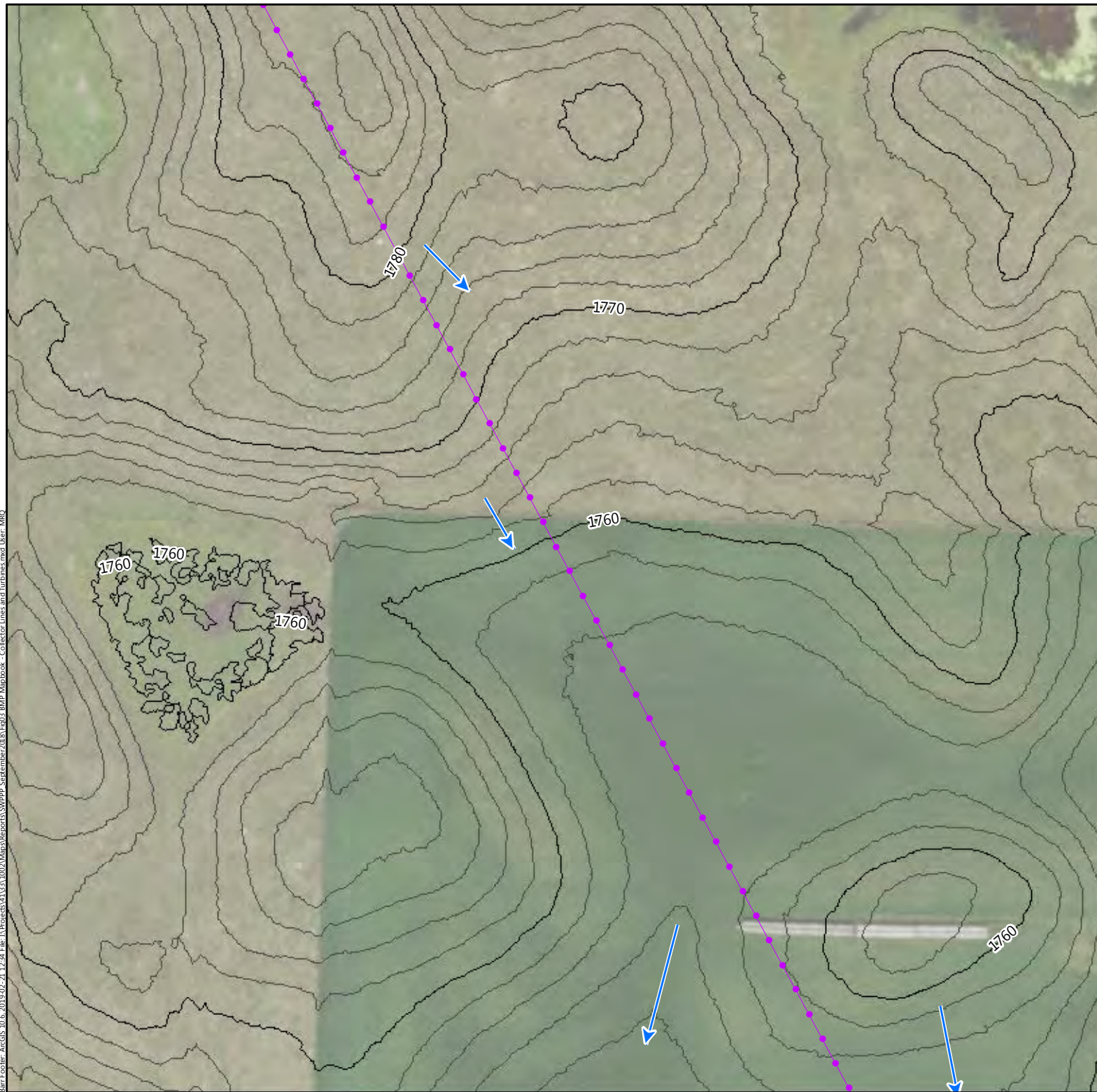


Figure 3-69

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





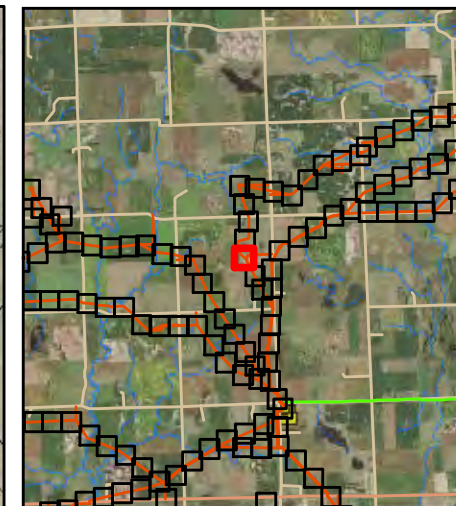
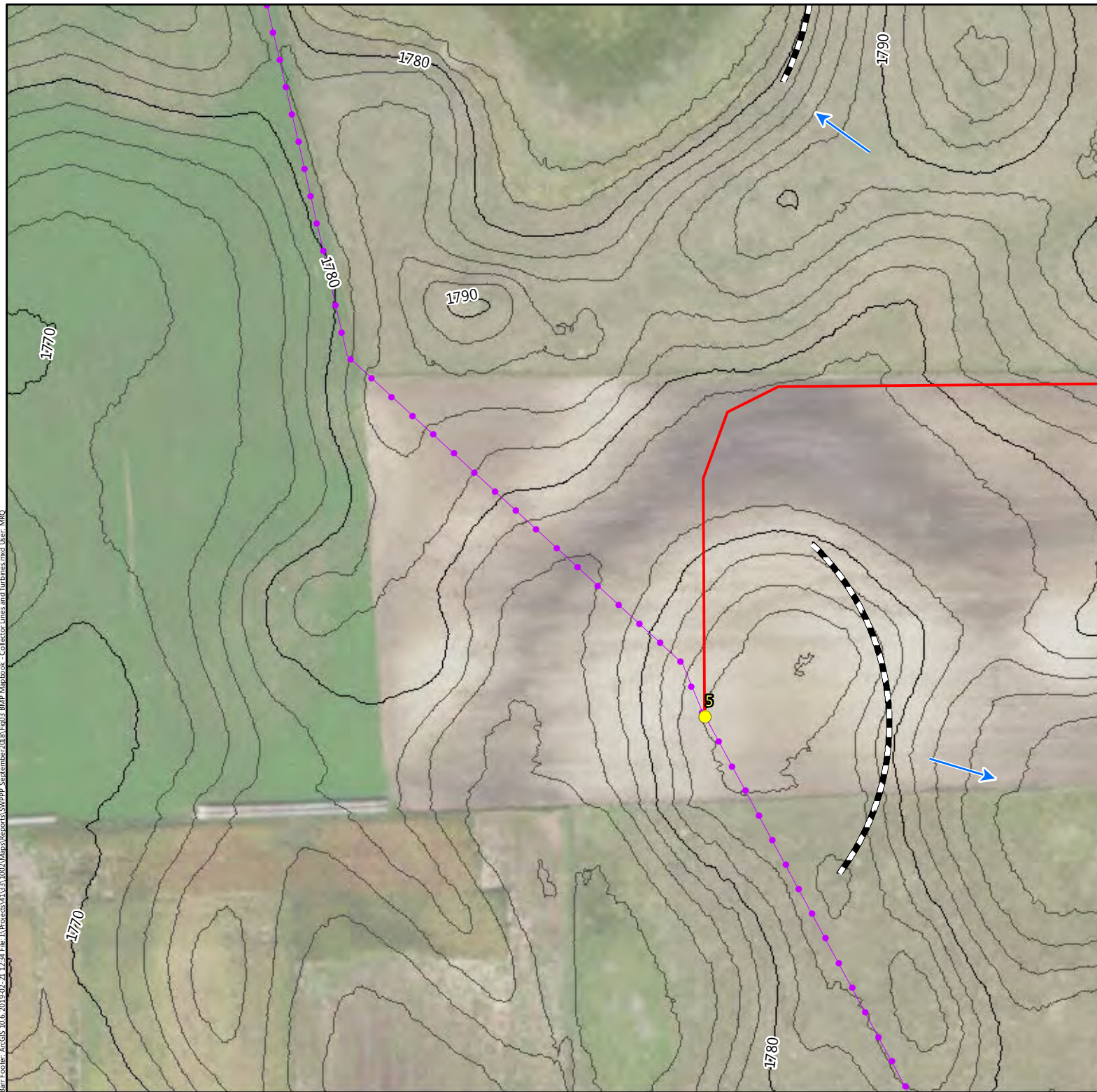
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-70

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





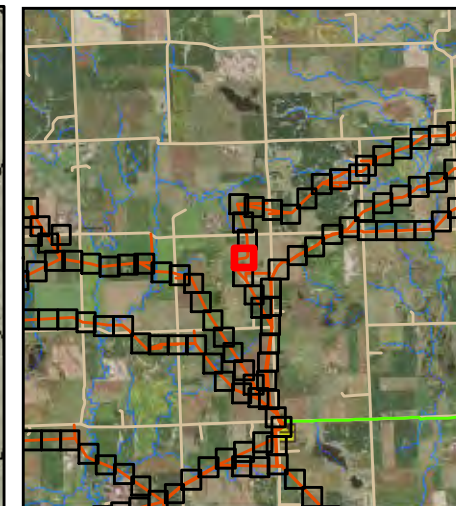
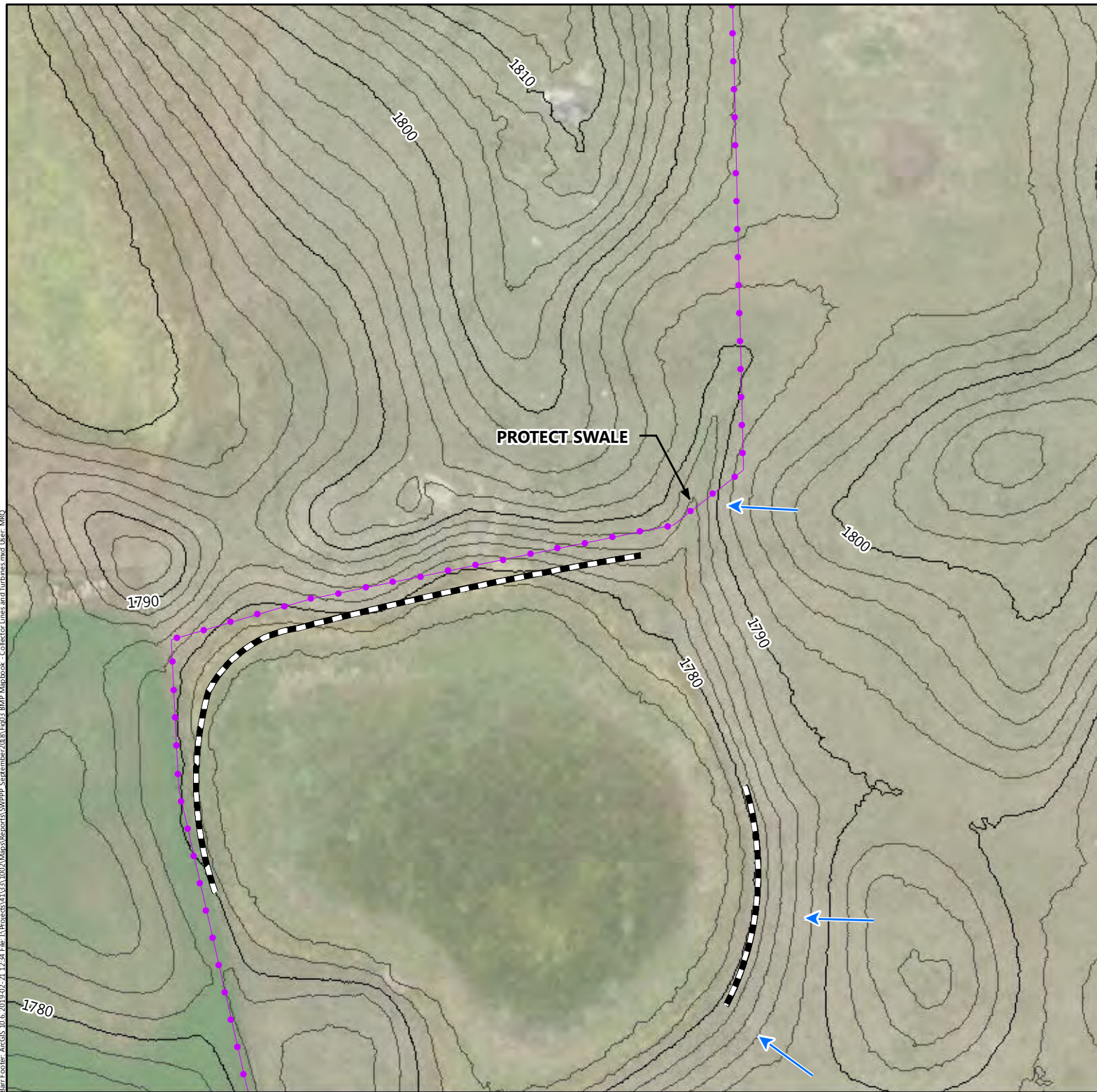
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-71

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





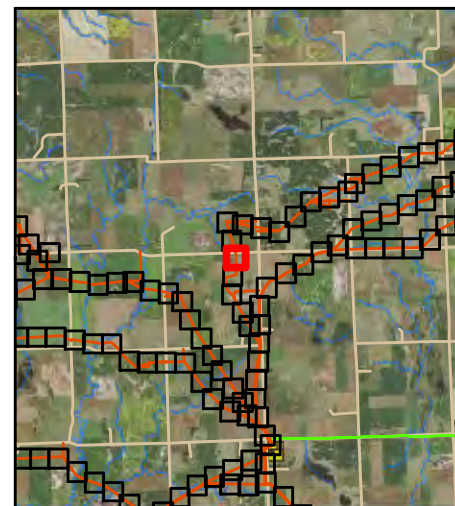
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-72

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm

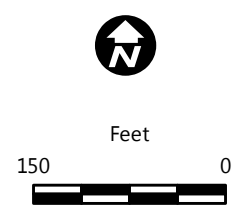
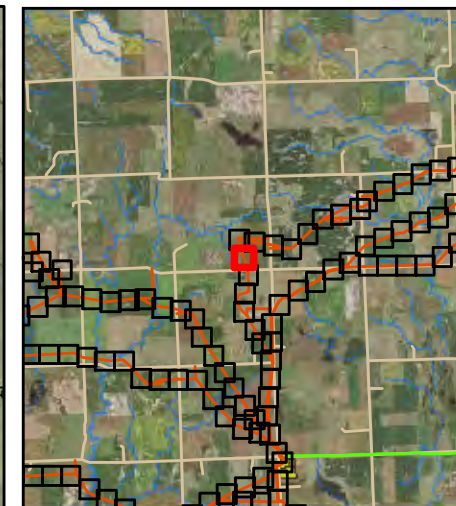
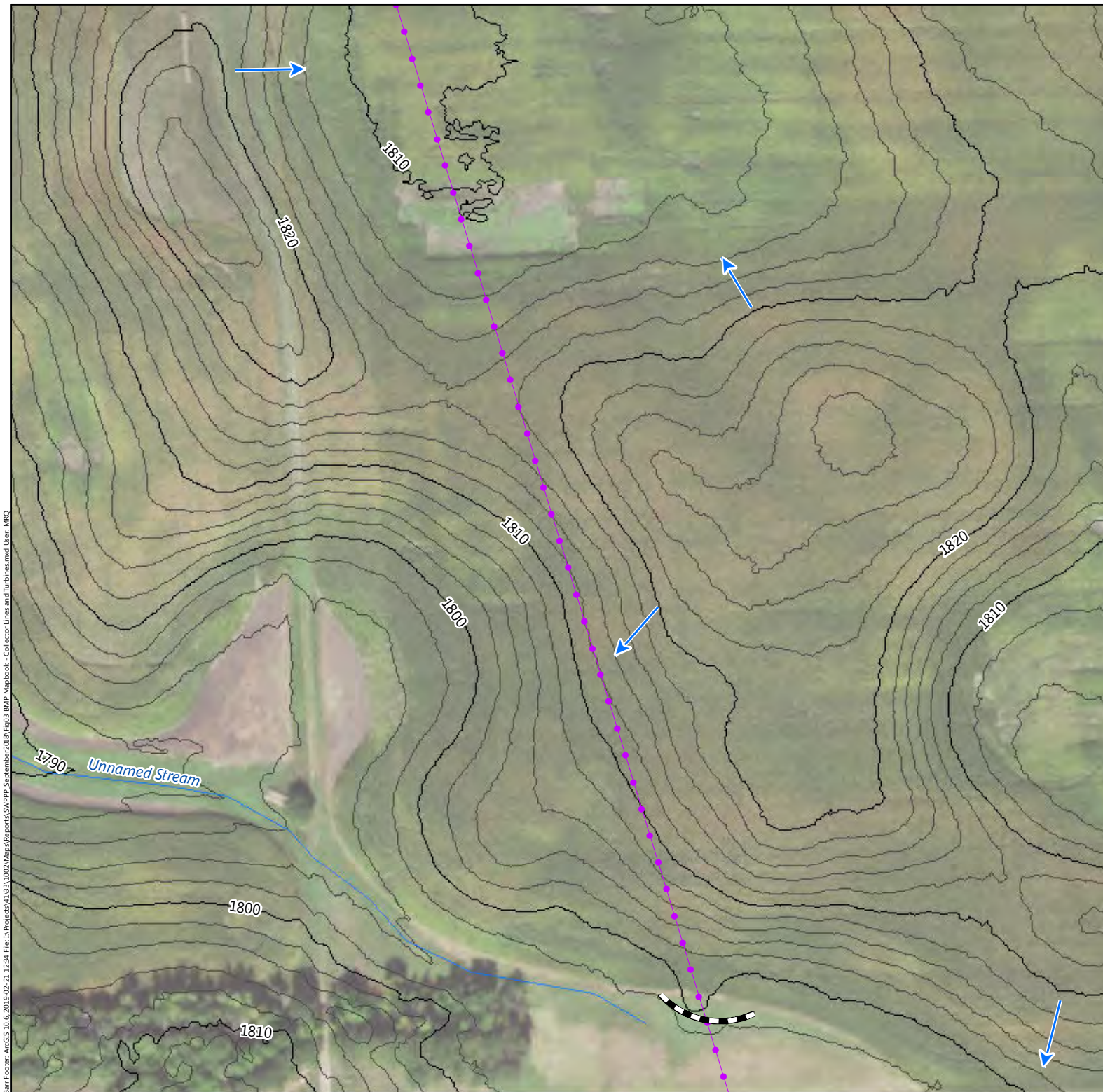


Figure 3-73

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





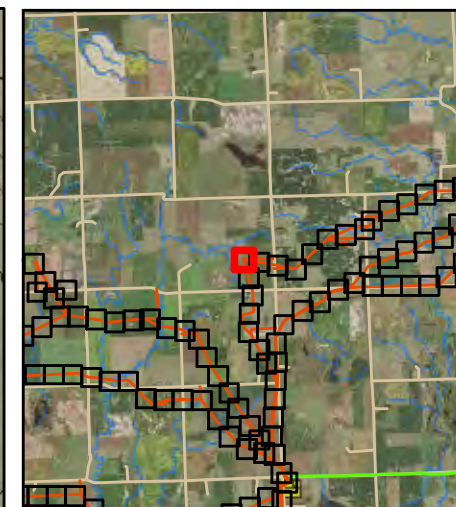
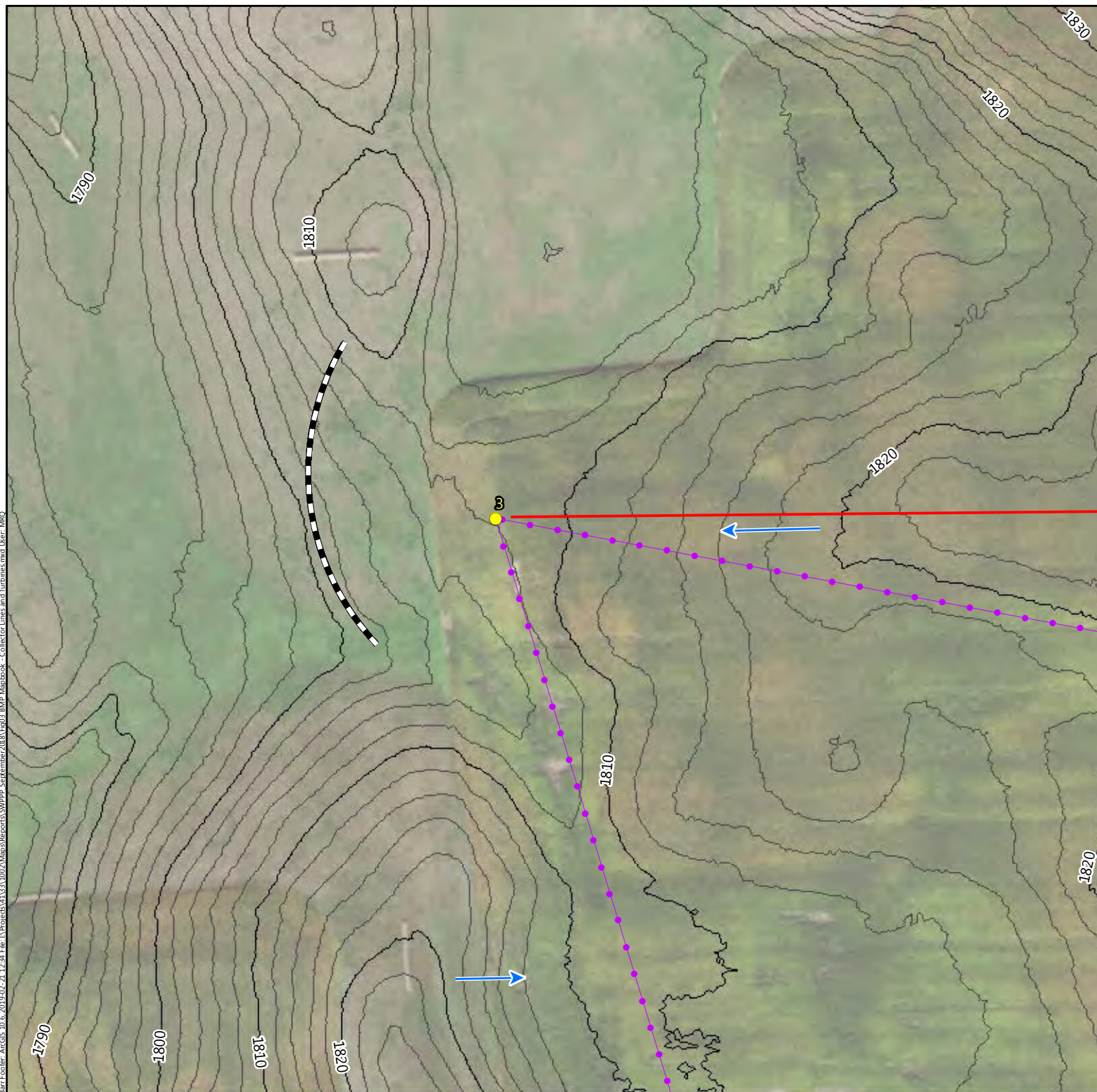
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-74

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





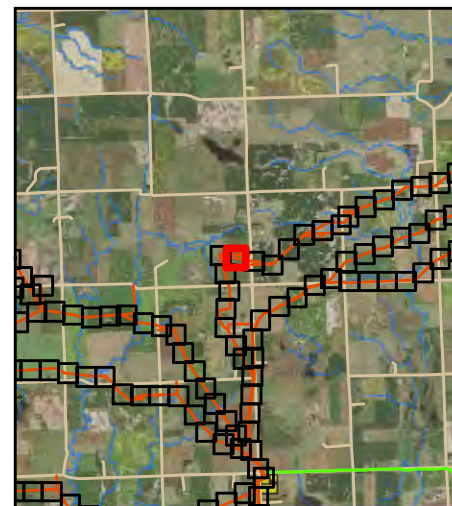
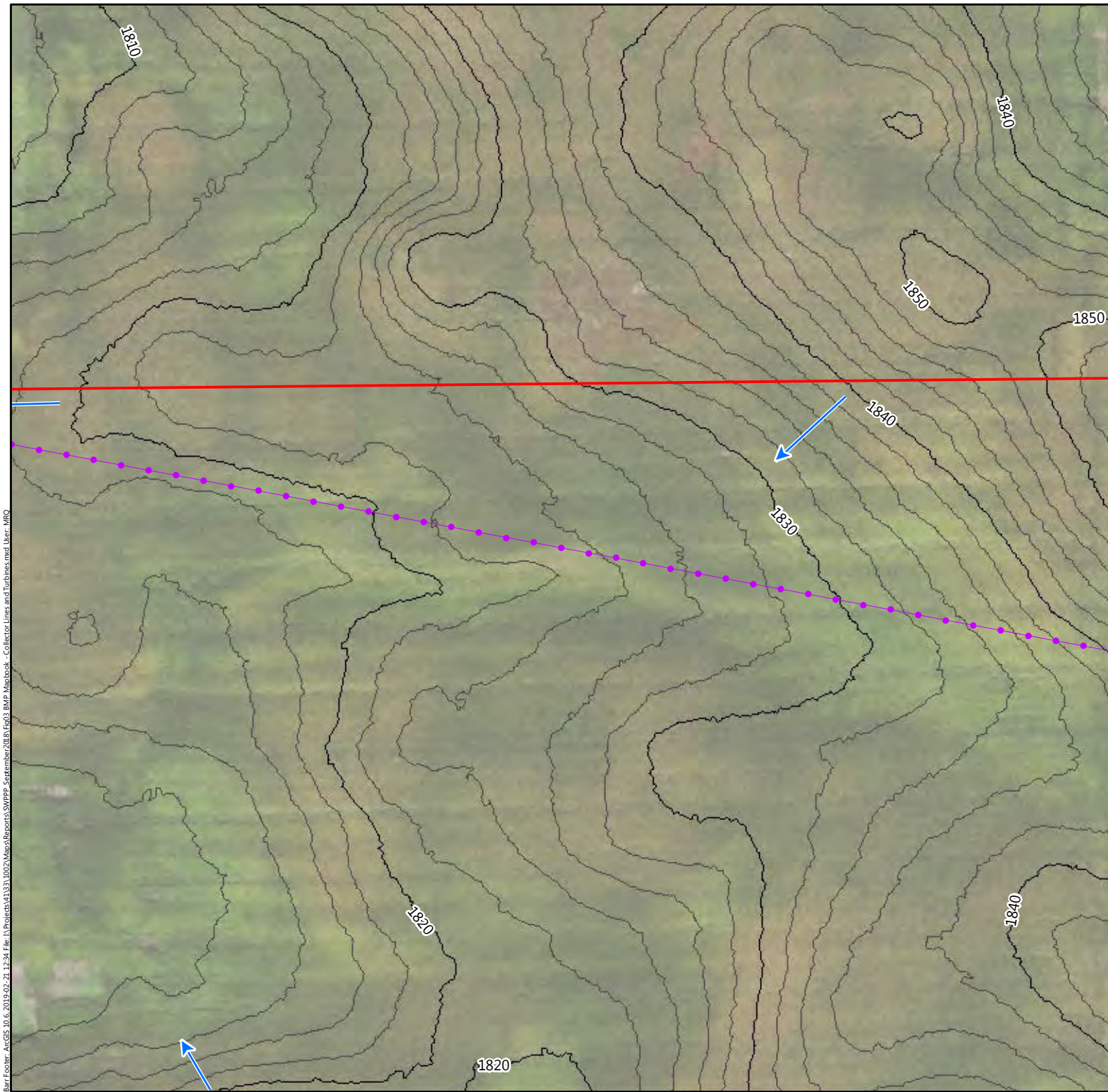
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-75

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction



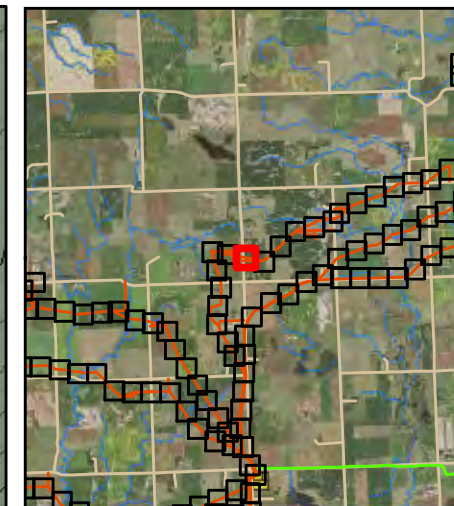
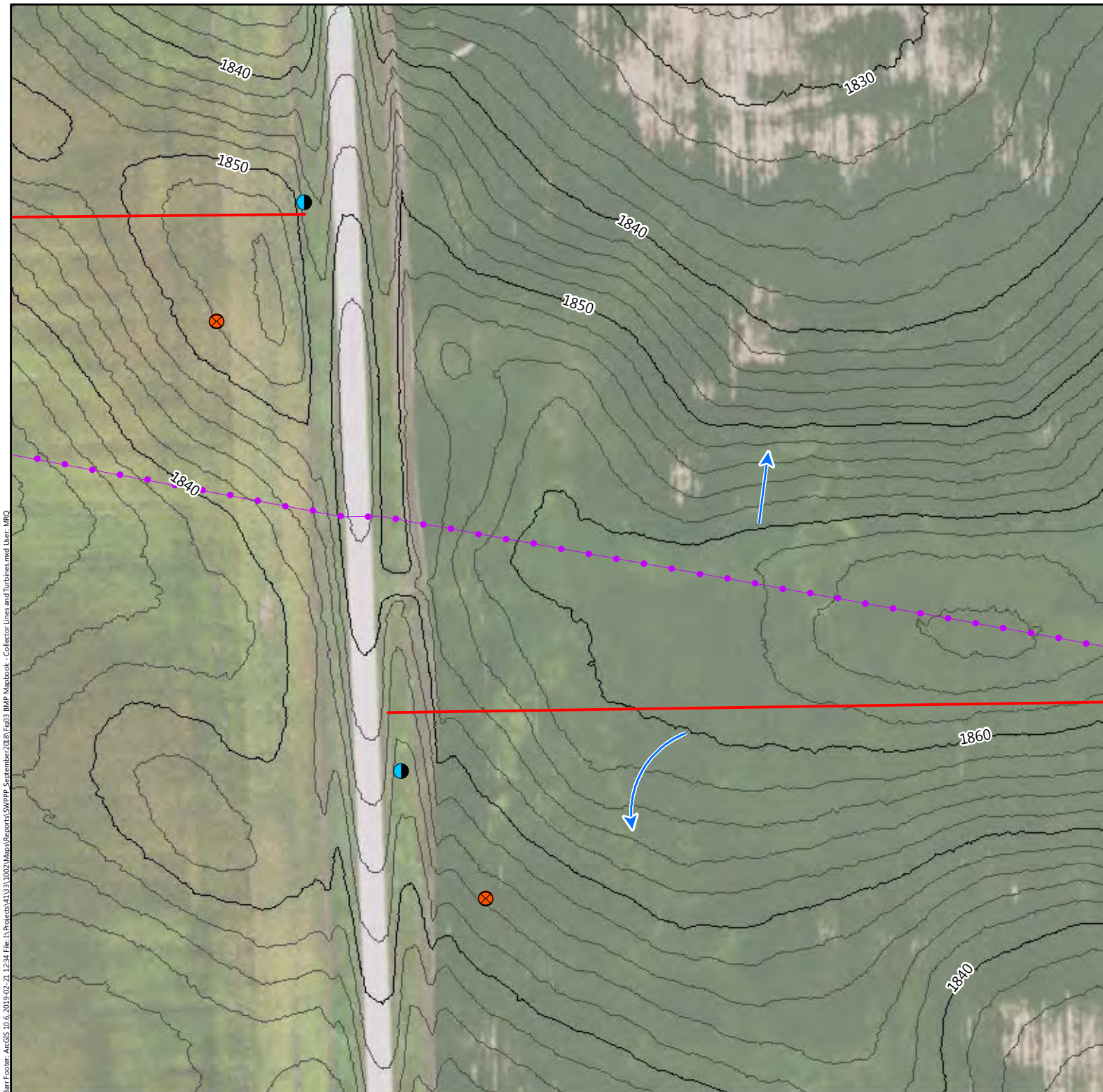
Feet



Figure 3-76

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





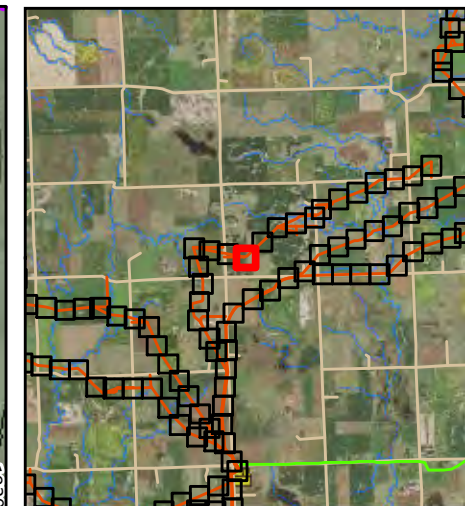
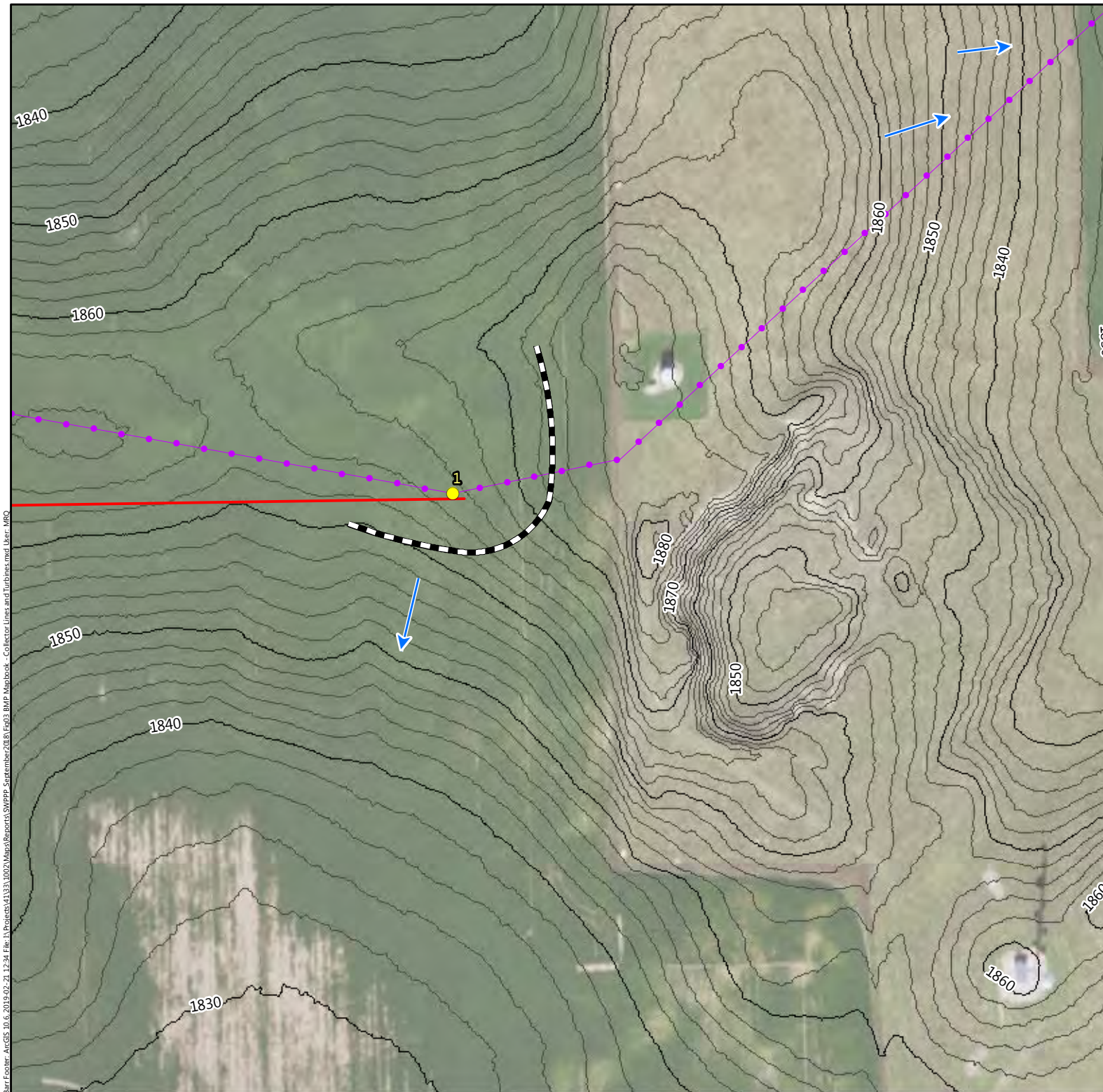
- Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-77

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





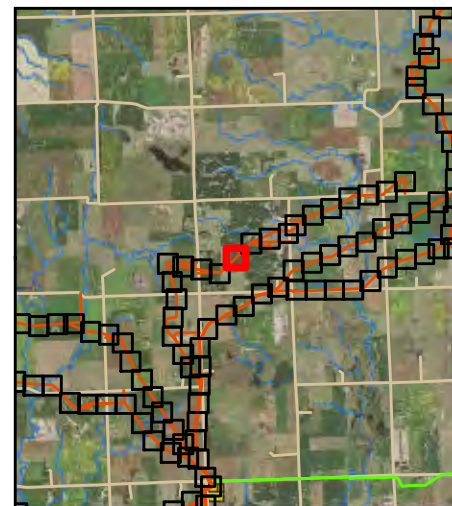
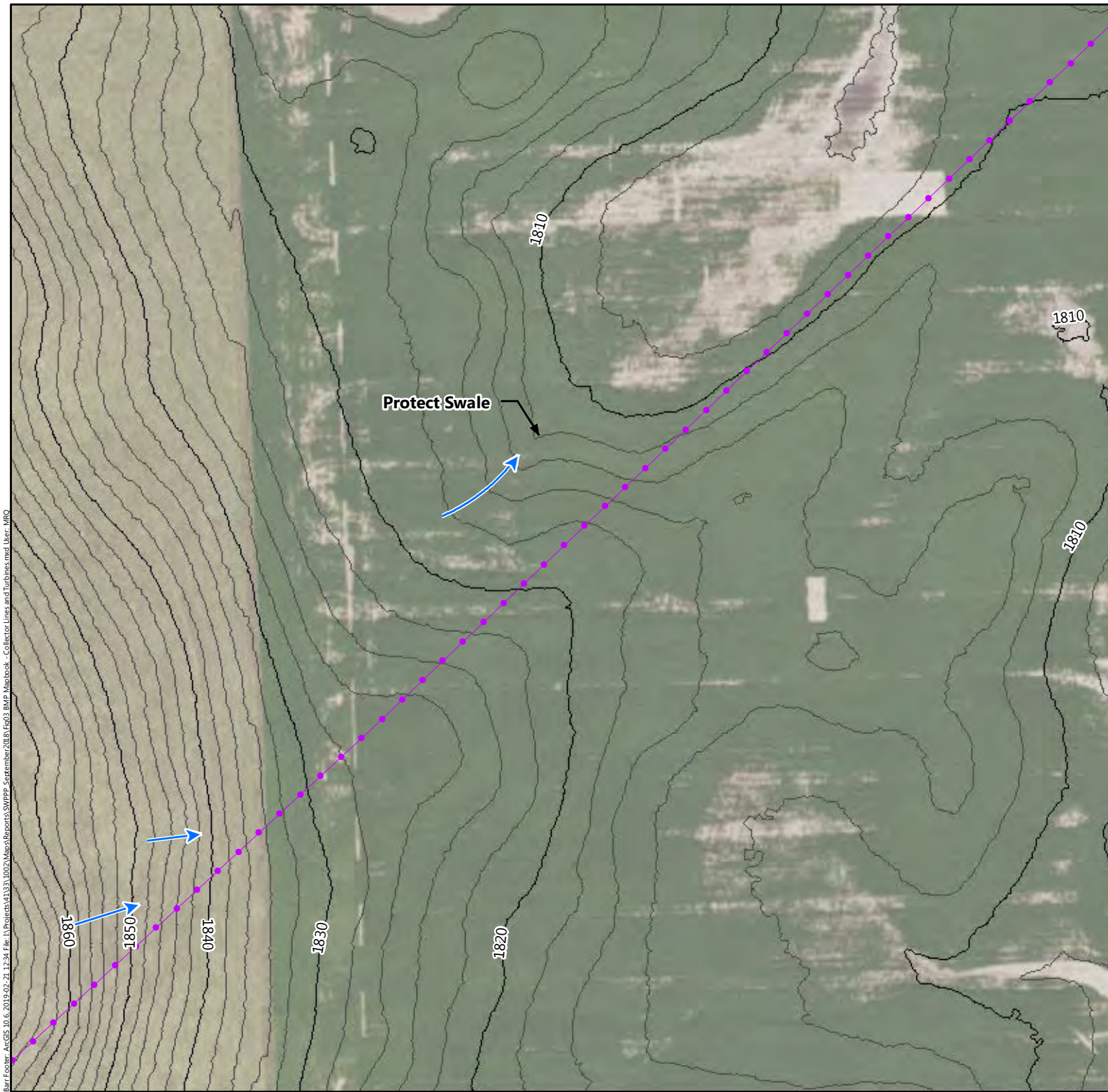
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-78

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





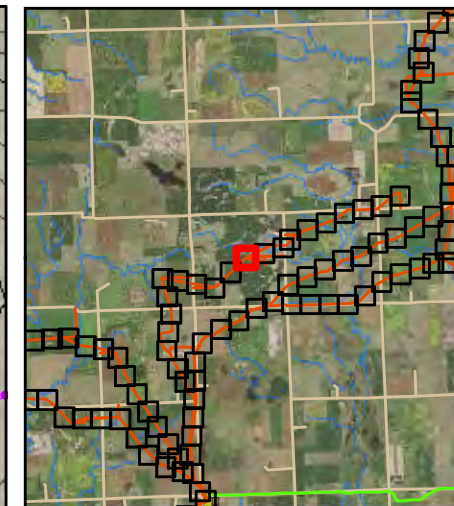
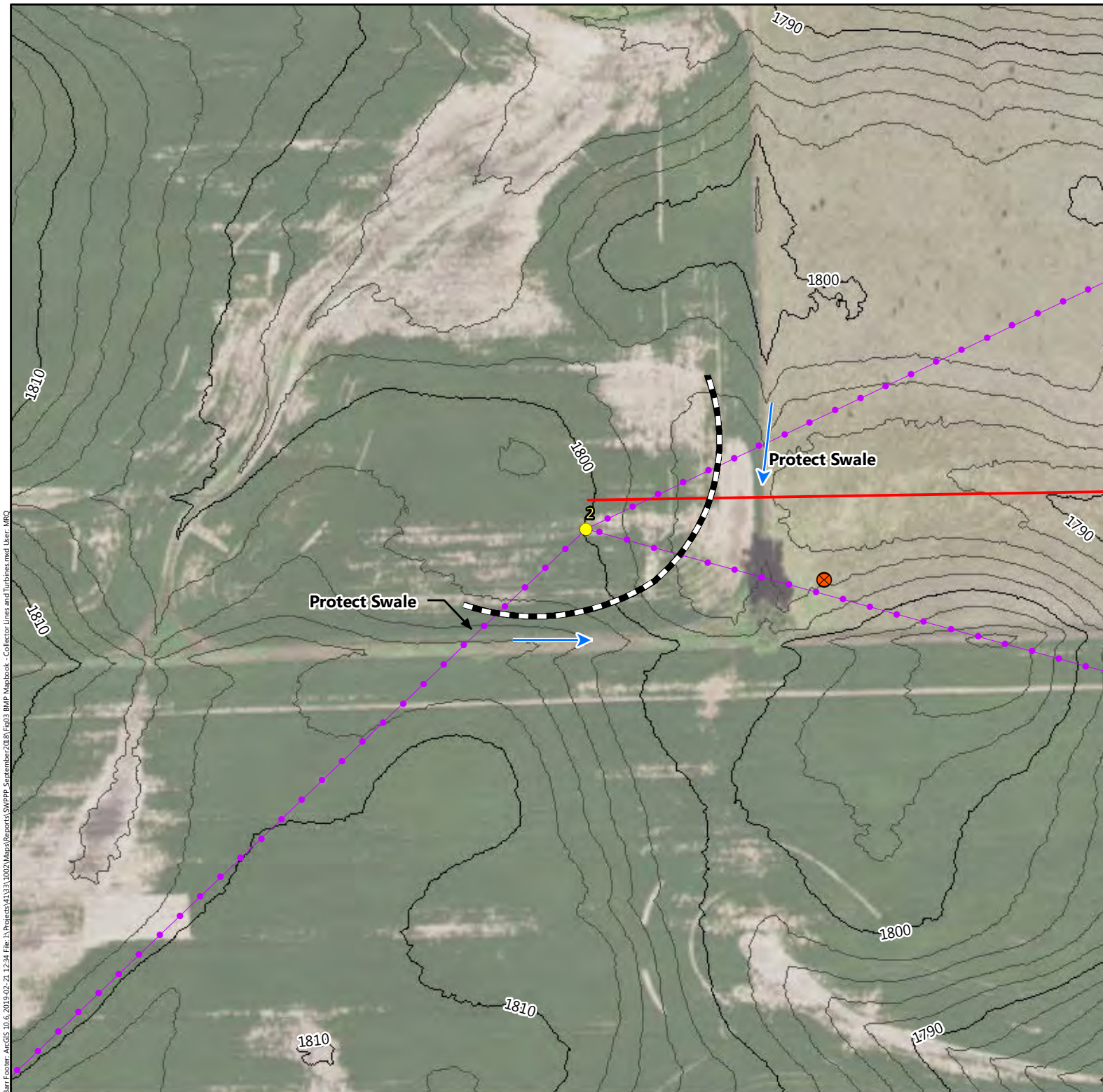
- Collector Lines (1/18/2019)
- ➡ Flow Direction



Figure 3-79

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





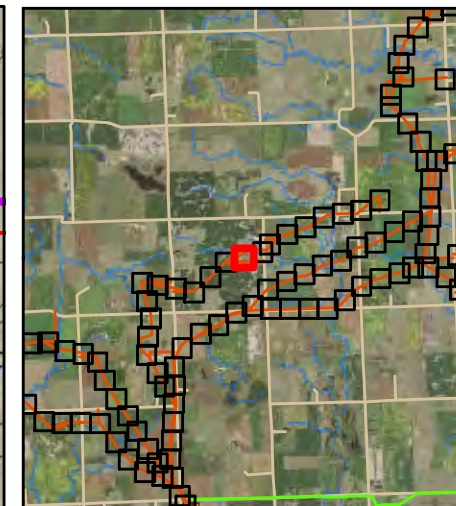
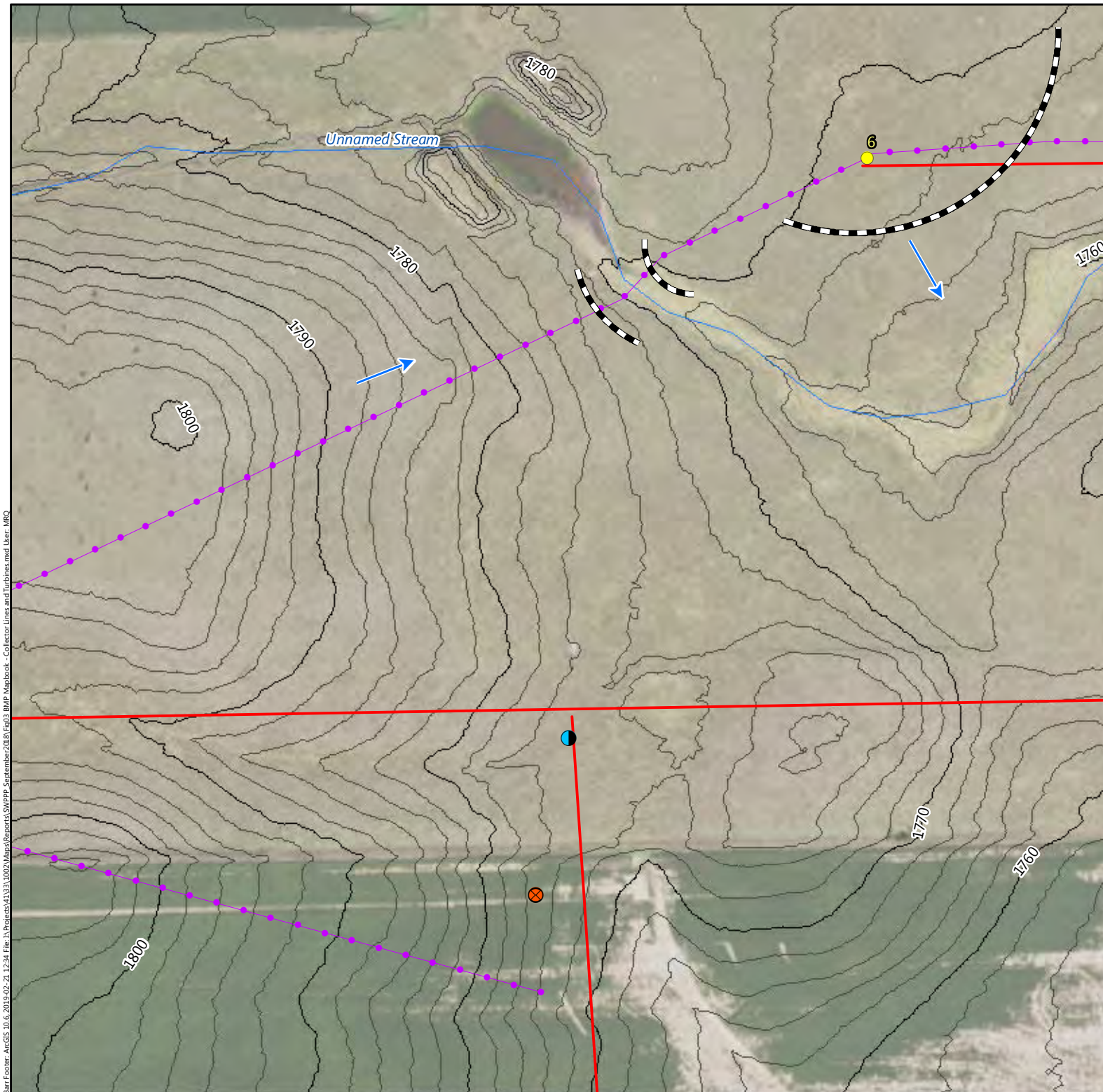
- Turbine Location (4/13/2018)
- ⊗ Gate
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm



Figure 3-80

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- ⊗ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- — — Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-81

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota



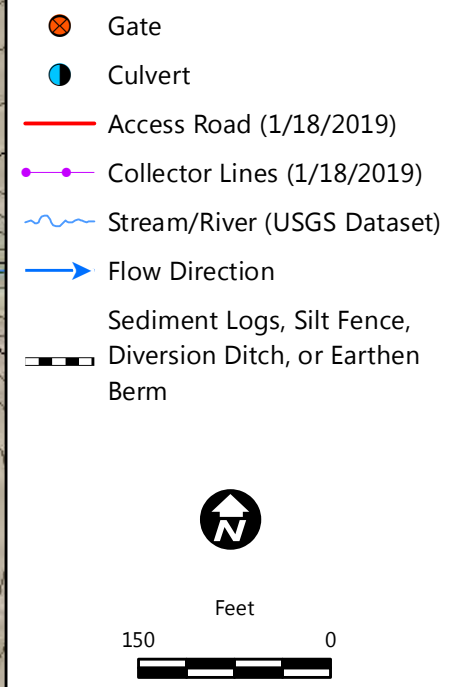
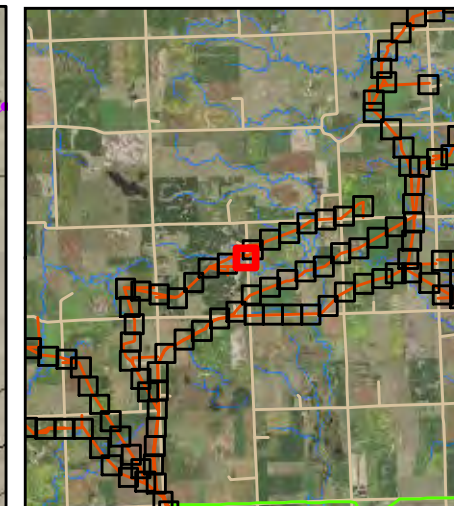
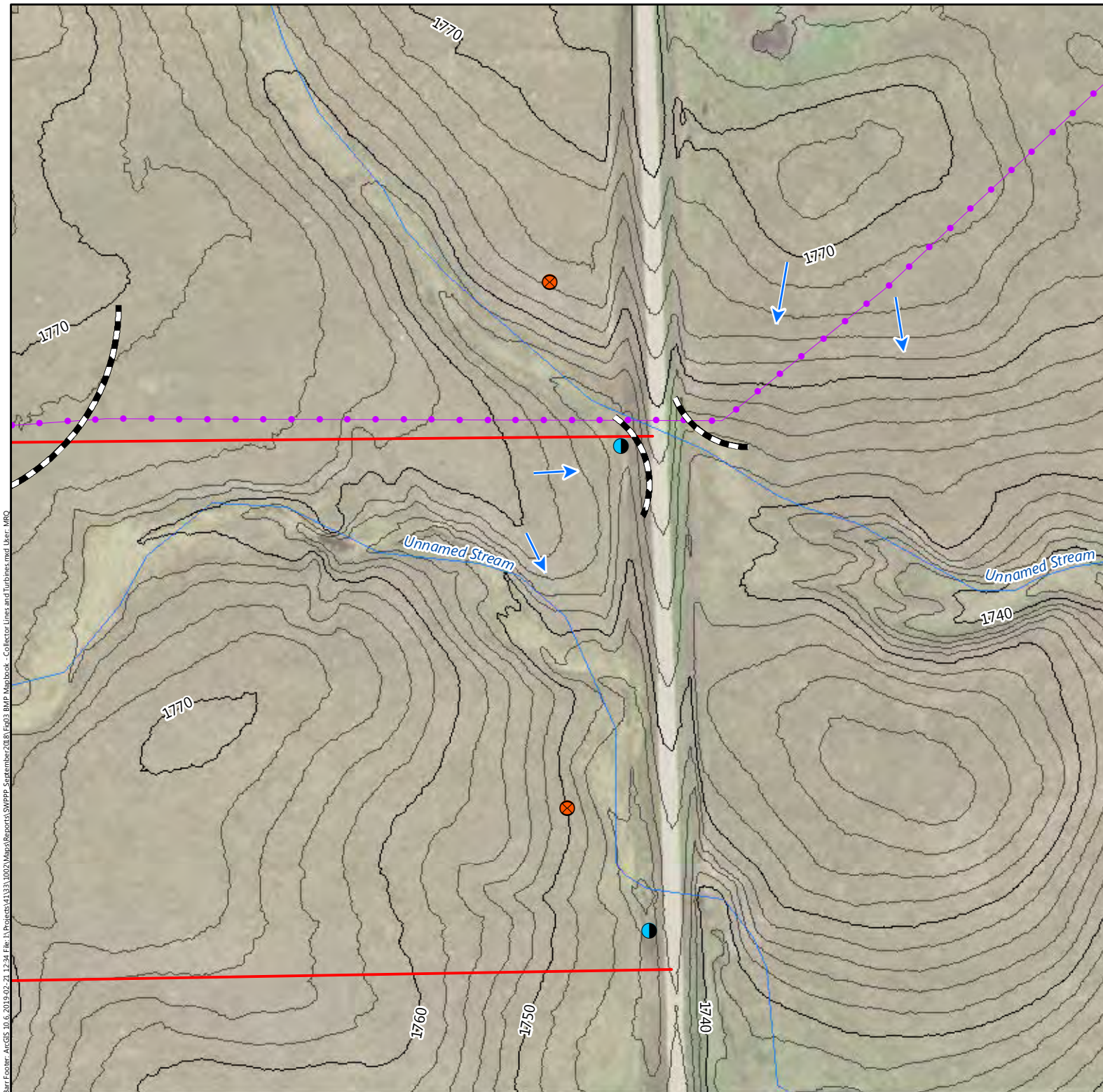


Figure 3-82

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota



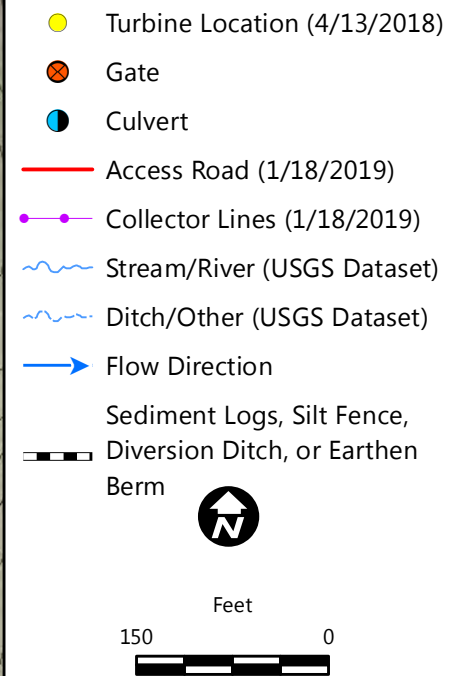
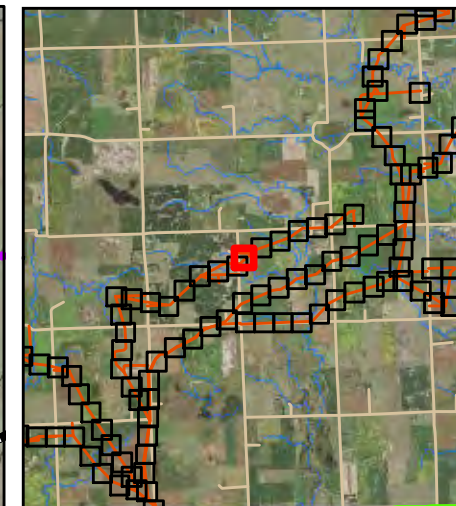
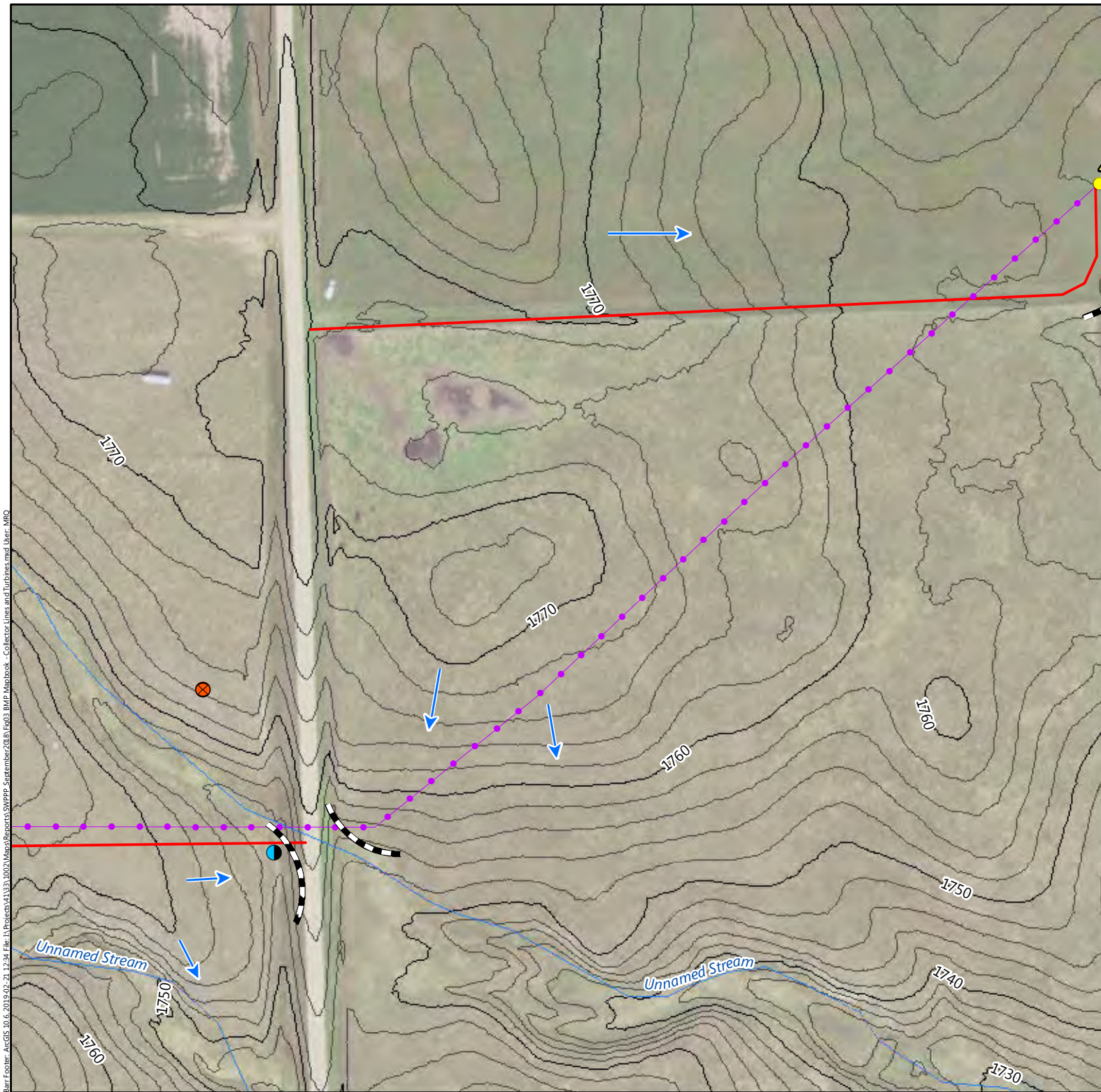
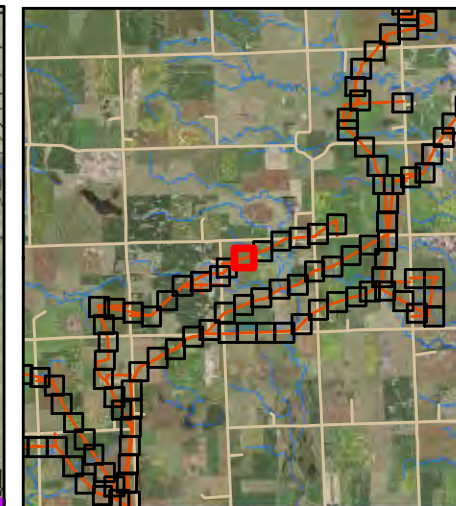
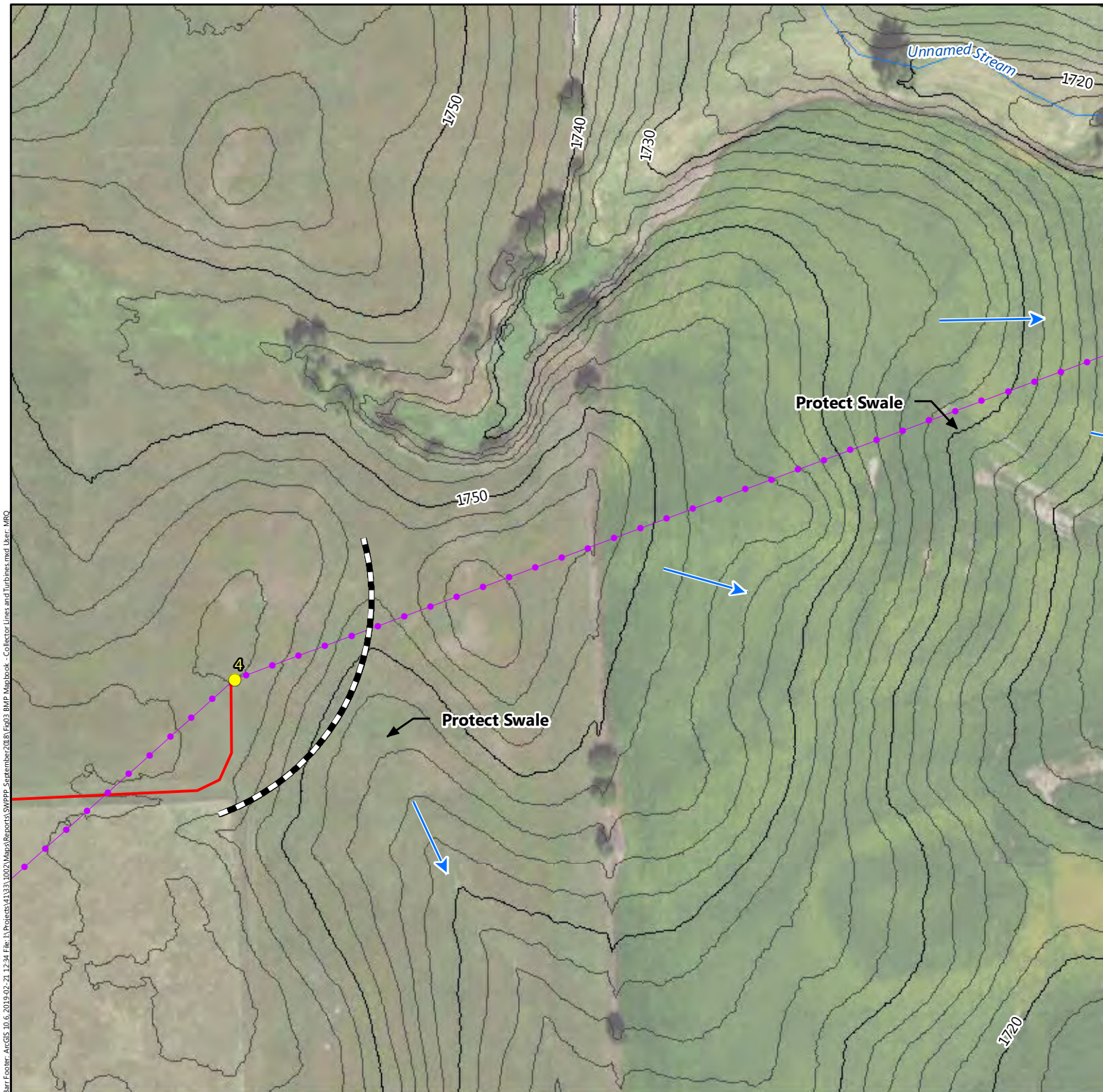


Figure 3-83

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





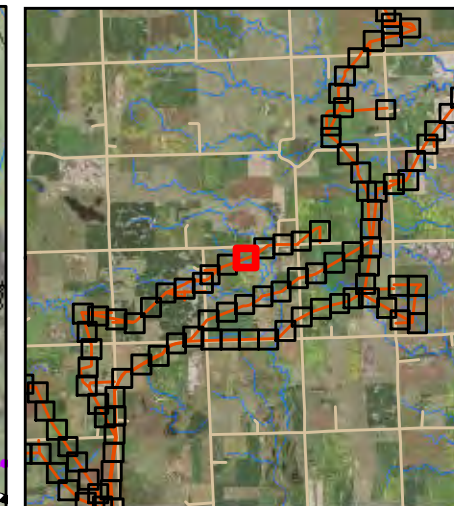
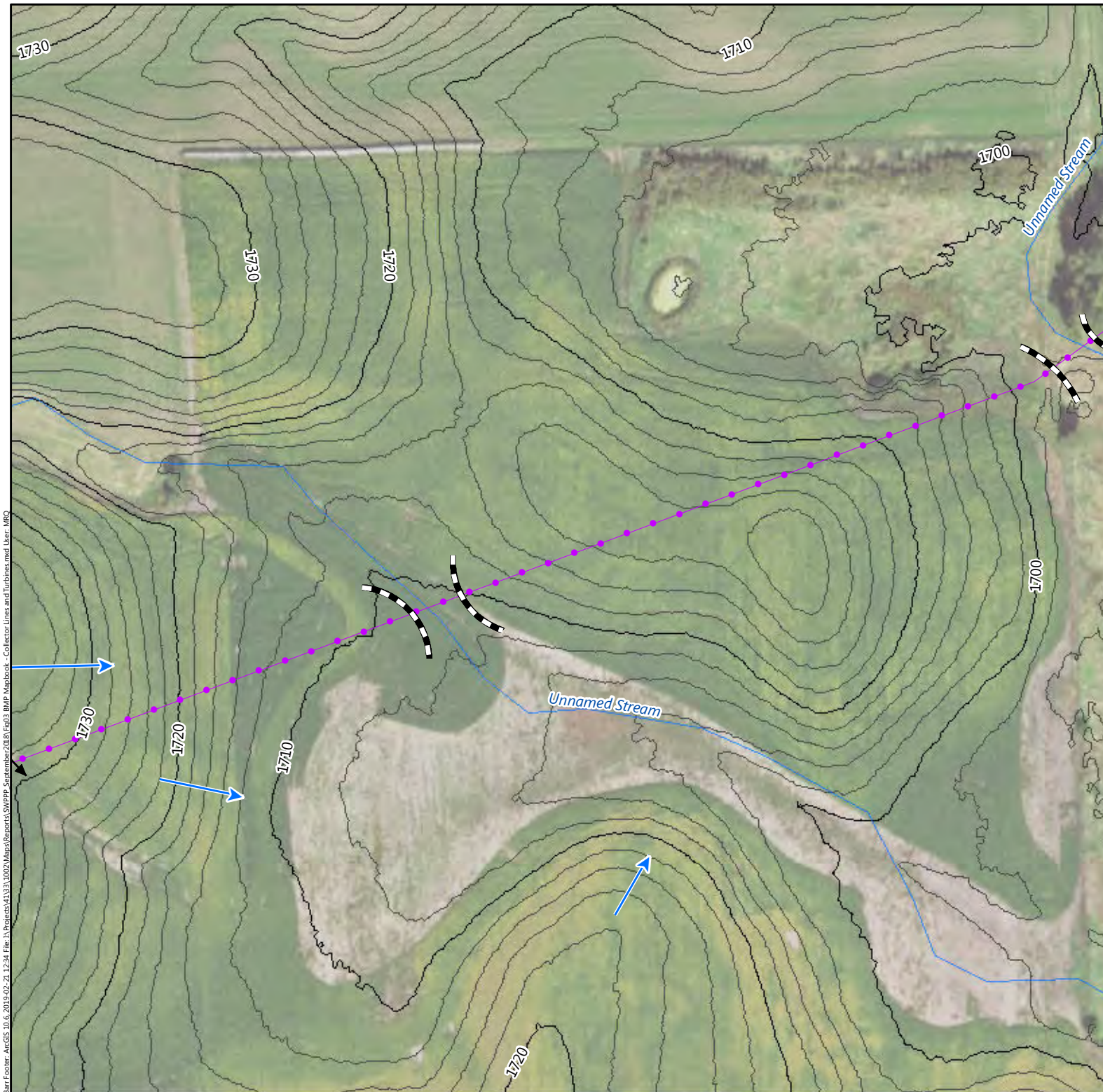
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-84

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen Berm

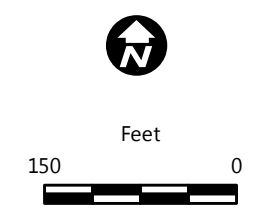
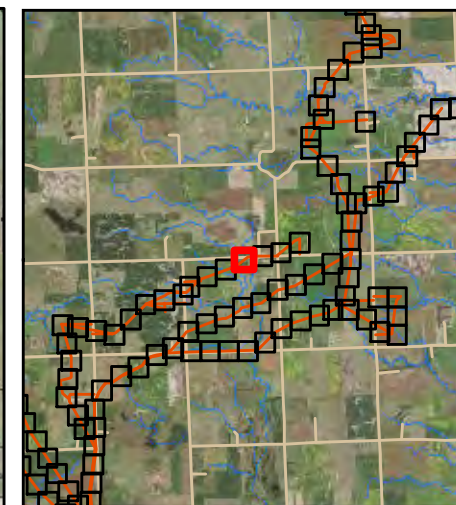
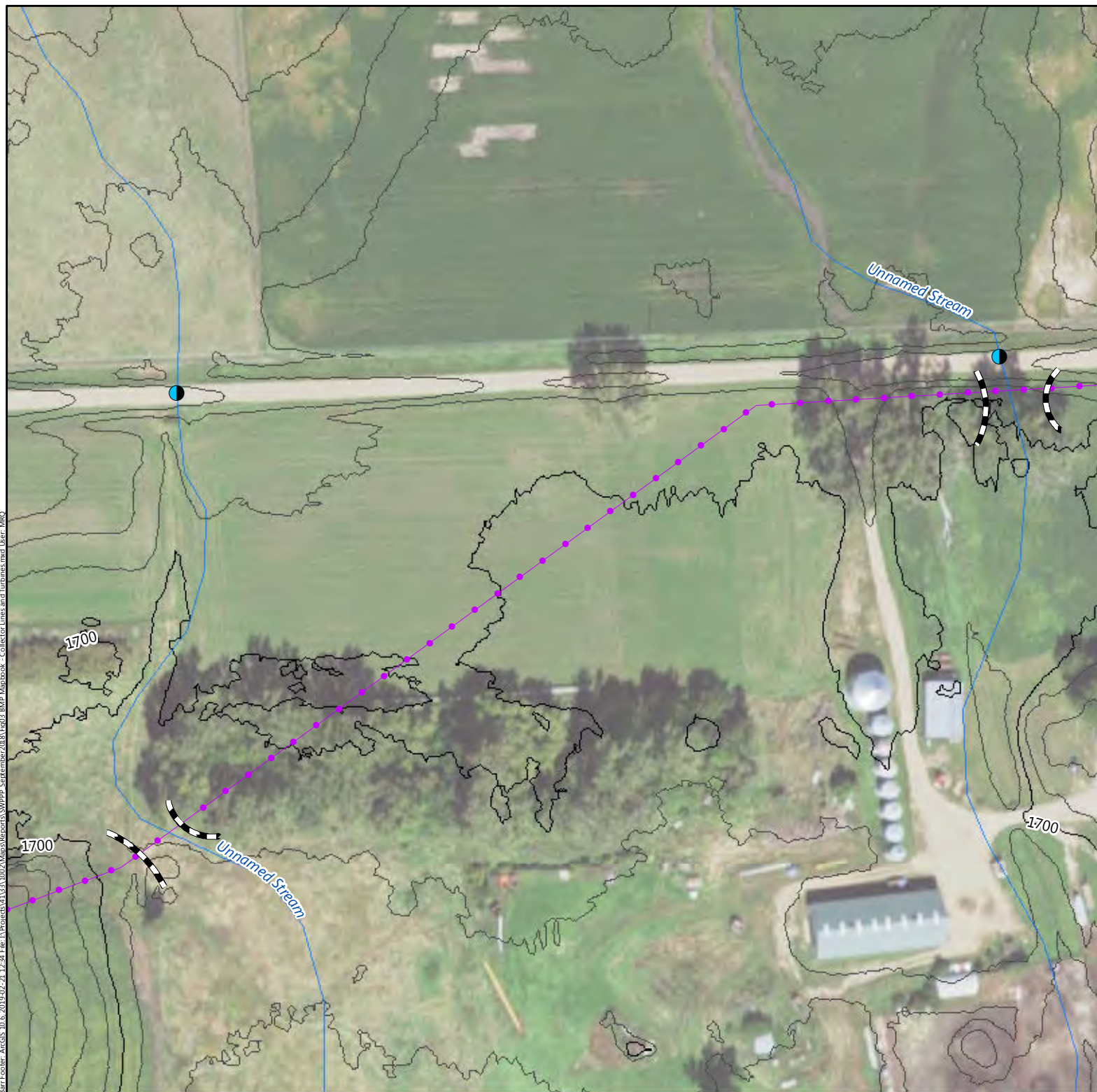


Figure 3-85

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota









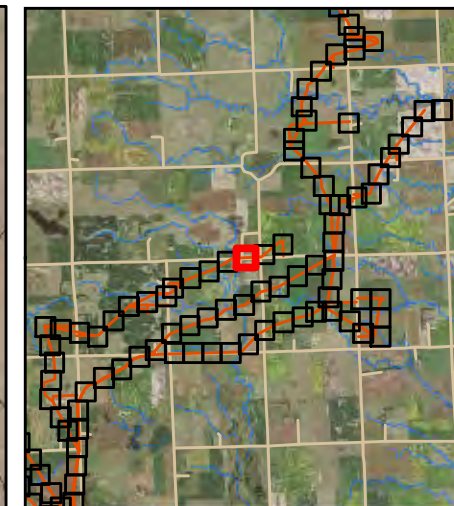
-  Culvert
-  Collector Lines (1/18/2019)
-  Stream/River (USGS Dataset)
- Sediment Logs, Silt Fence,
-  Diversion Ditch, or Earthen Berm



Figure 3-86

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Culvert
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

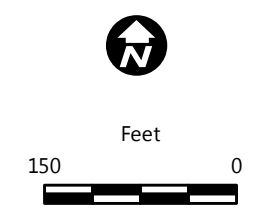
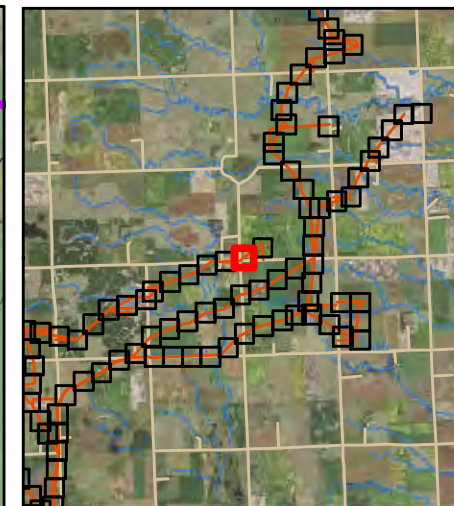


Figure 3-87

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





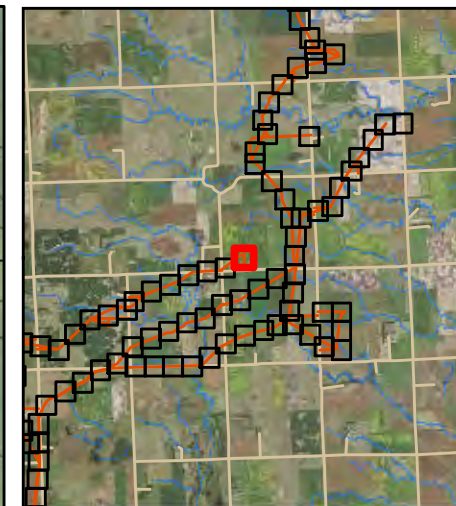
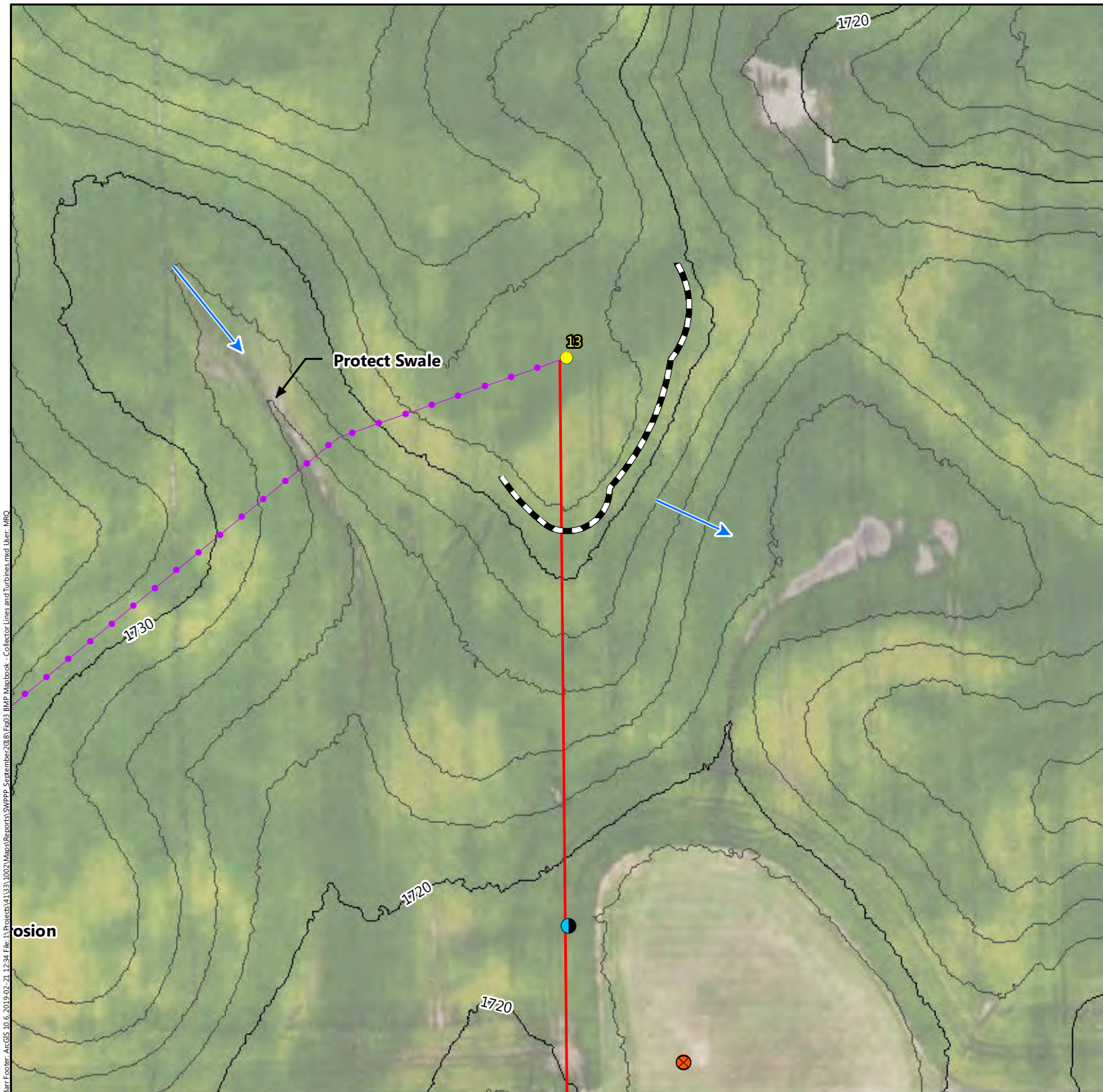
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-88

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





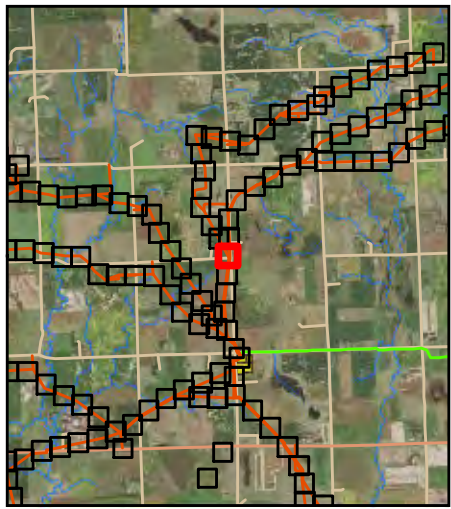
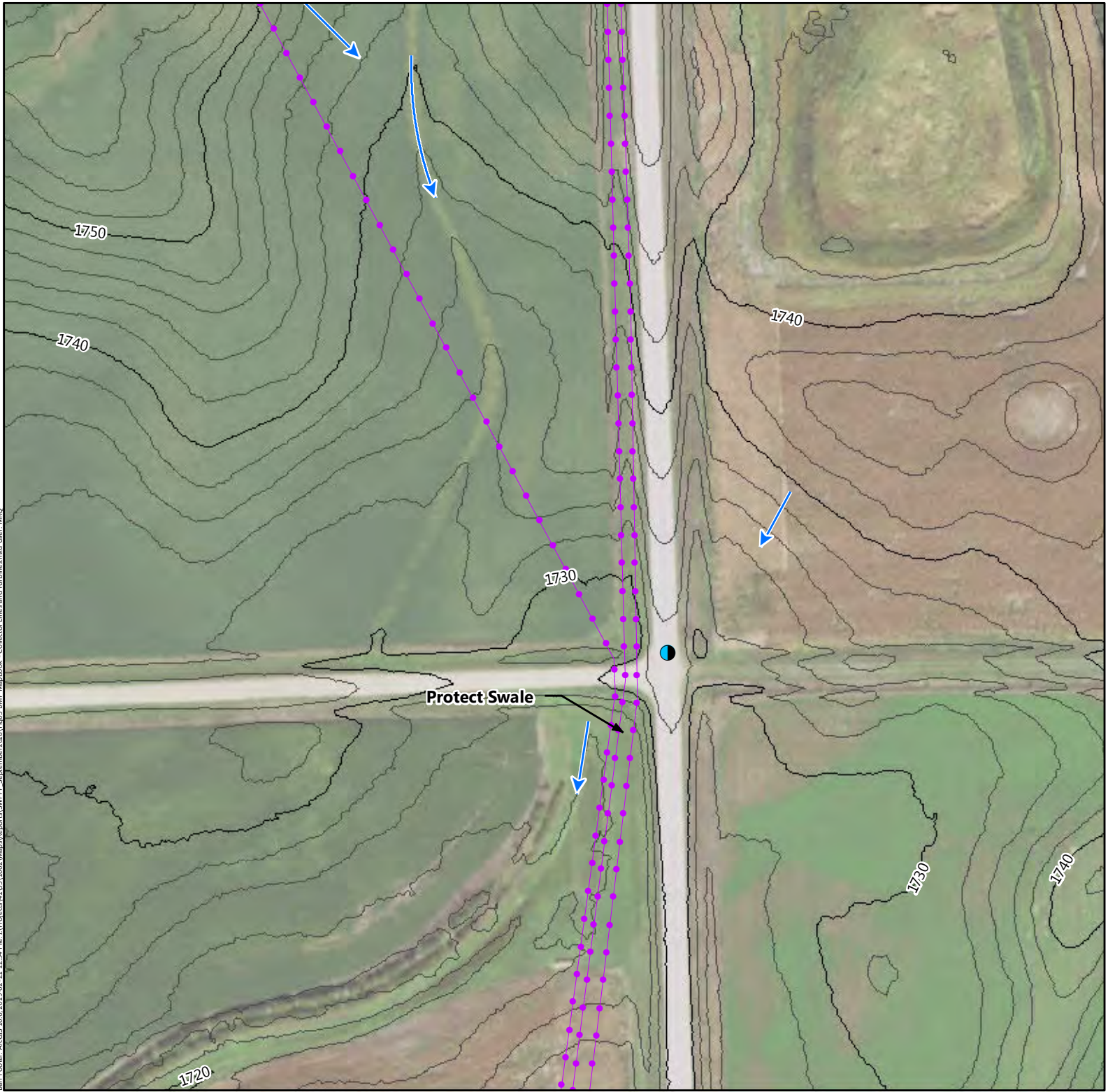
- Turbine Location (4/13/2018)
- ✕ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- - - Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm






Figure 3-89

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Culvert
-  Collector Lines (1/18/2019)
-  Flow Direction

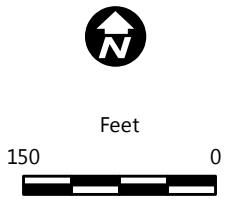
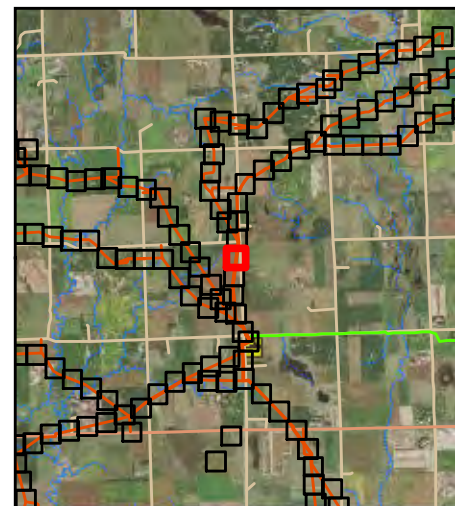


Figure 3-90

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

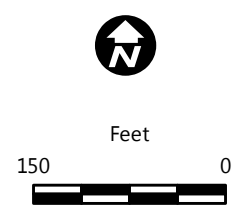
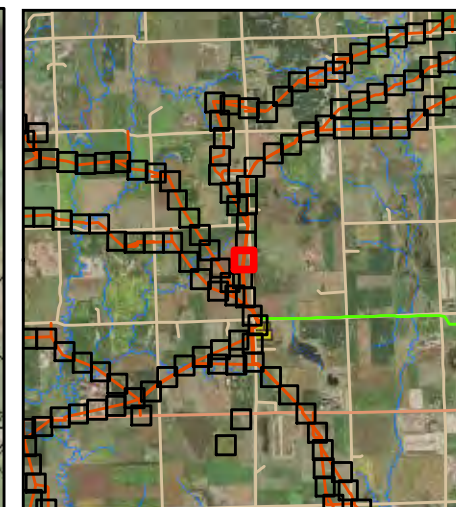


Figure 3-91

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





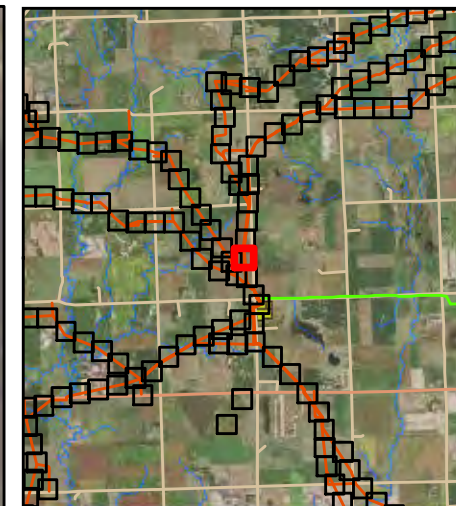
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-92

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





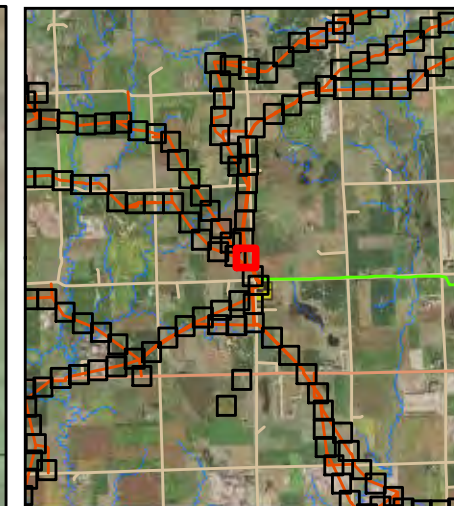
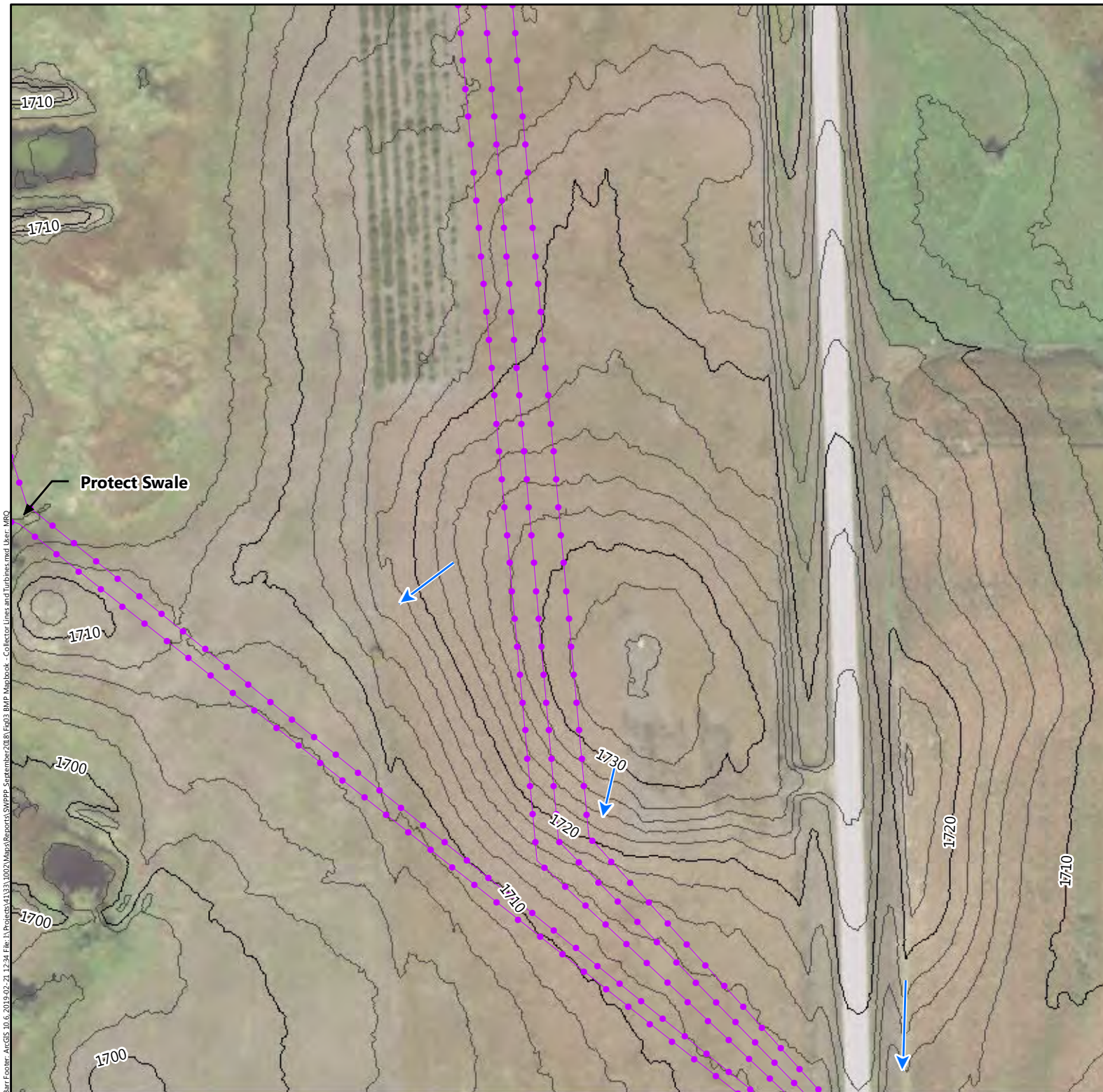
- Collector Lines (1/18/2019)
- ➡ Flow Direction



Figure 3-93

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ➡ Flow Direction

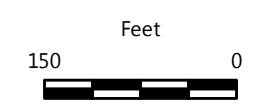
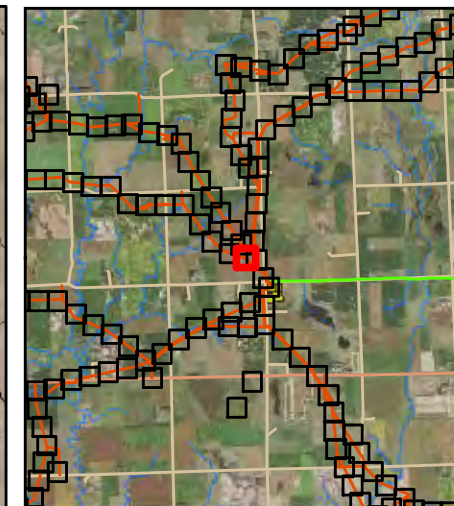
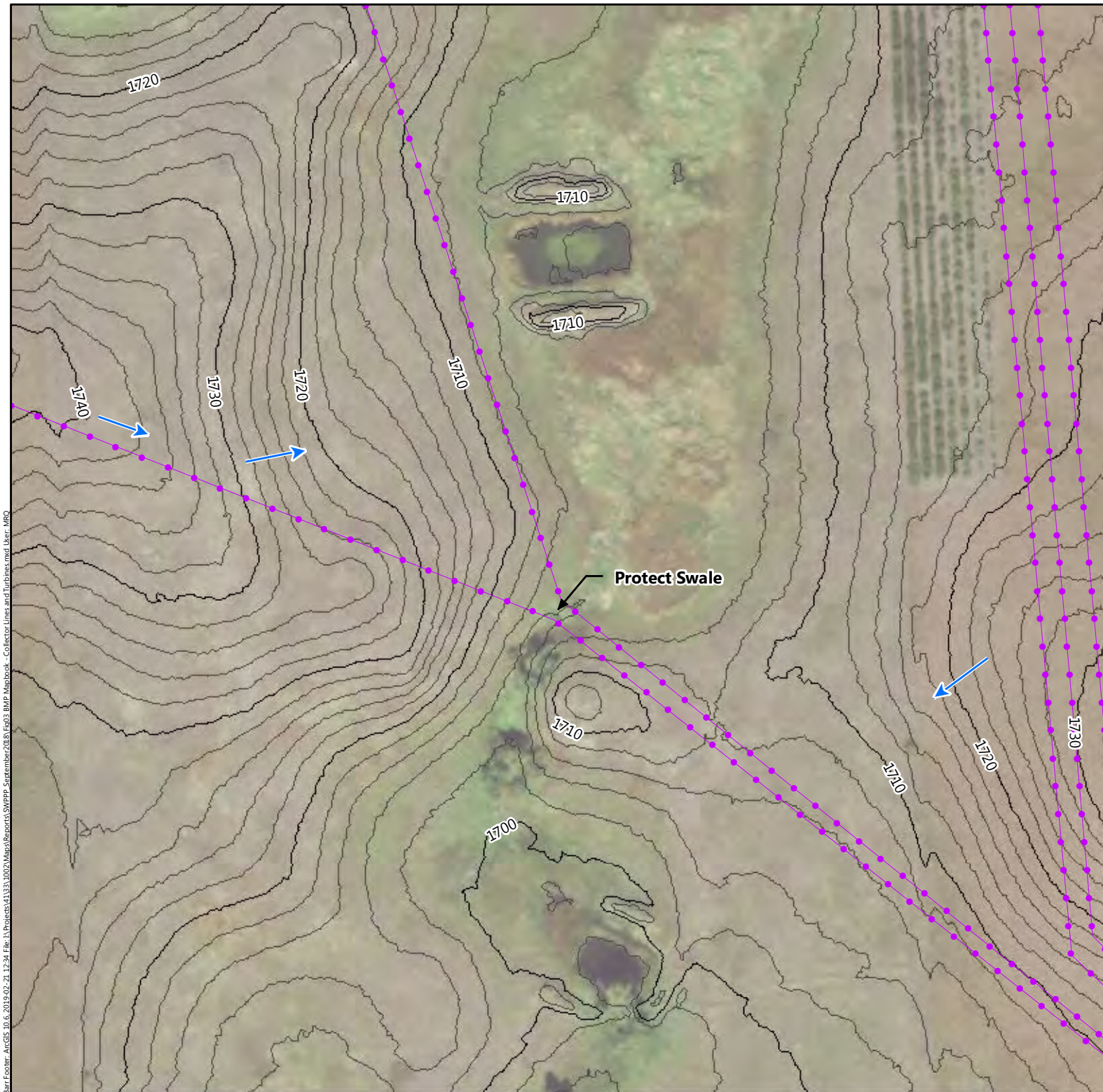


Figure 3-94

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





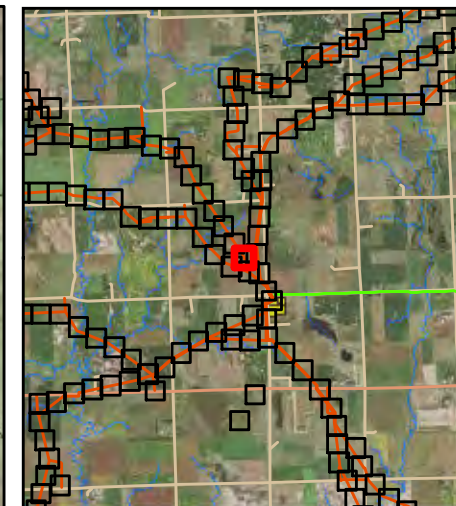
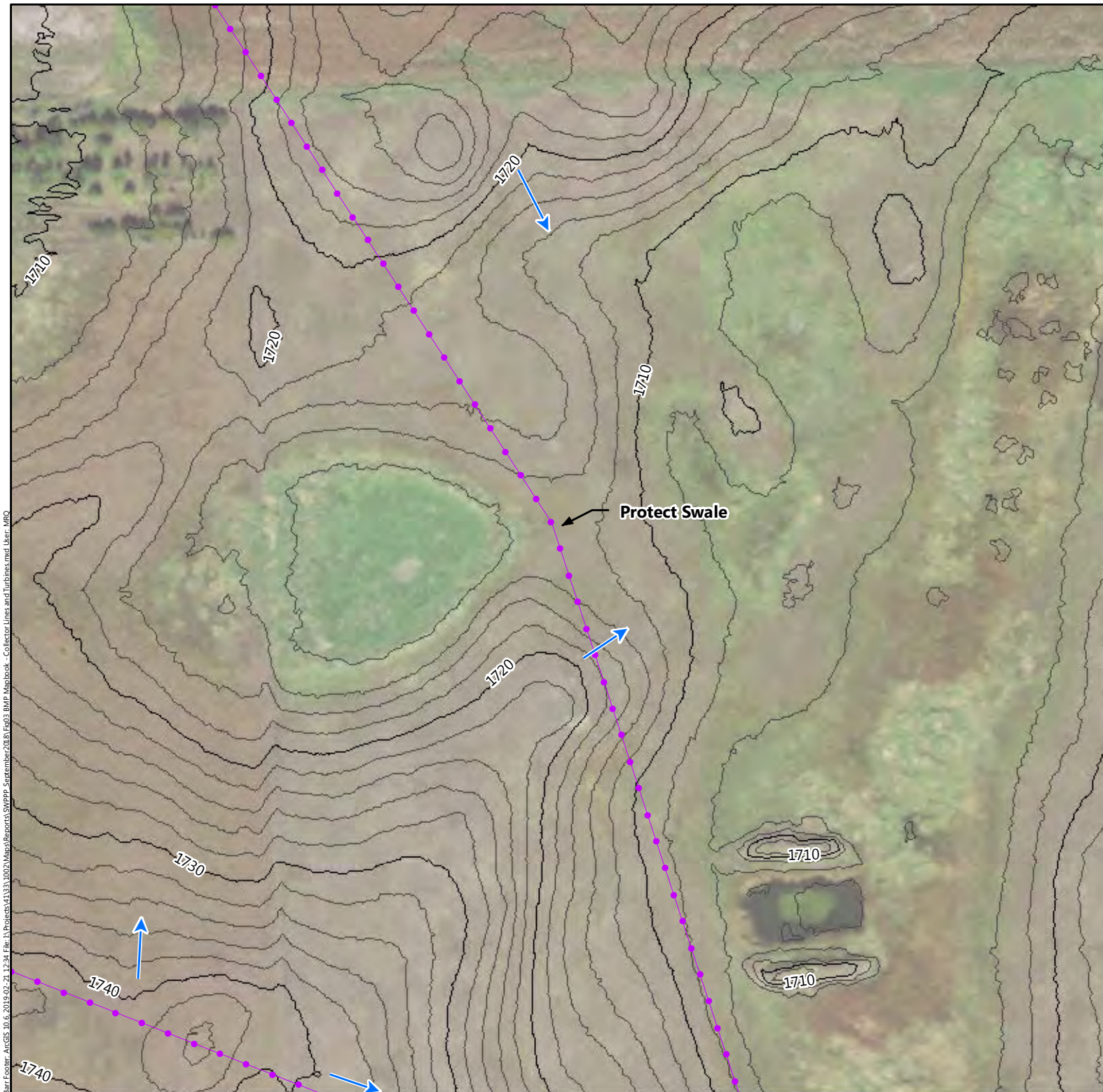
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-95

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





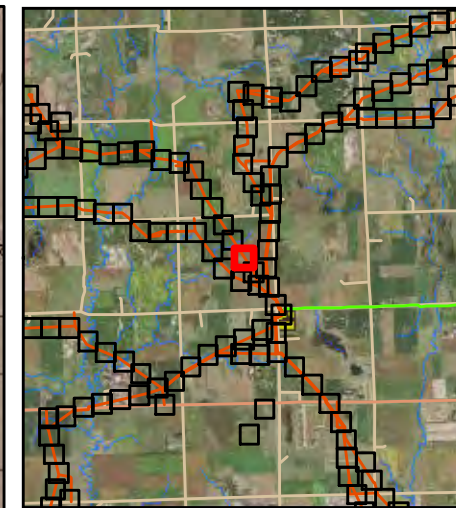
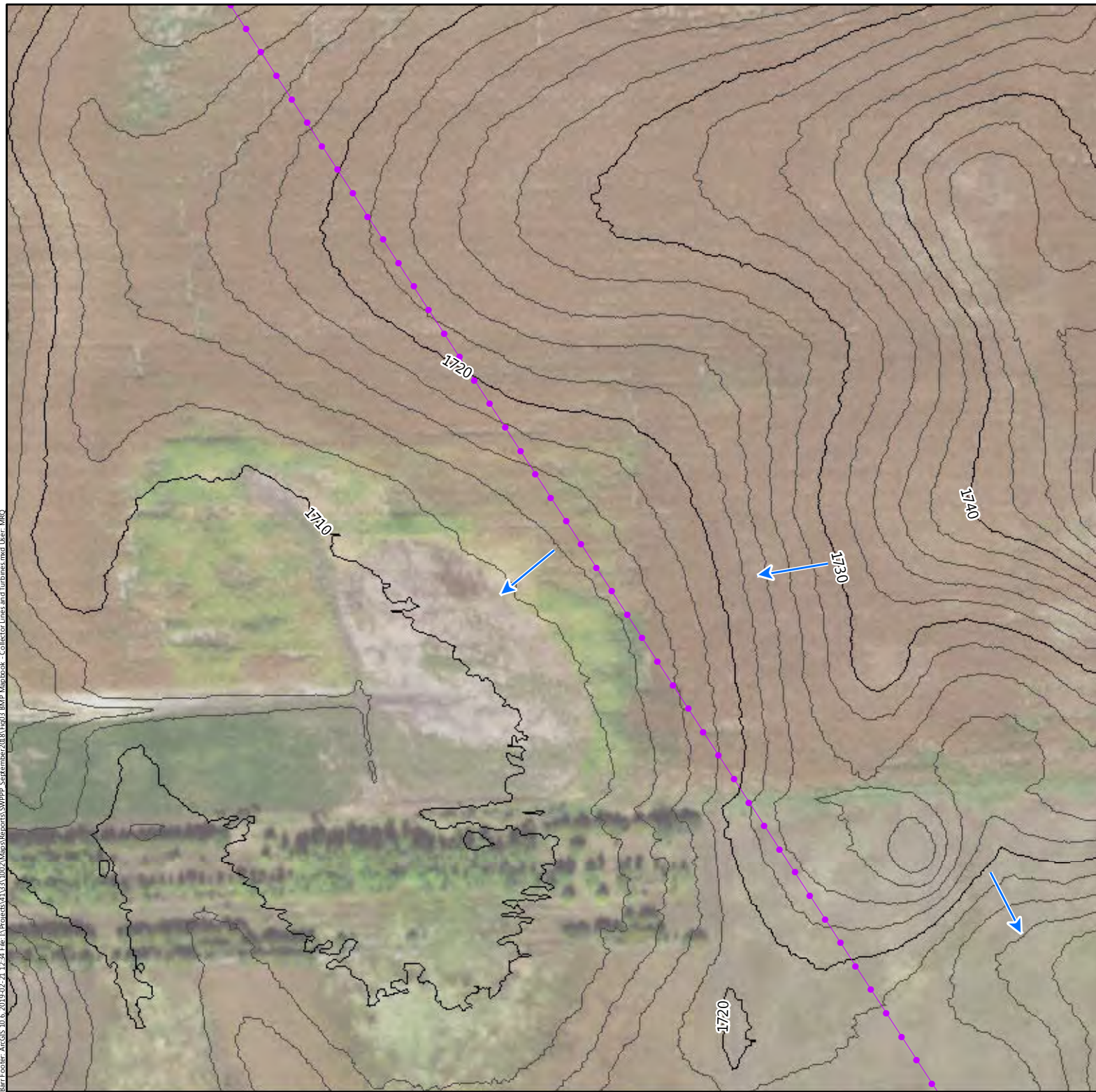
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-96

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction



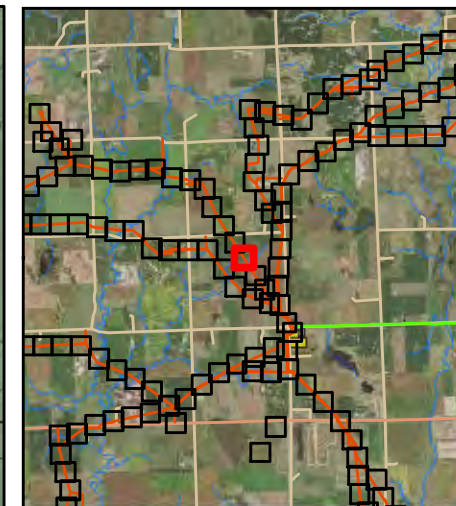
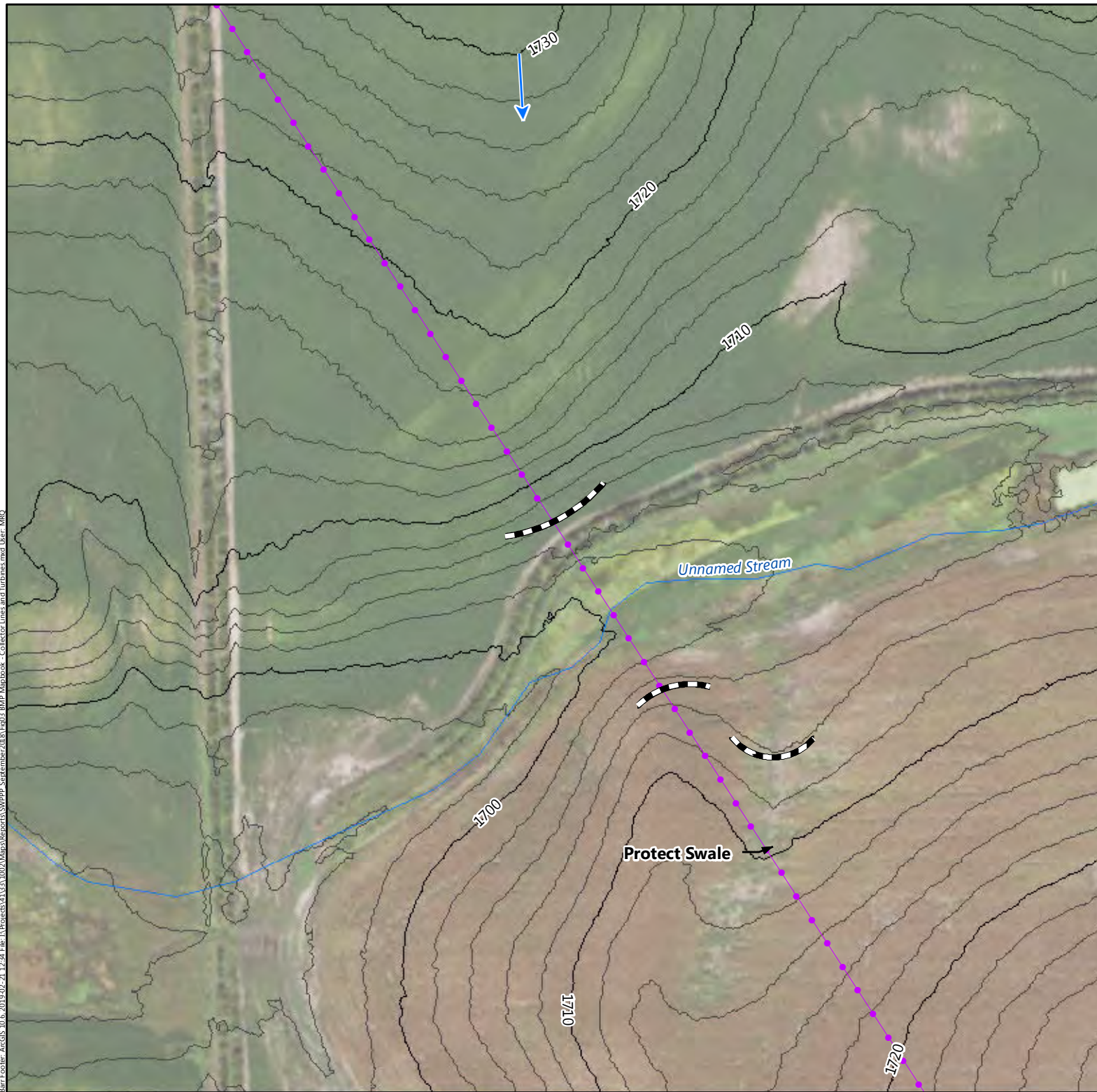
Feet



Figure 3-97

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





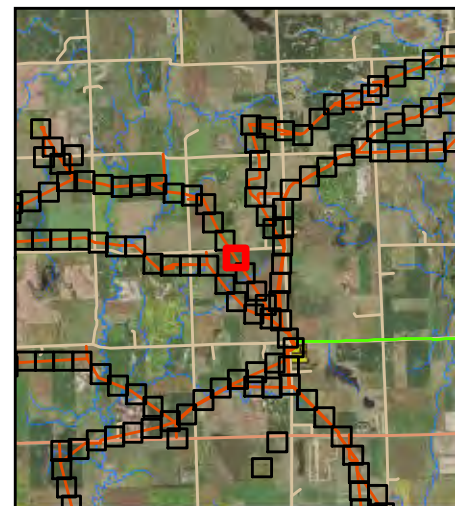
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-98

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





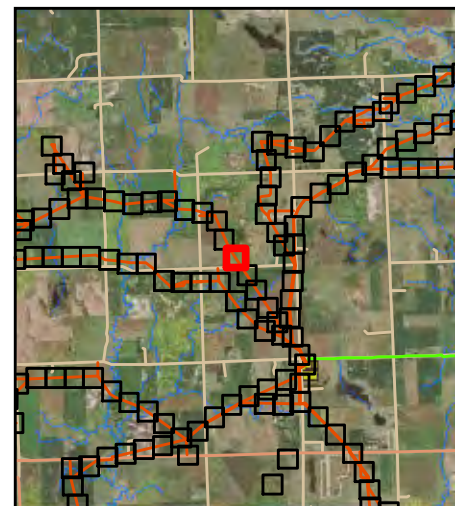
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-99

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

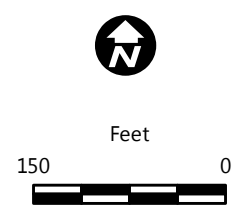
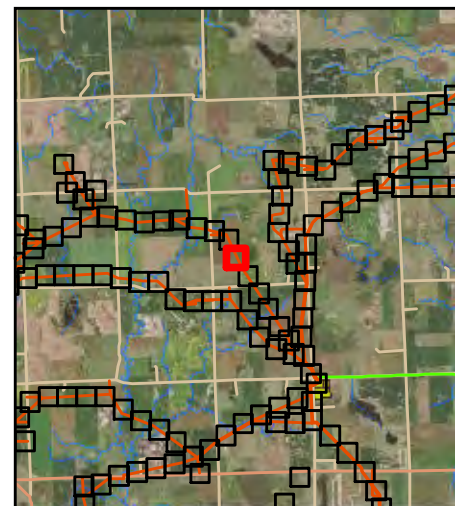
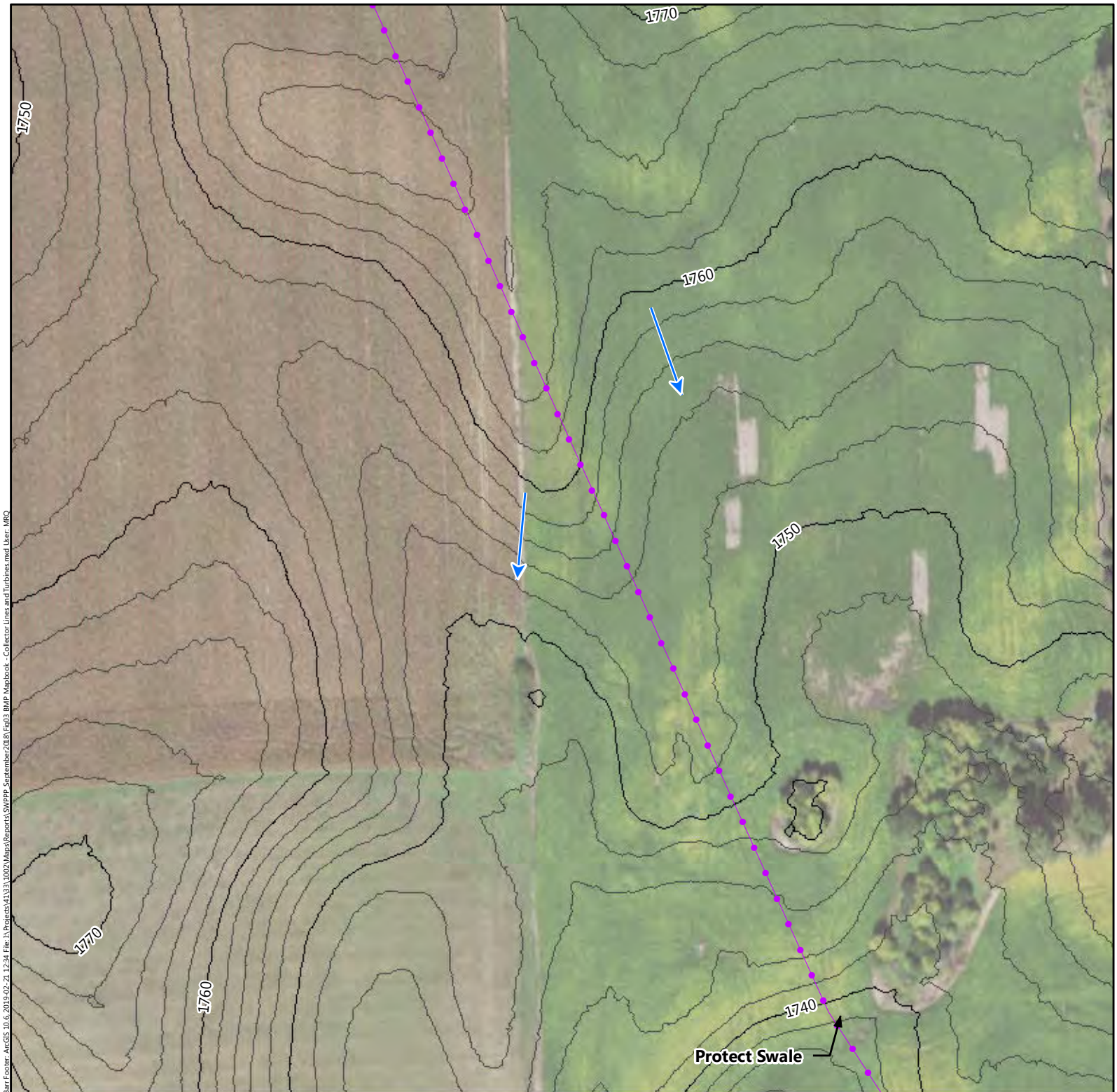


Figure 3-100

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

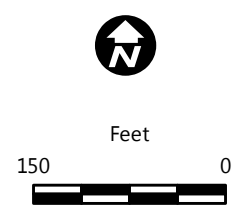
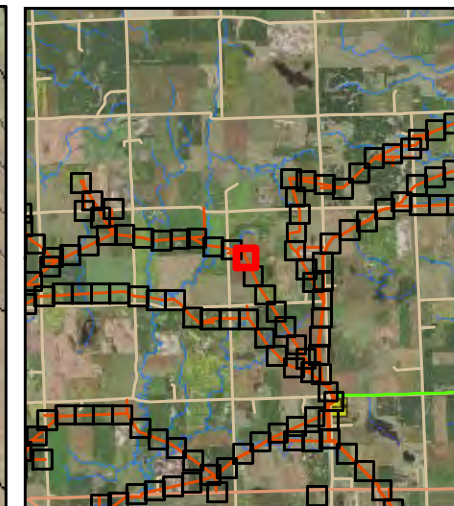
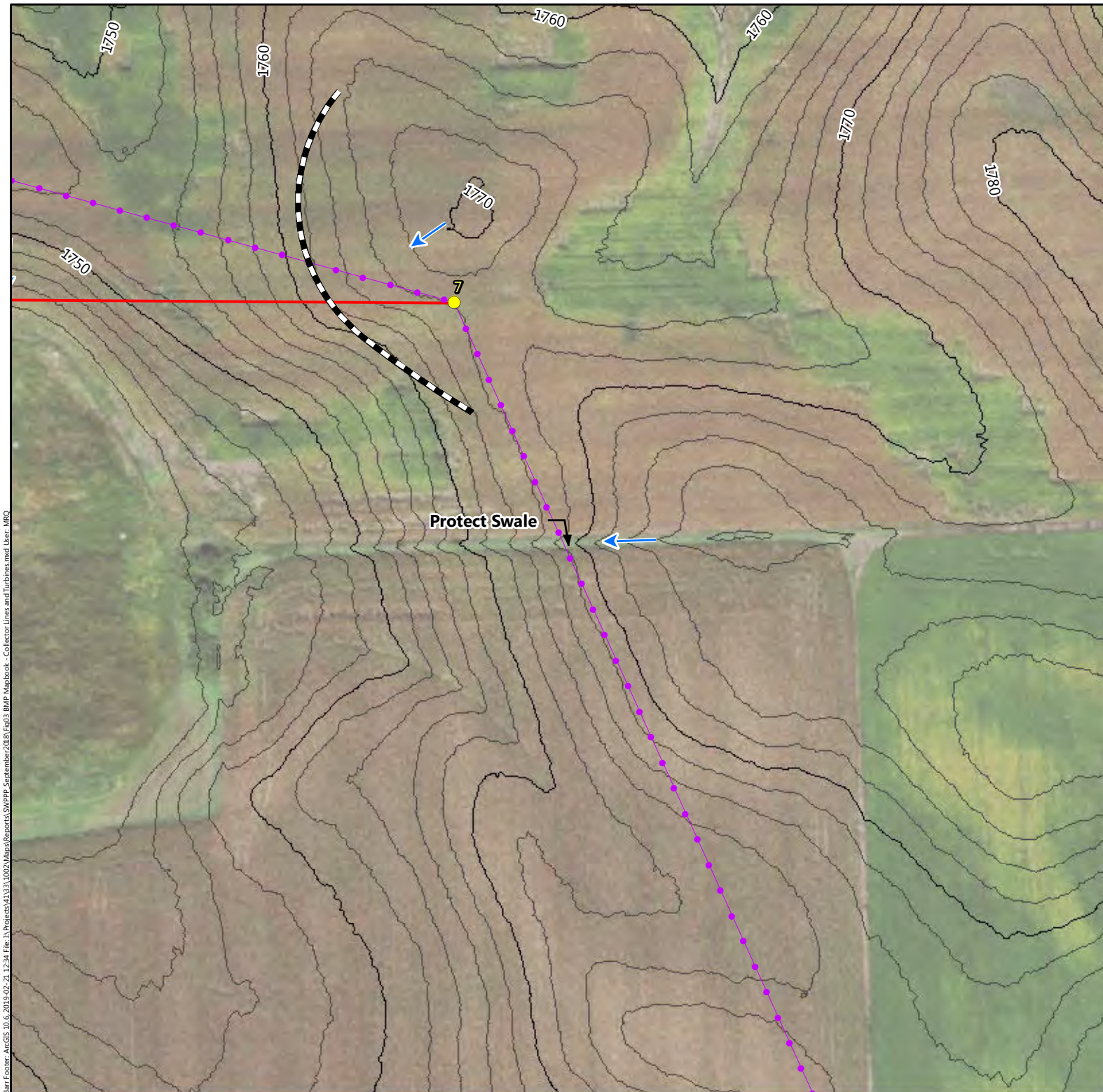


Figure 3-101

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





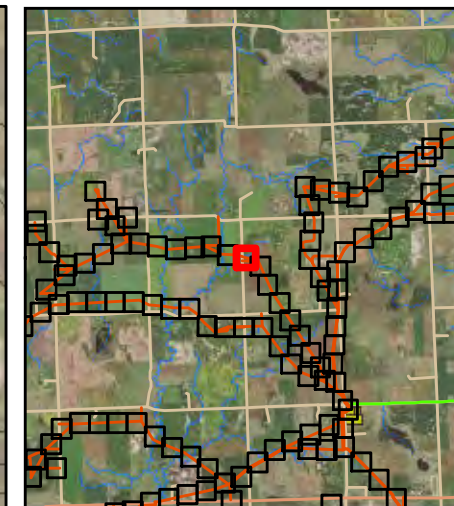
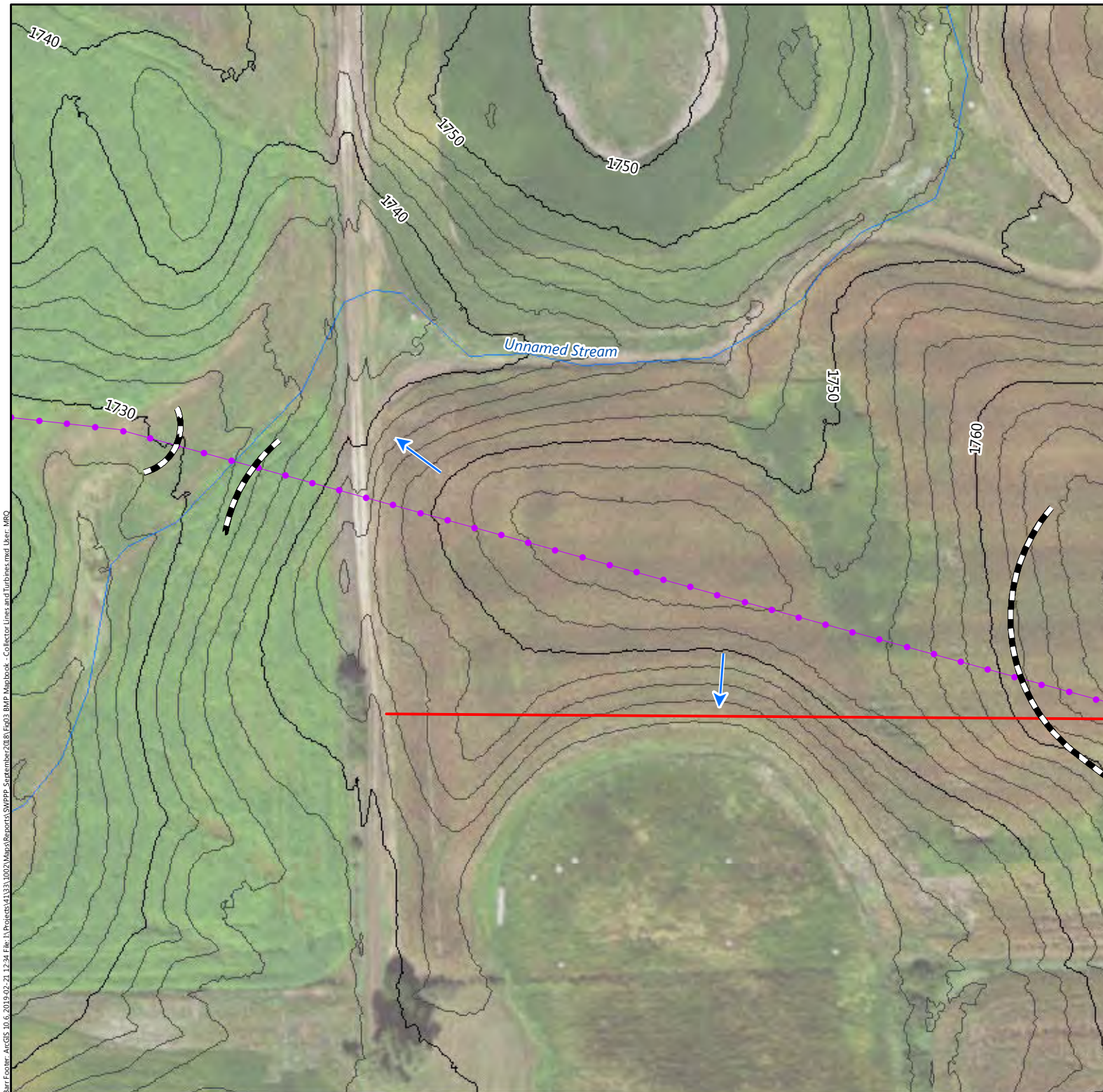
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-102

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





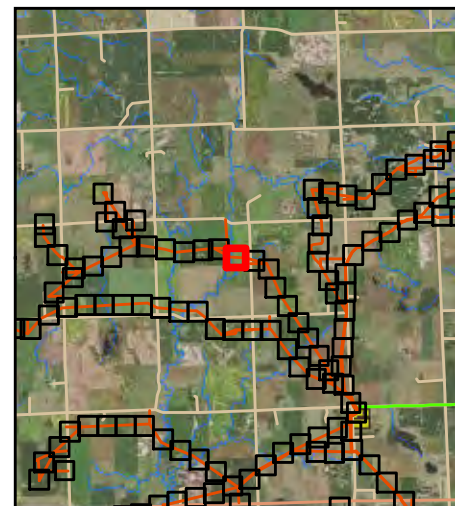
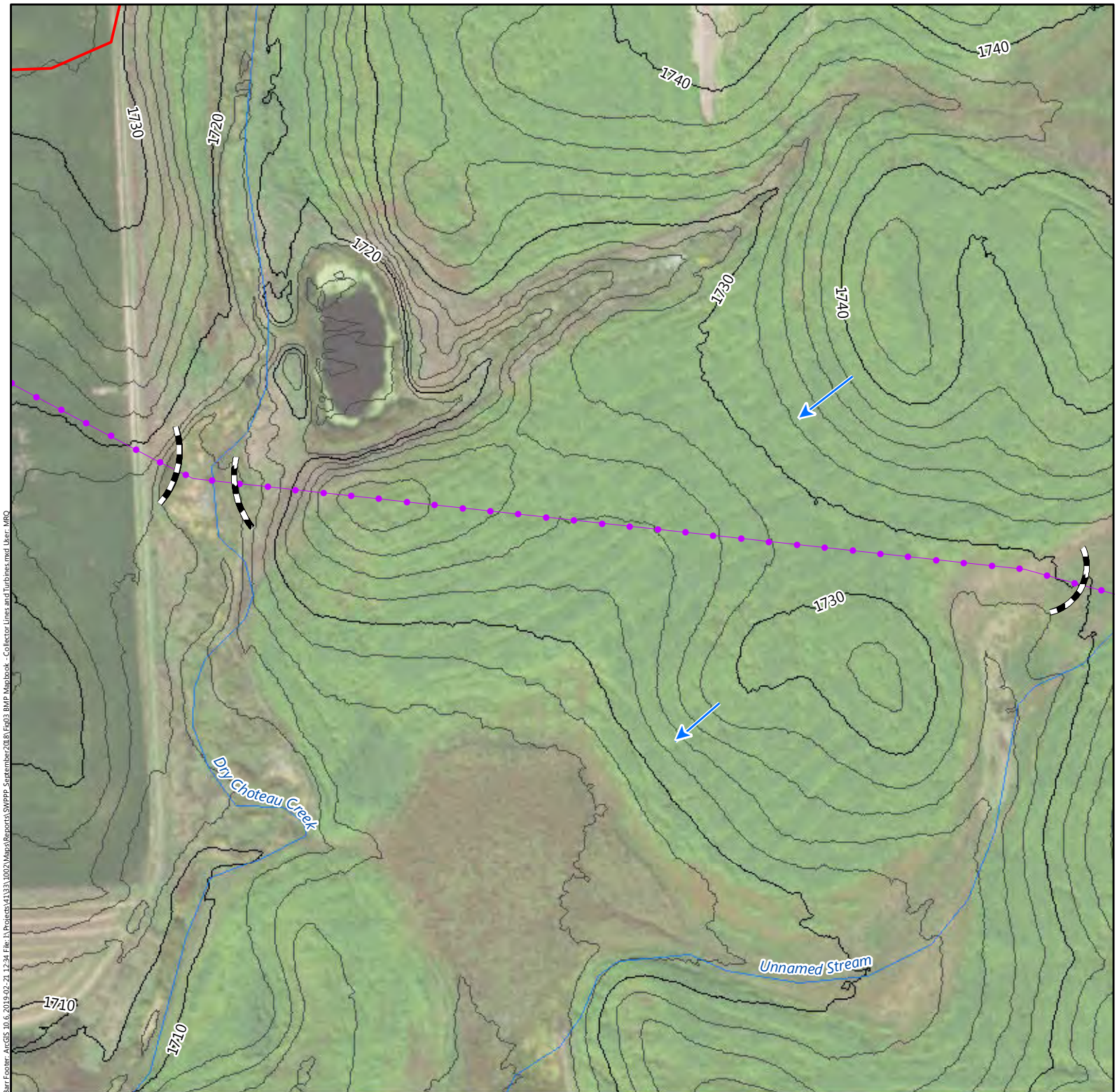
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-103

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





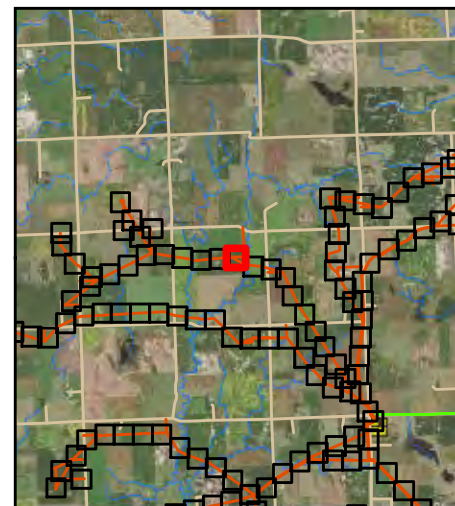
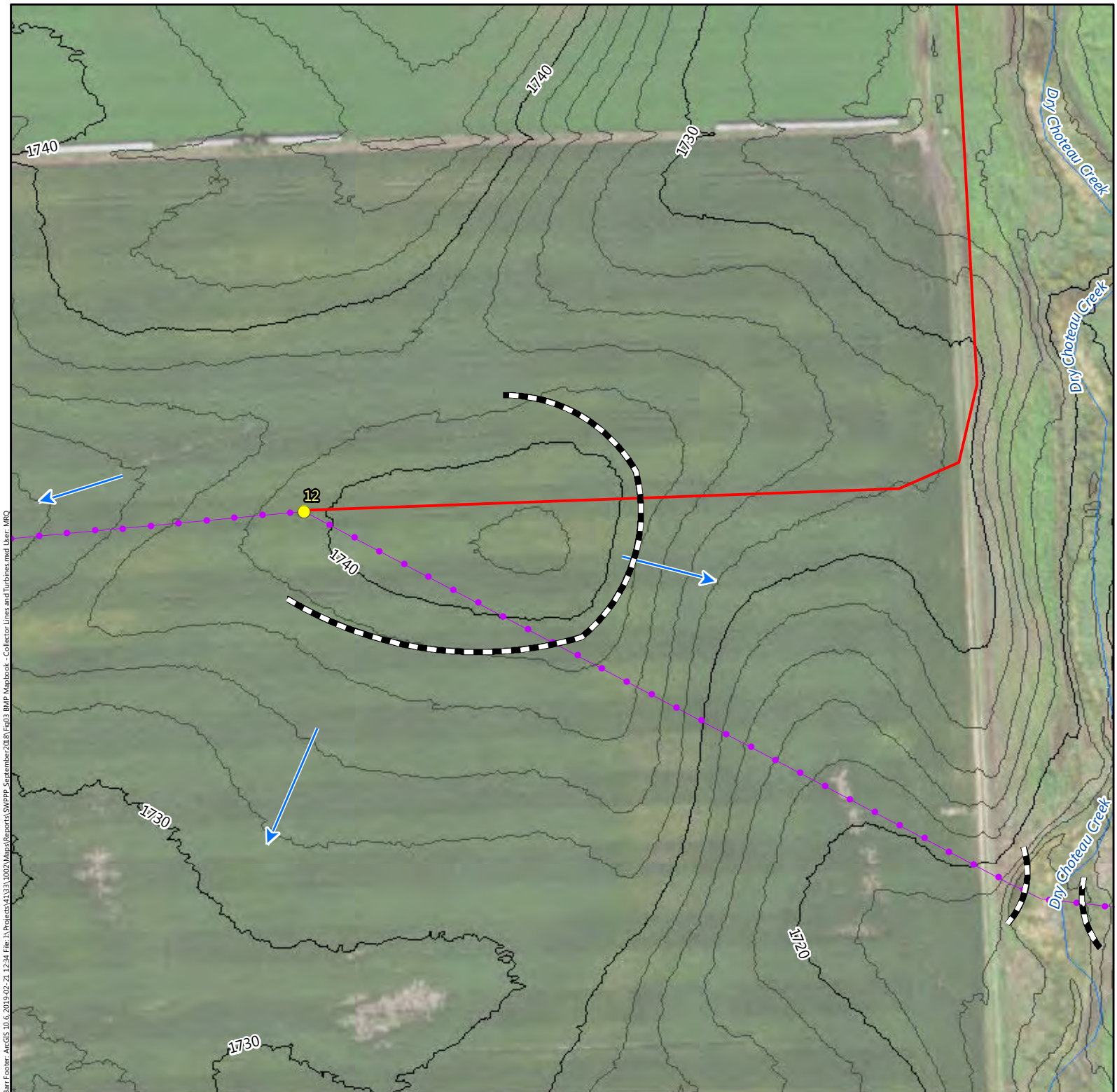
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-104

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen Berm

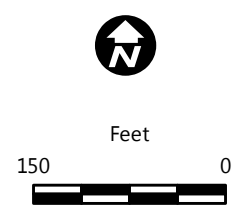
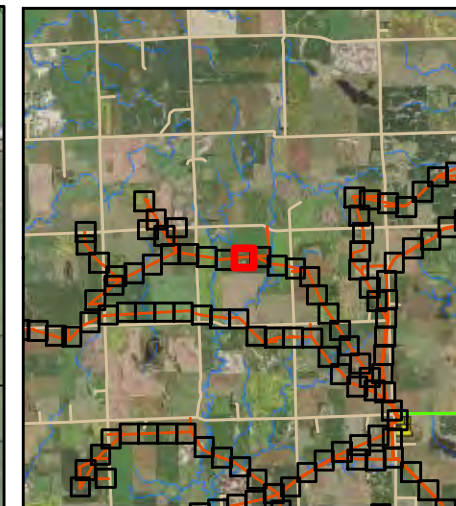


Figure 3-105

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





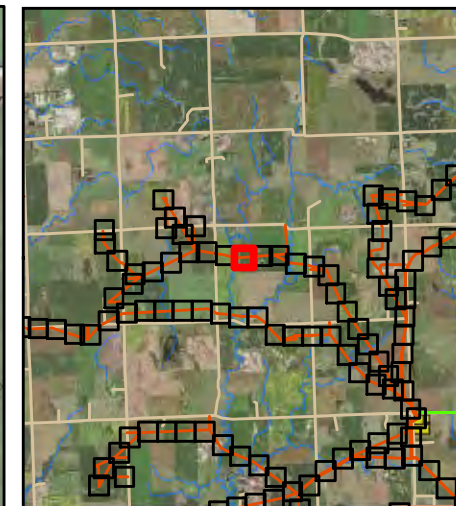
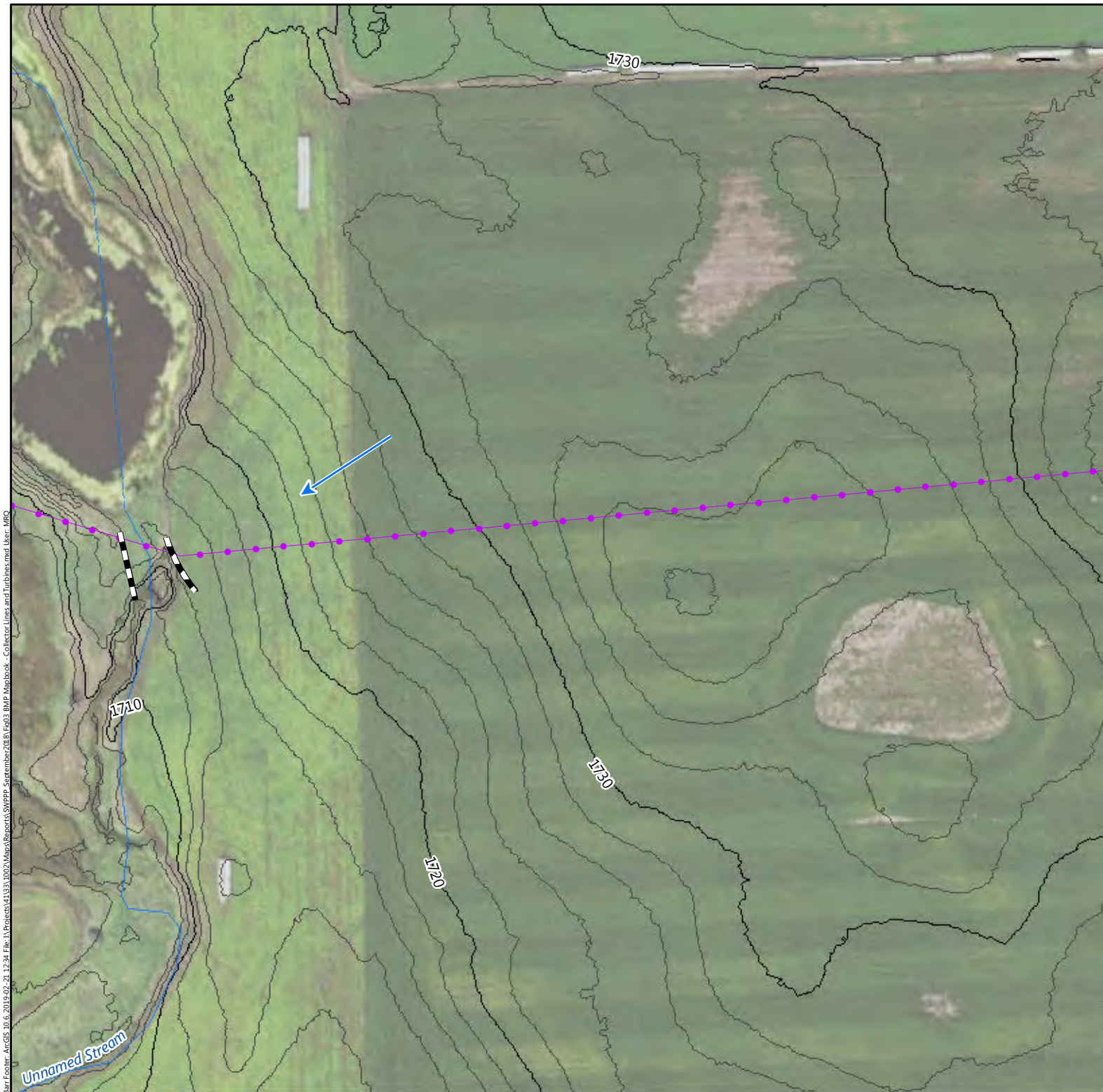
- Turbine Location (4/13/2018)
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen Berm



Figure 3-106

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





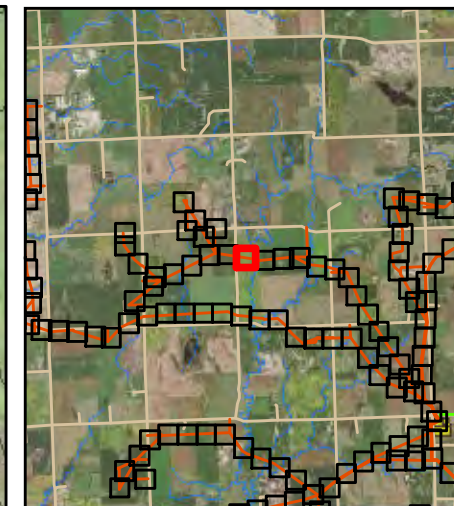
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-107

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





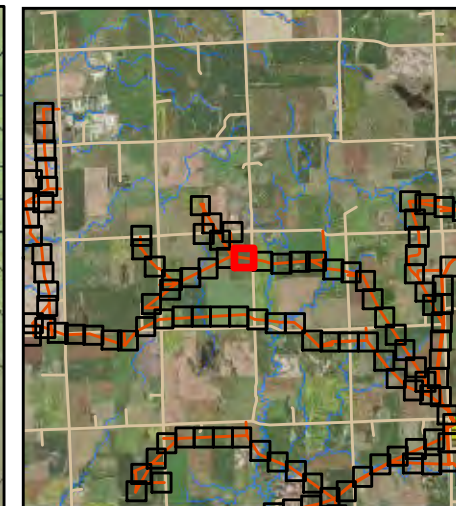
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-108

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





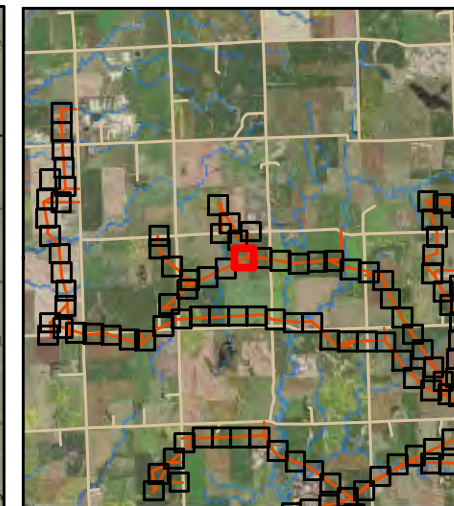
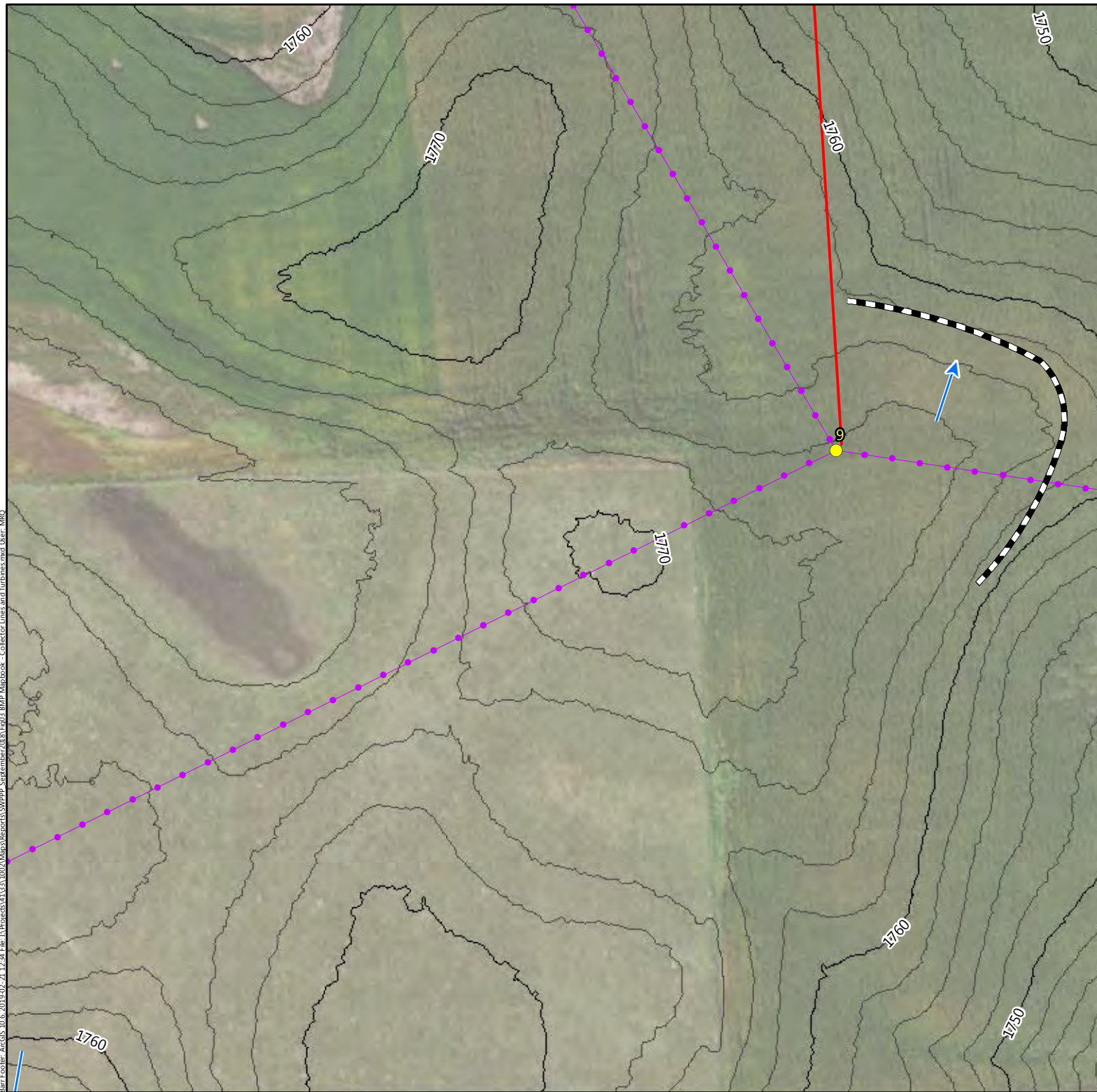
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-109

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





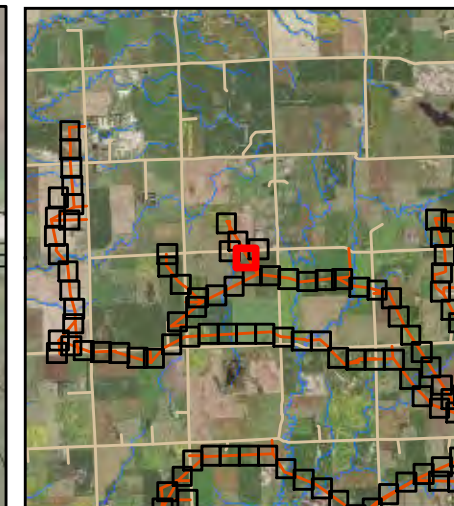
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-110

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





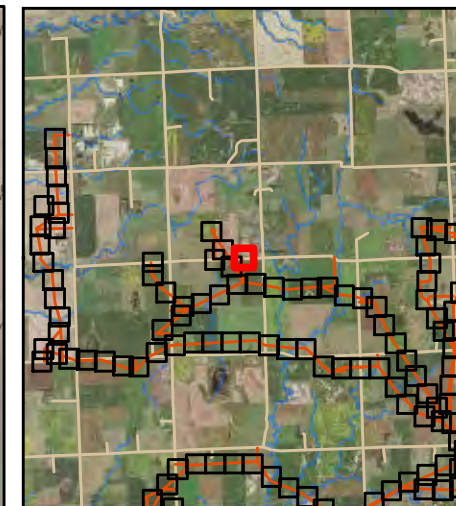
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-111

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm



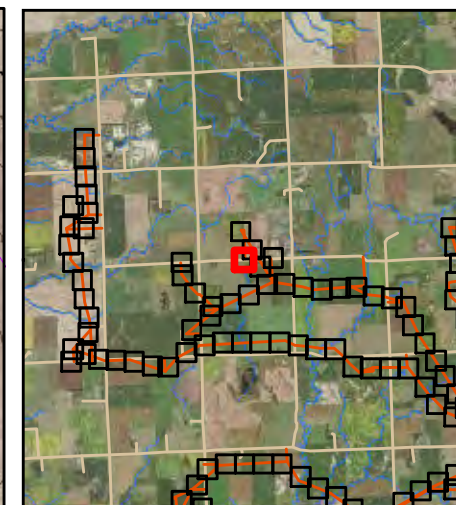
Feet



Figure 3-112

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota










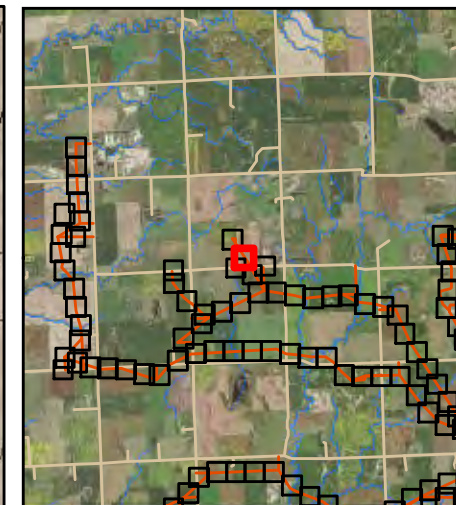
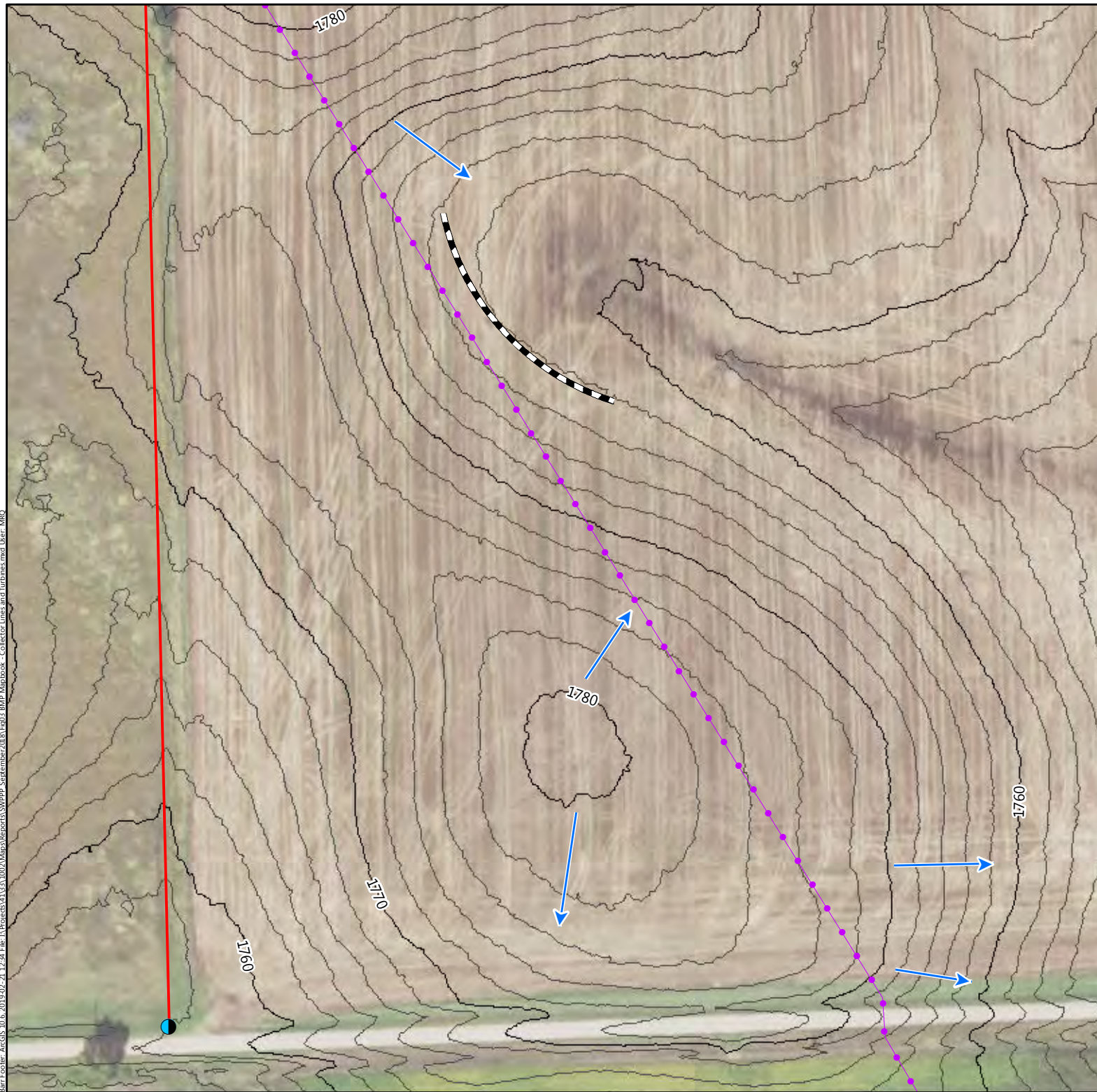
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Ditch/Other (USGS Dataset)
-  Flow Direction



Figure 3-113

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota










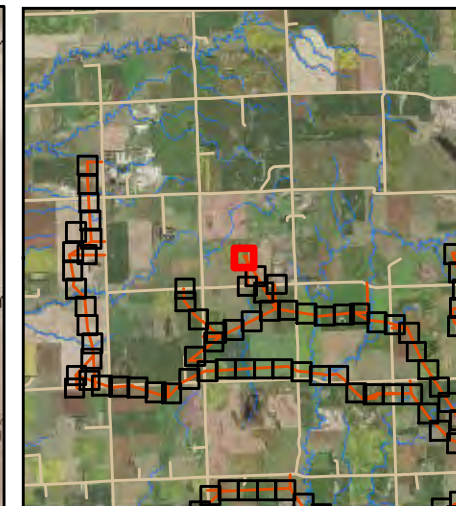
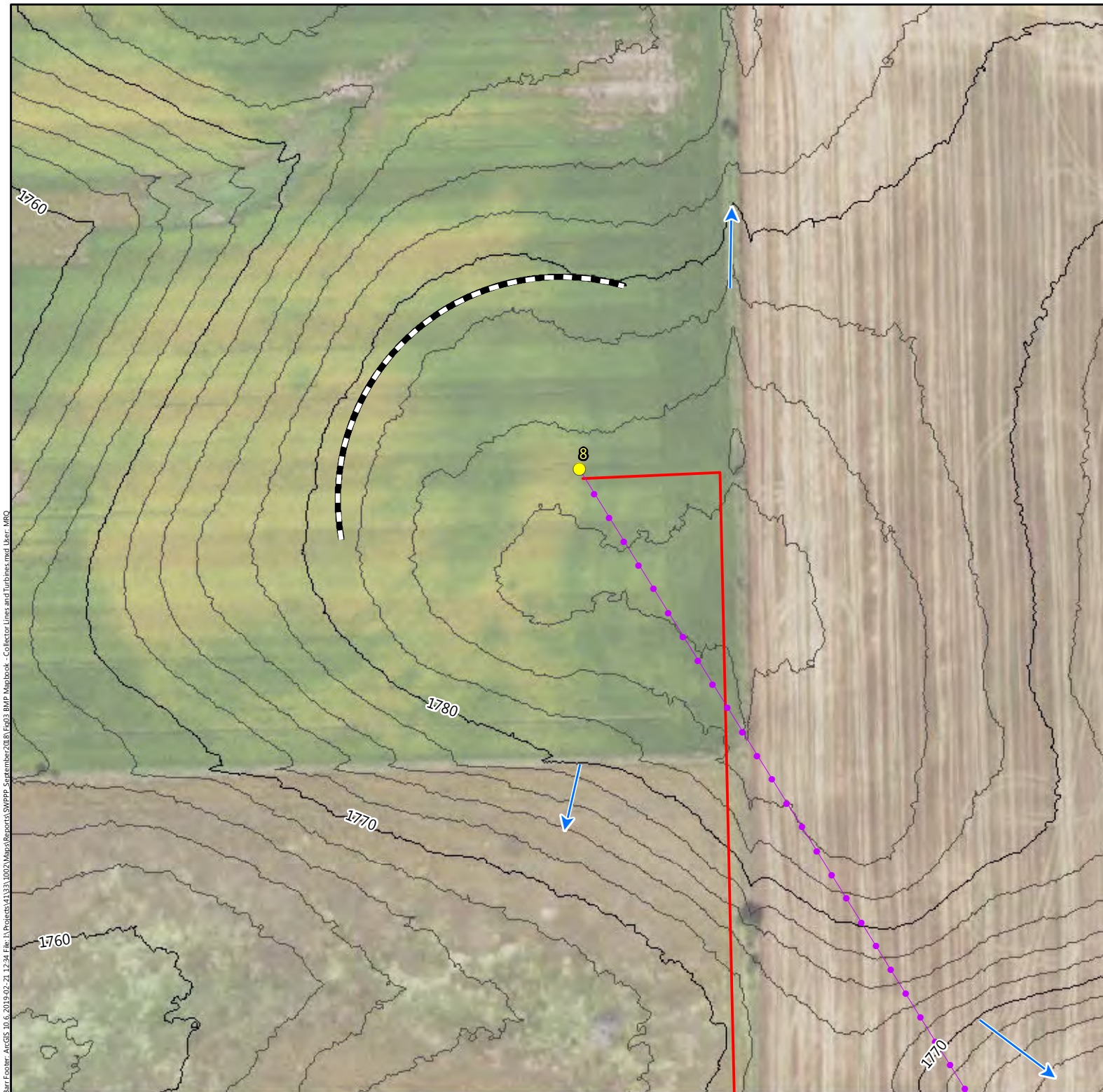
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-114

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Feet  
150 0

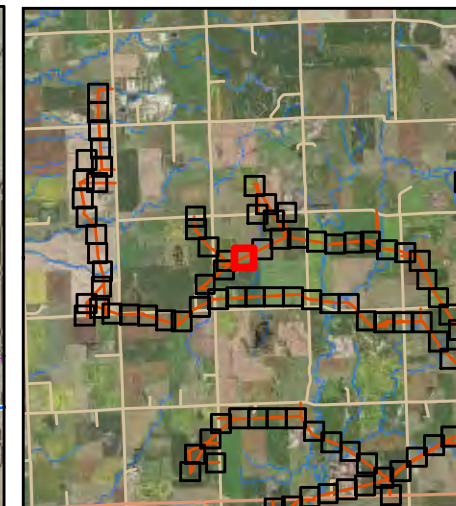
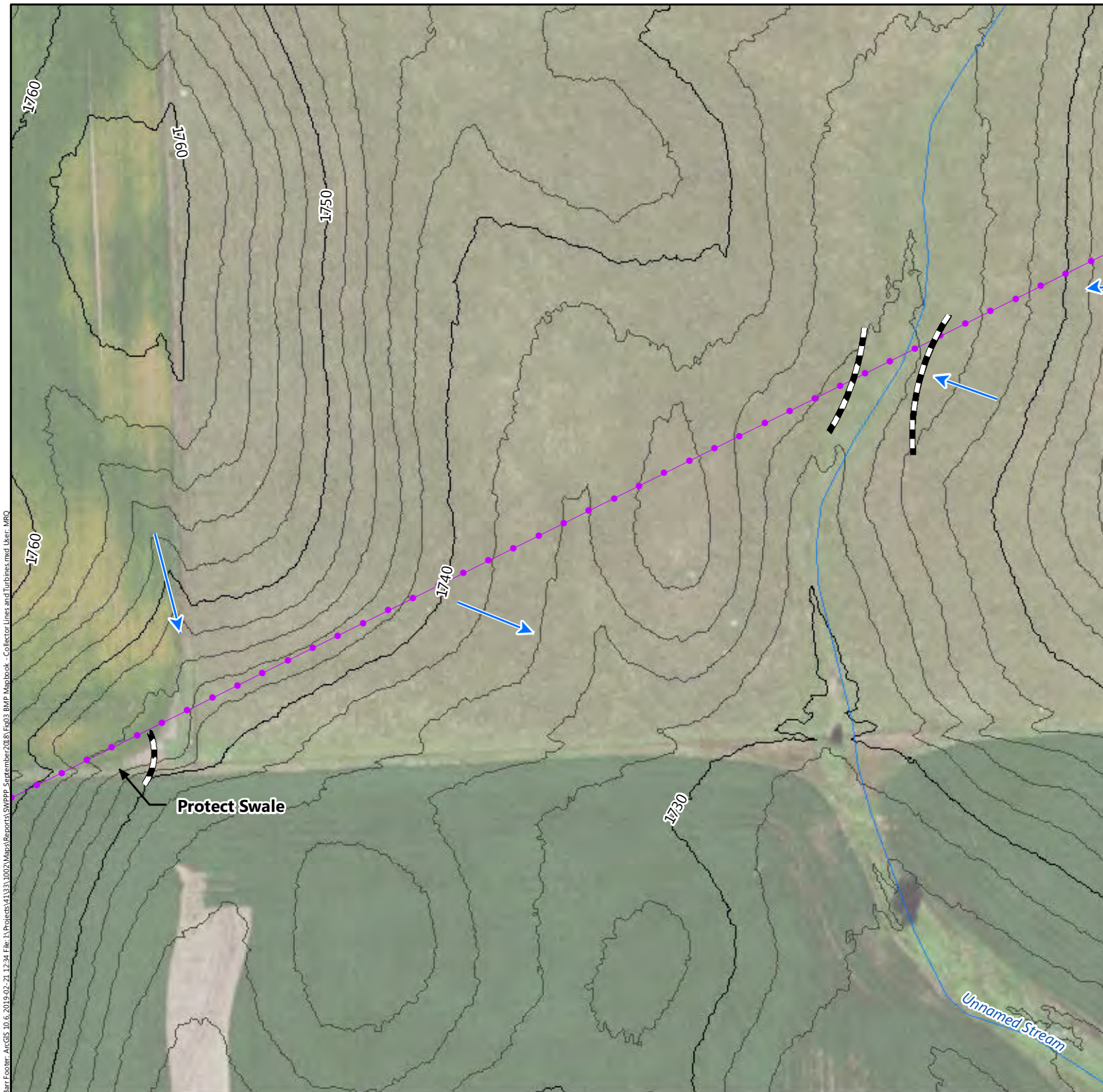
Figure 3-115

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota









- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 ——— Diversion Ditch, or Earthen  
 Berm



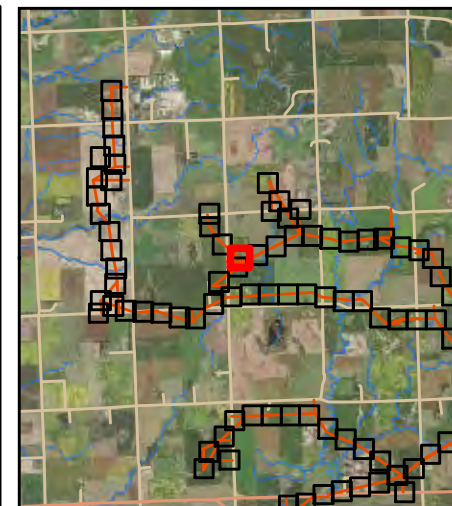
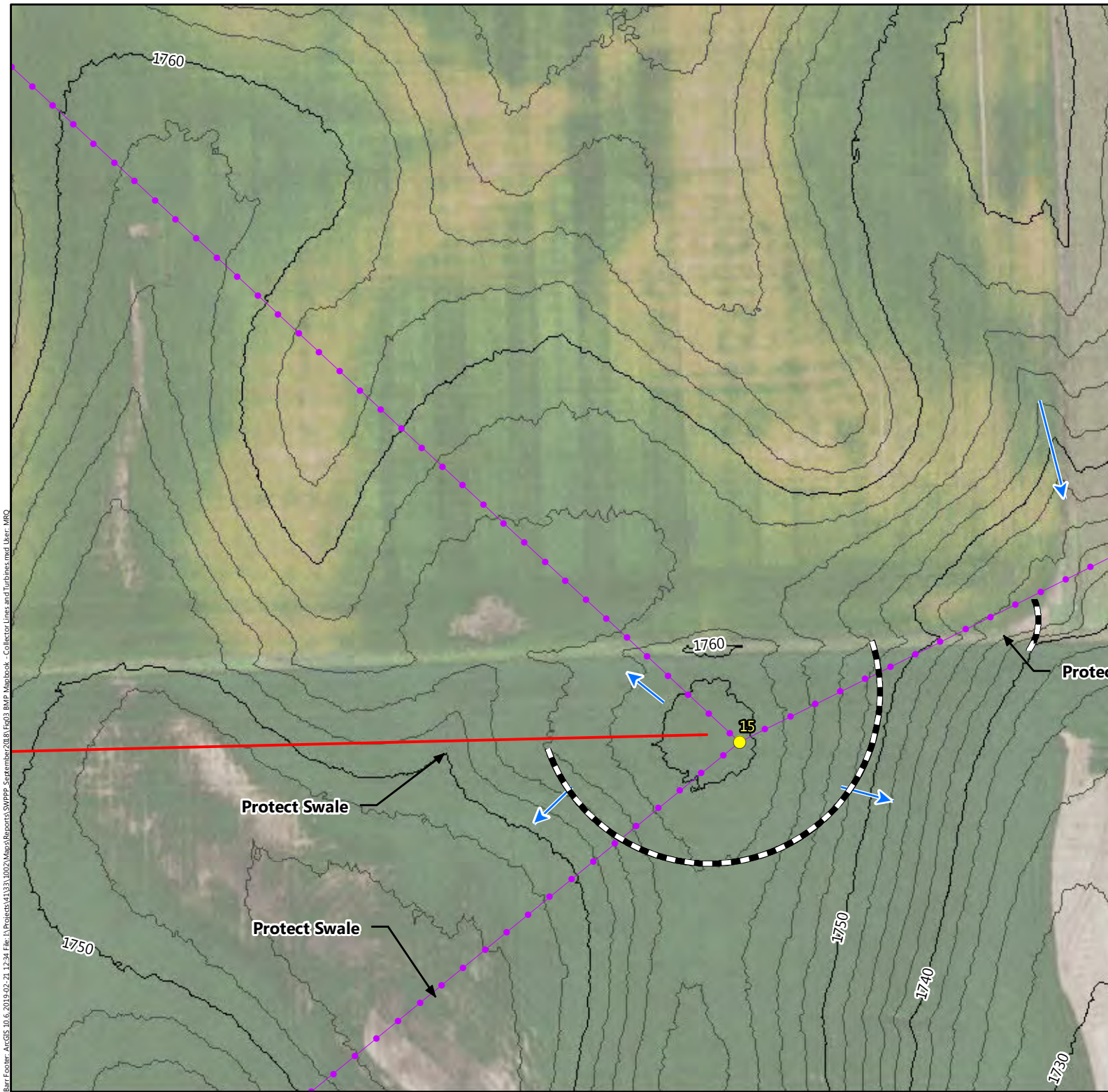
Feet



Figure 3-117

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





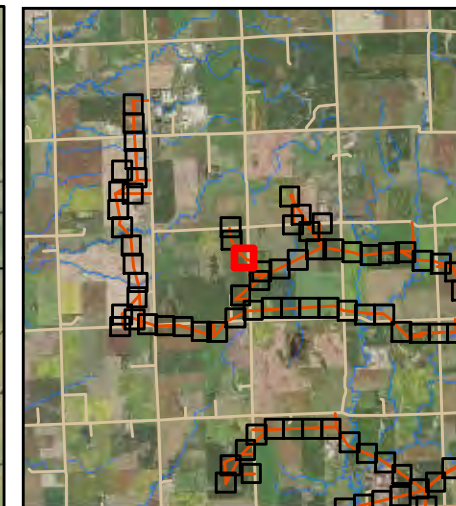
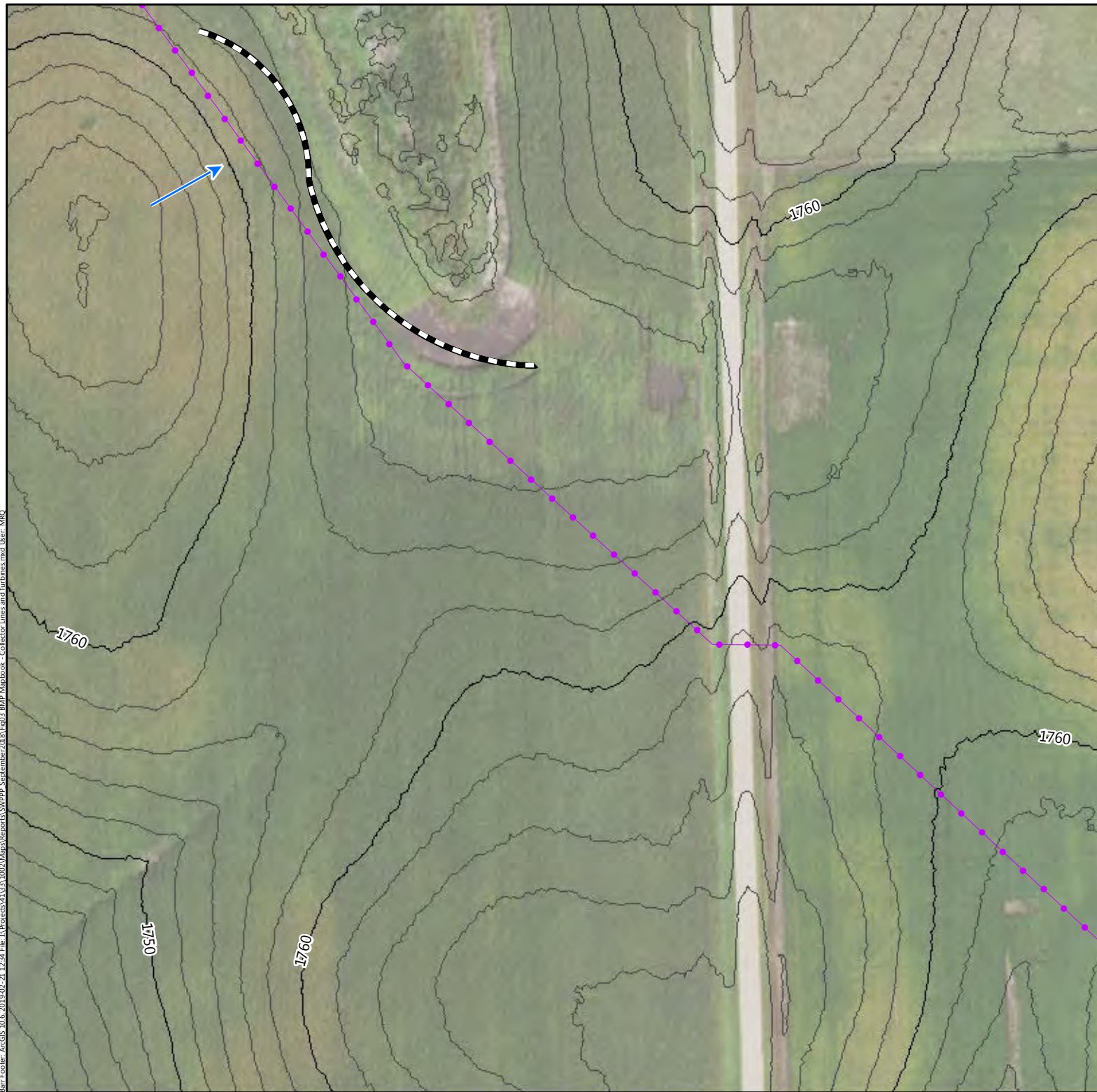
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-118

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





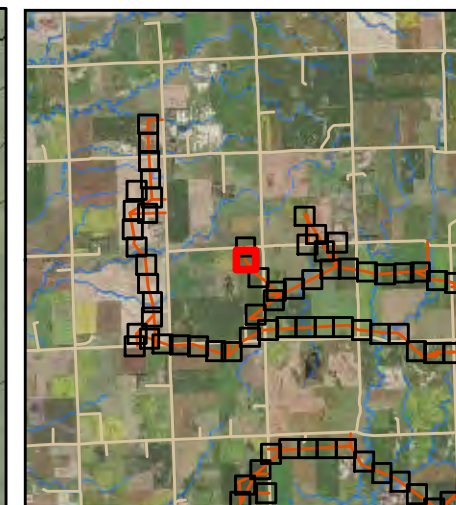
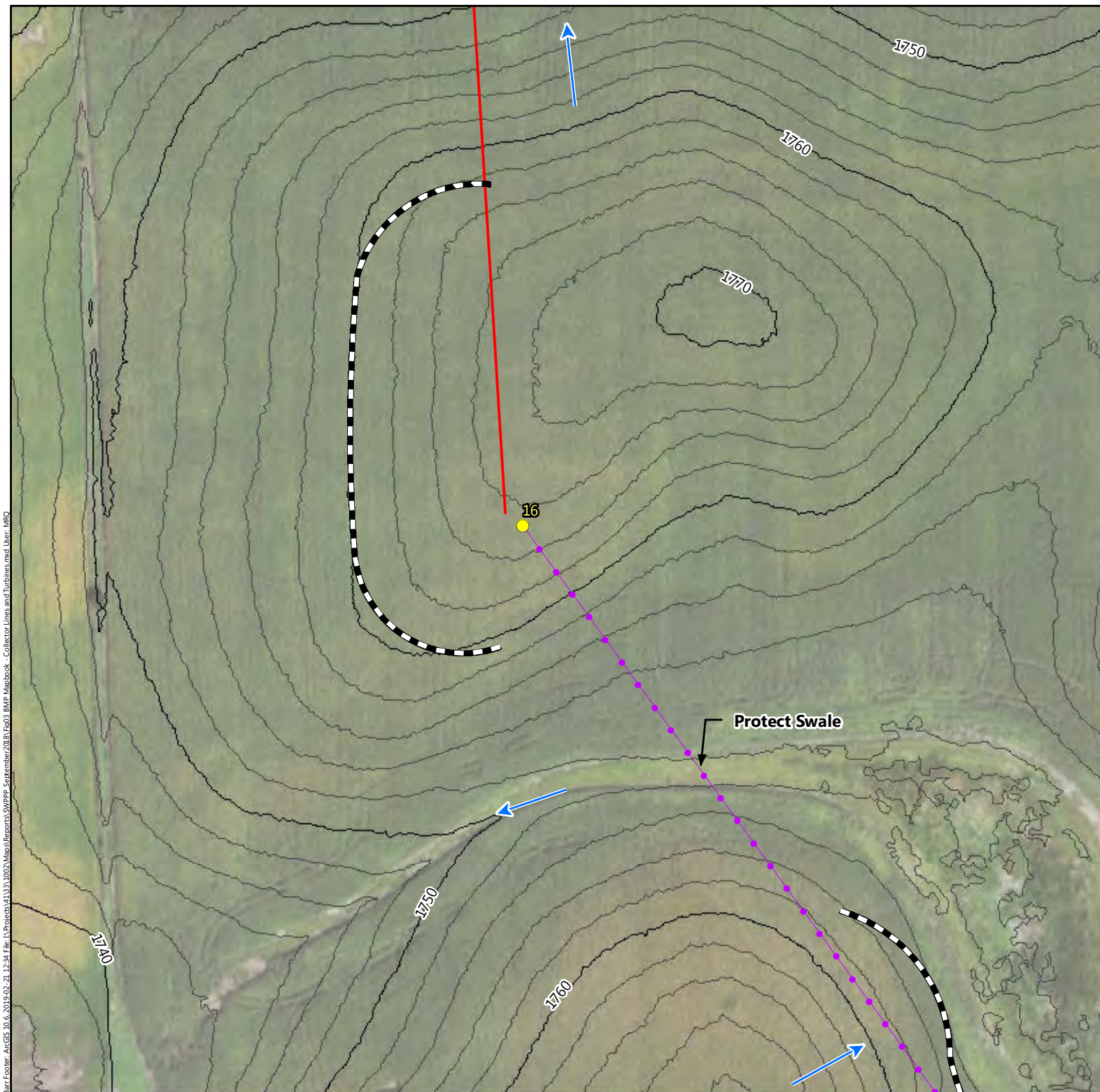
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
- - - Diversion Ditch, or Earthen  
Berm








Figure 3-119

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Turbine Location (4/13/2018)
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction
-  Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Feet

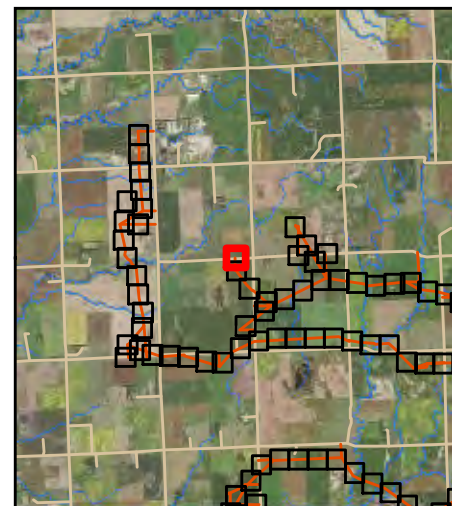


Figure 3-120

## EROSION CONTROL PLAN

Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





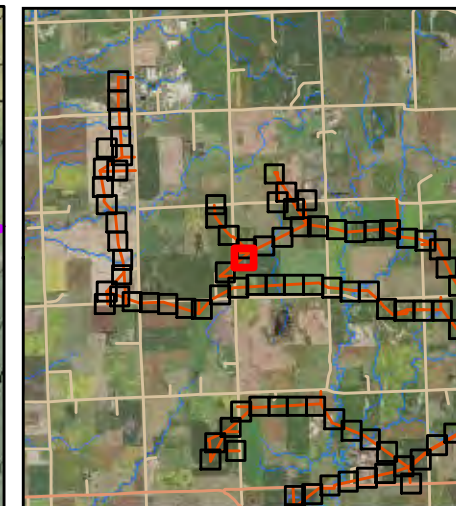
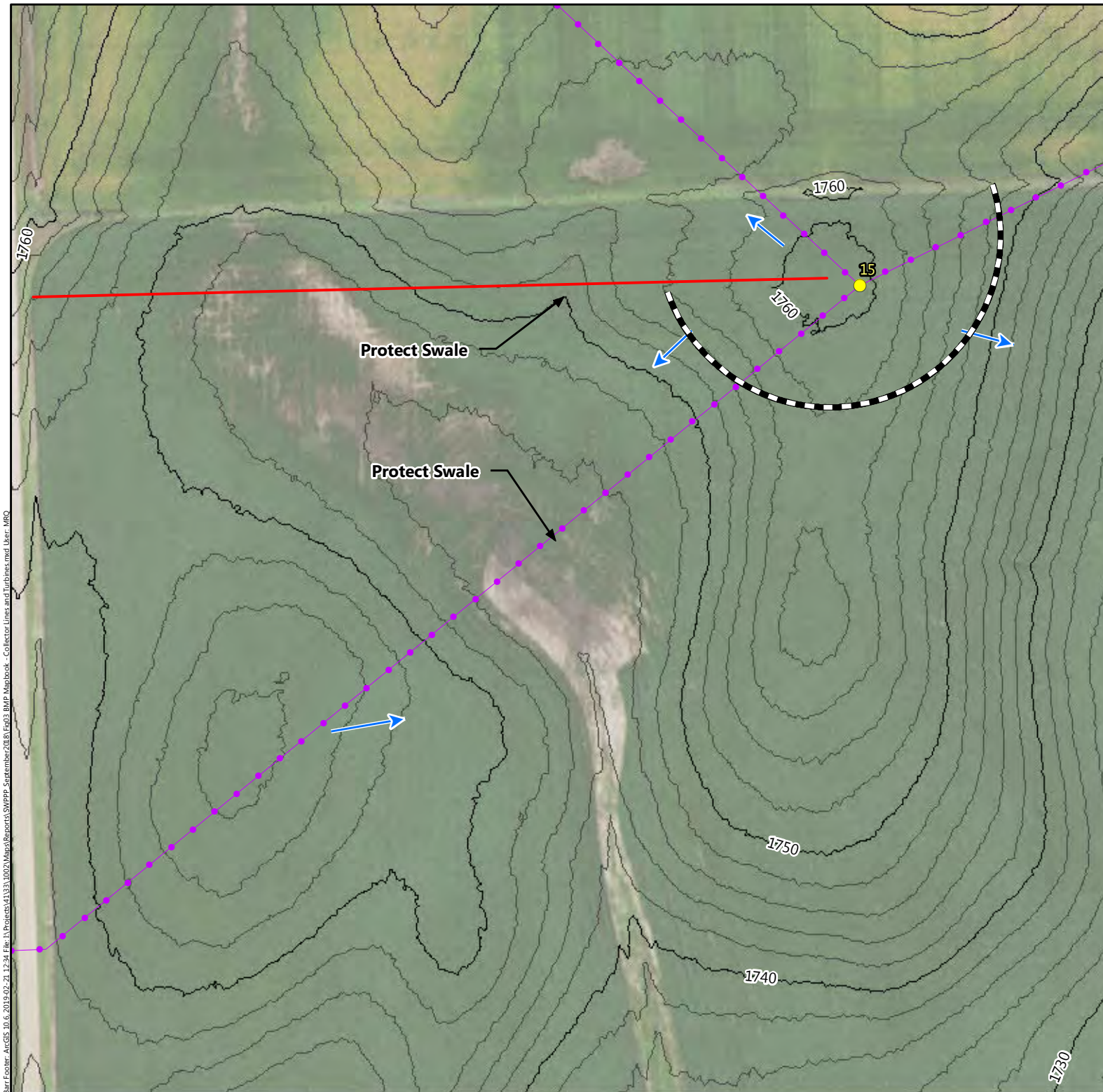
- Gate
- Culvert
- Access Road (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-121

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





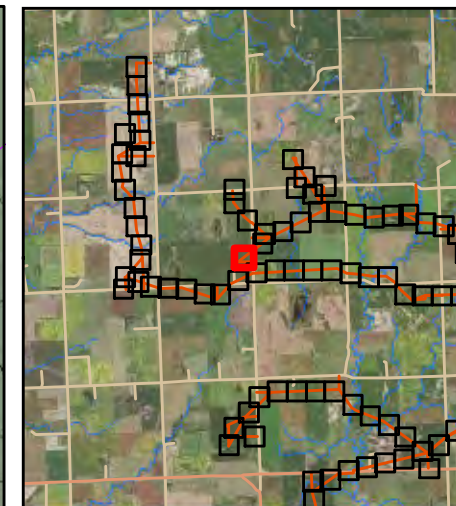
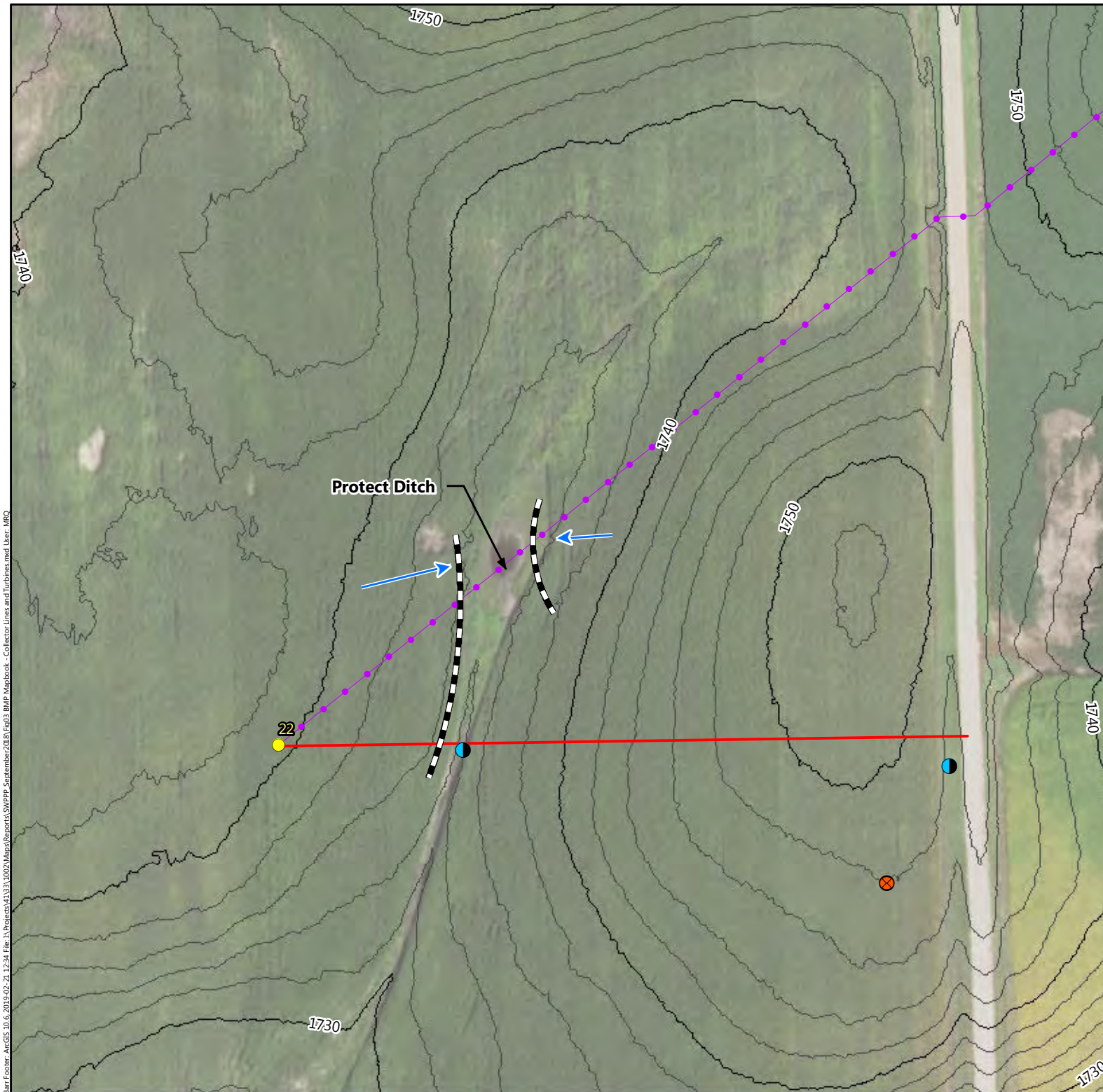
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-122

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





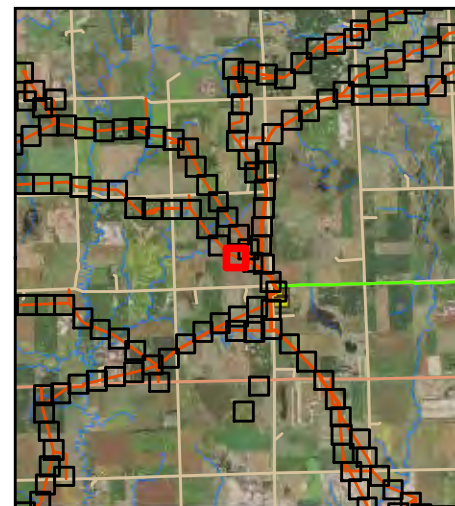
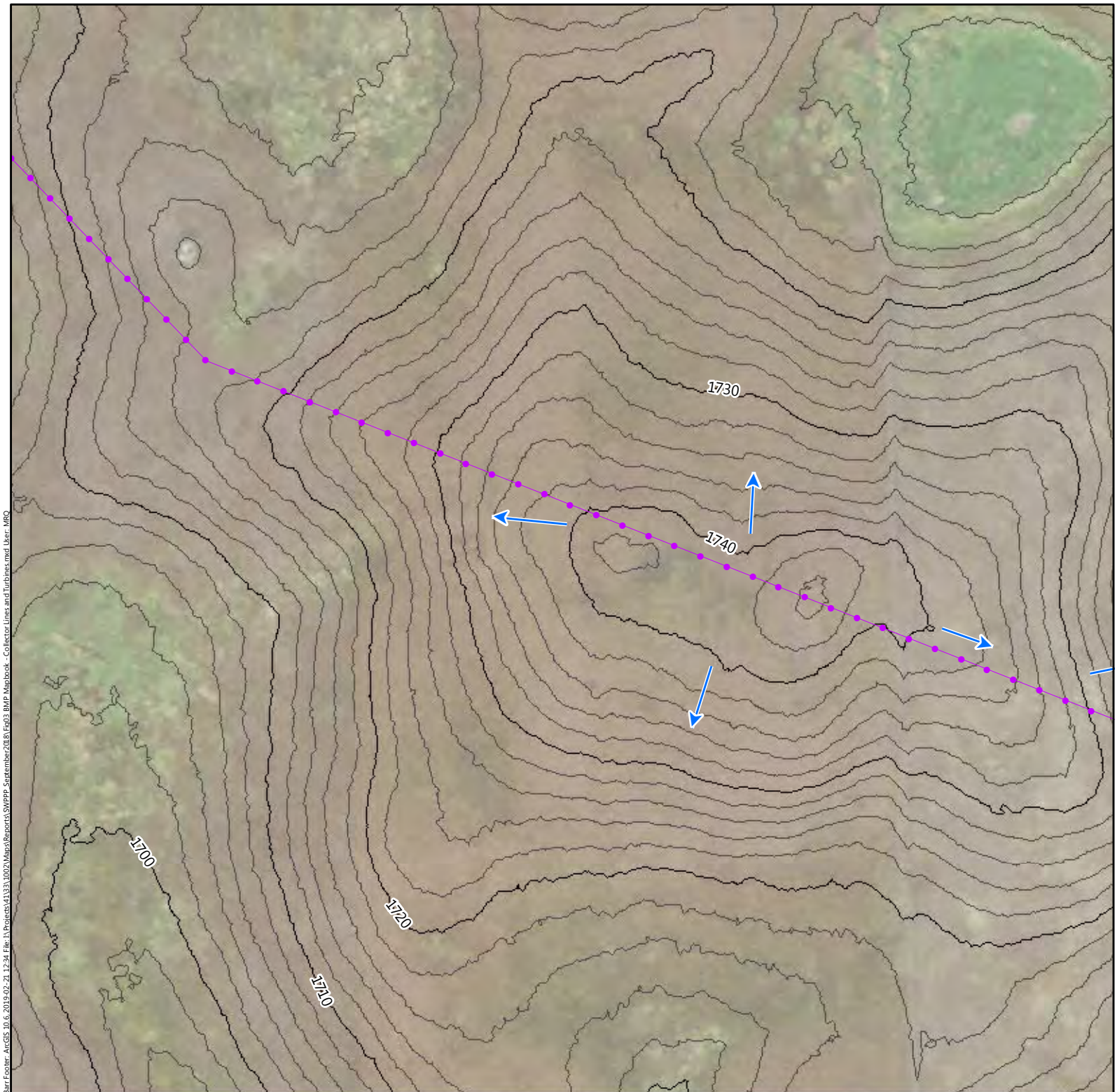
- Turbine Location (4/13/2018)
- ✕ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-123

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





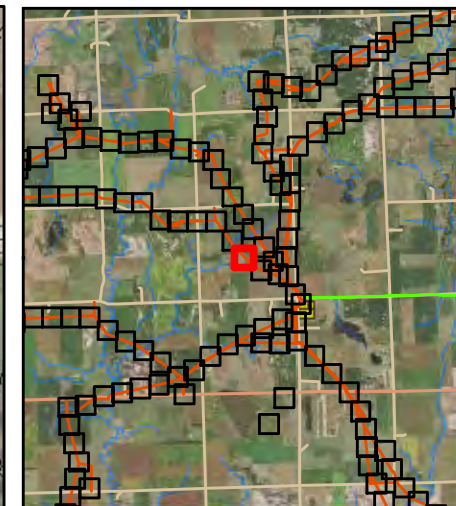
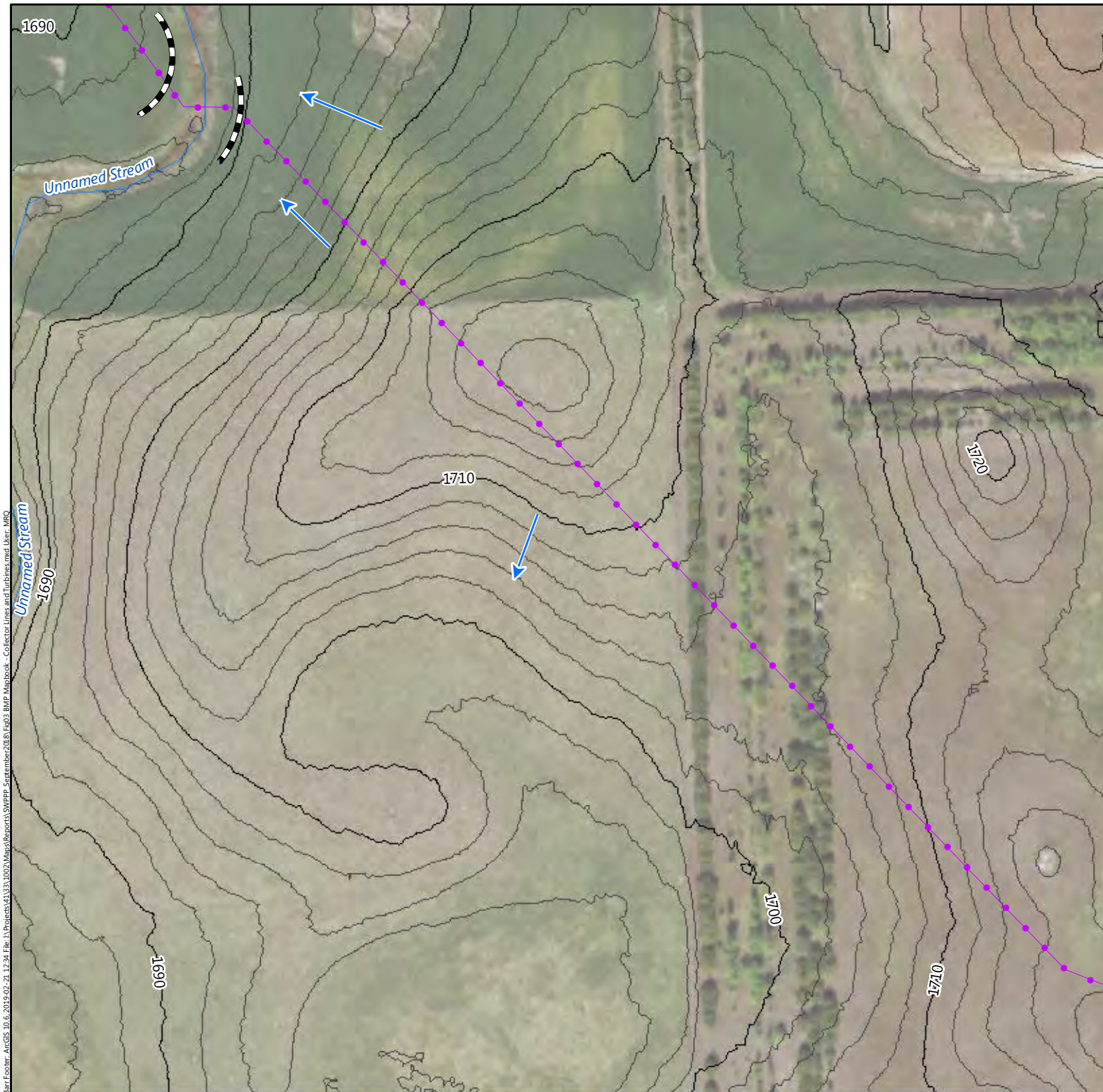
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-124

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





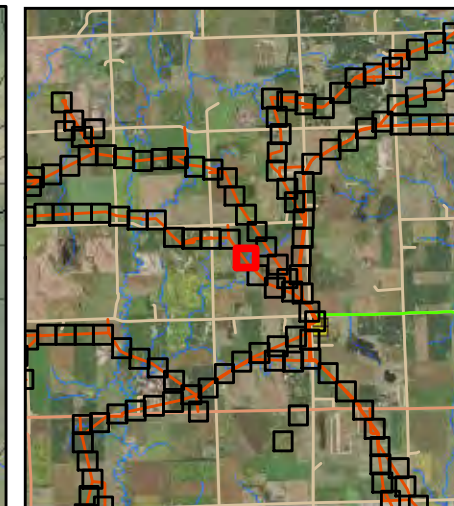
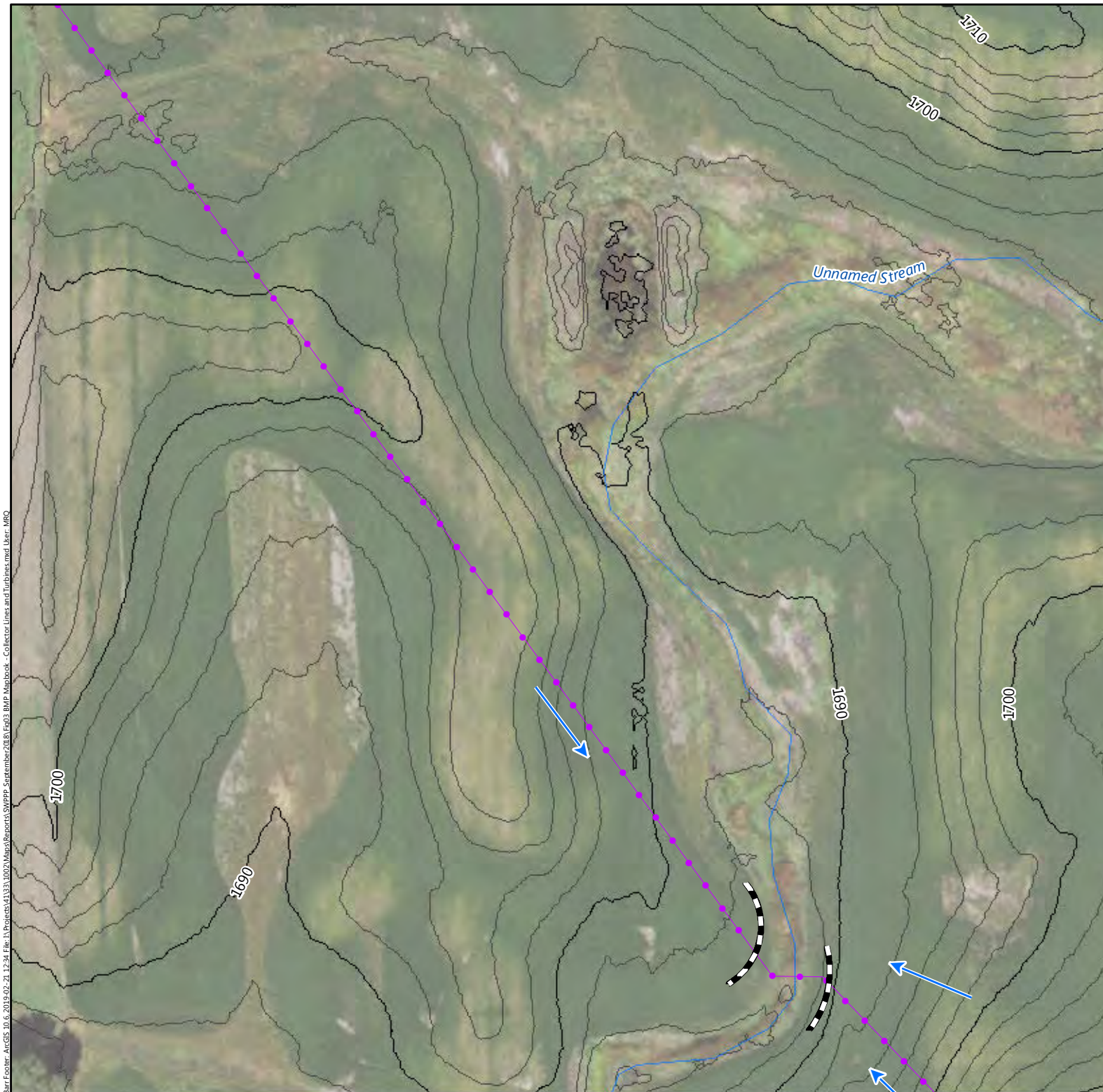
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-125

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm

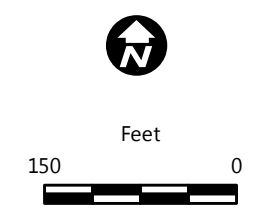
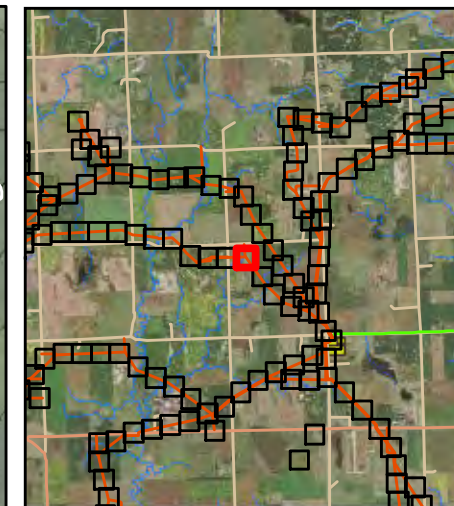
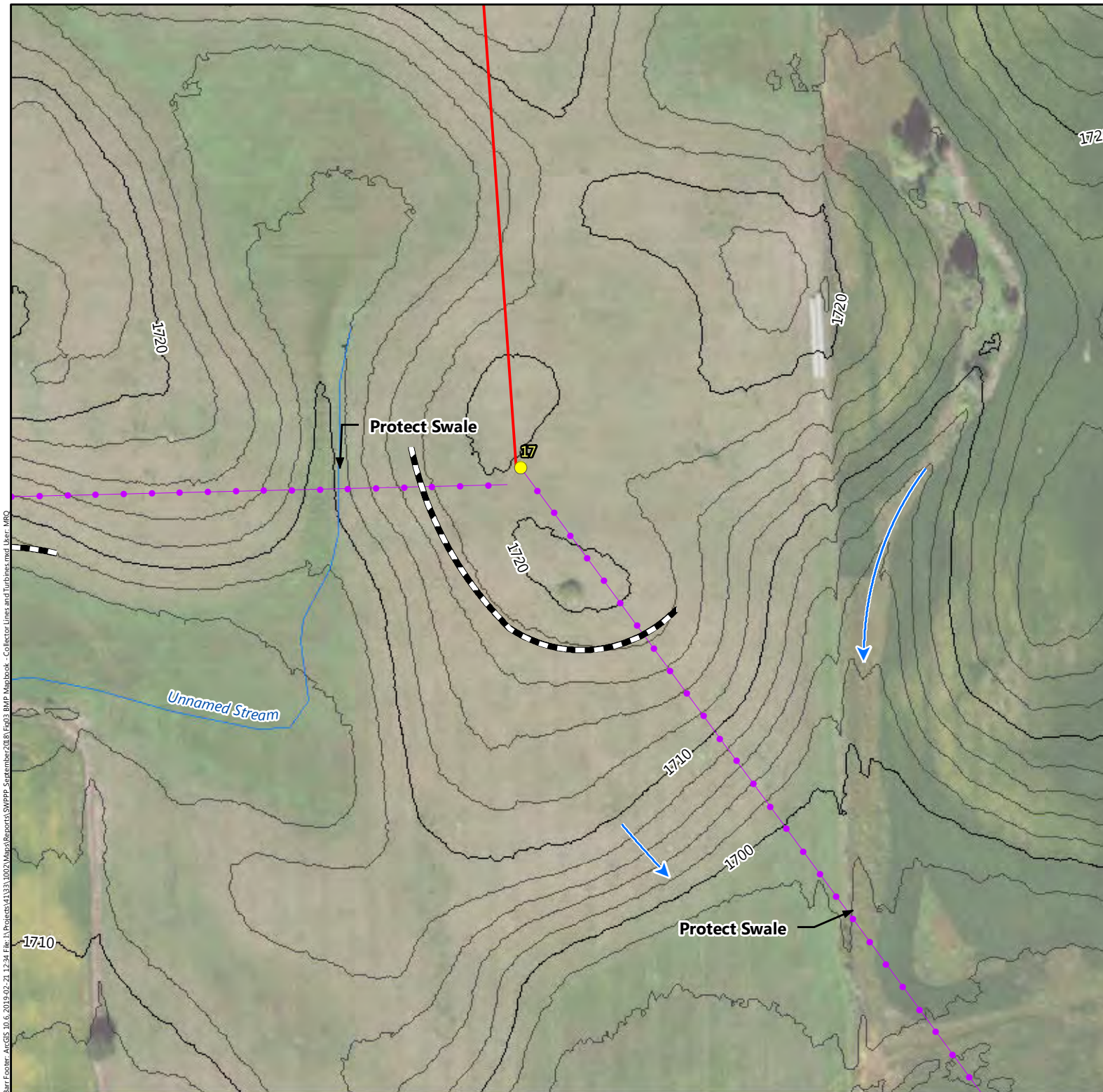


Figure 3-126

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





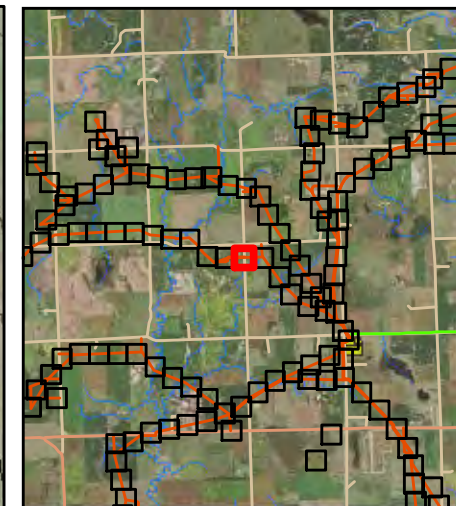
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-127

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





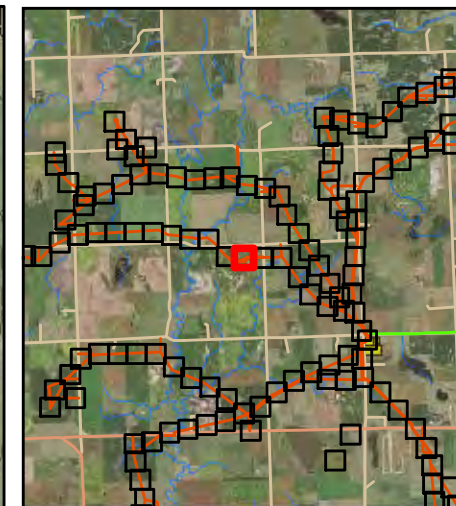
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-128

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





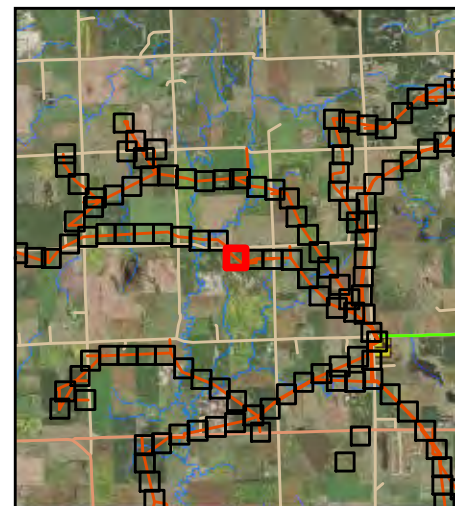
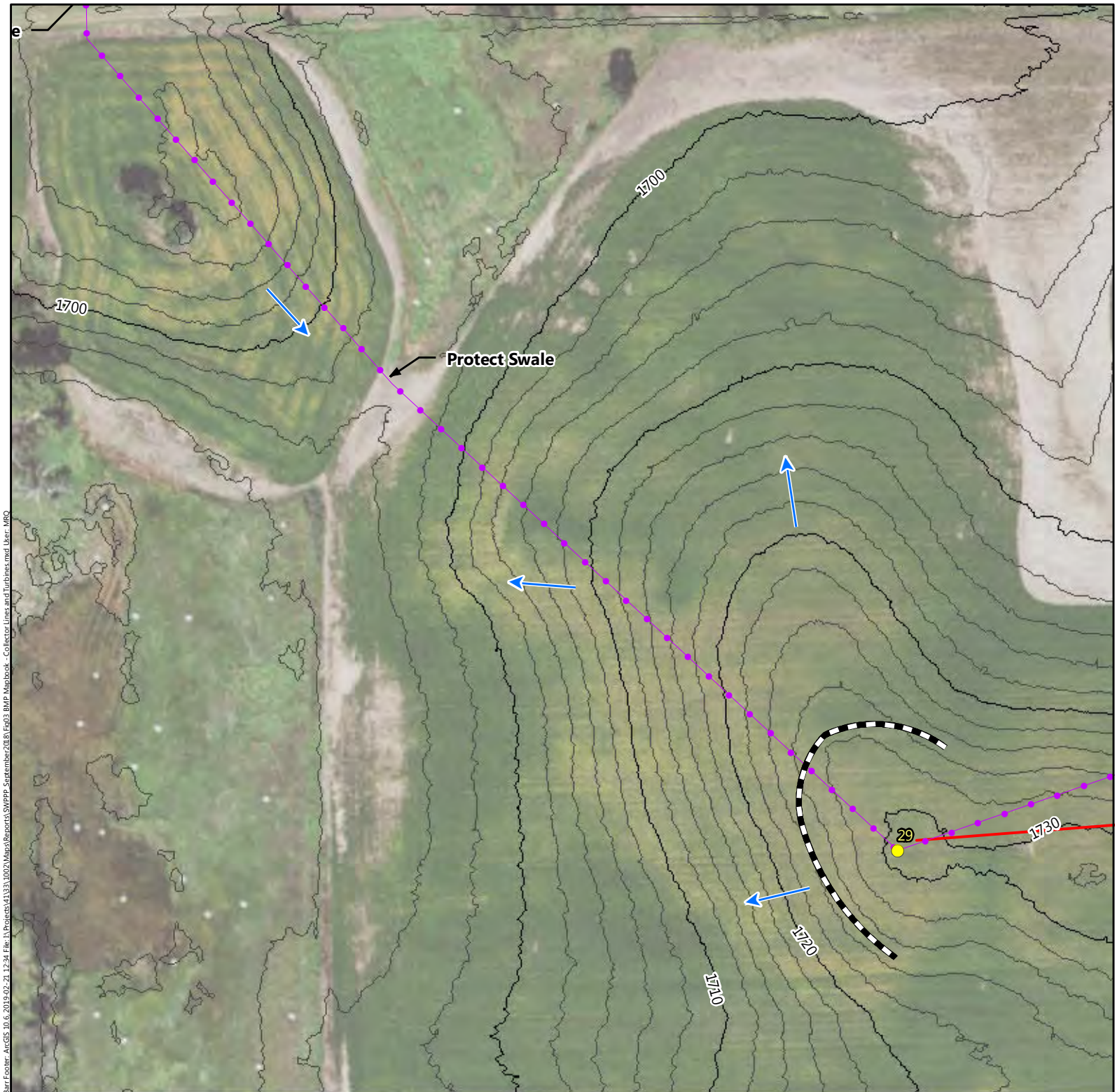
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-129

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➡ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

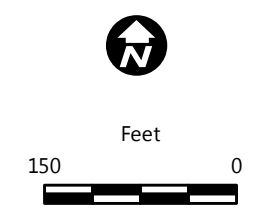
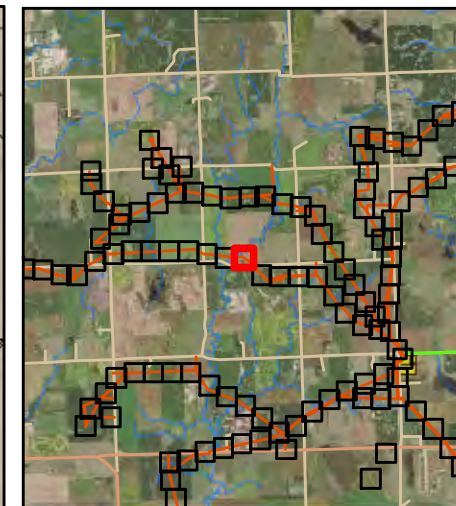
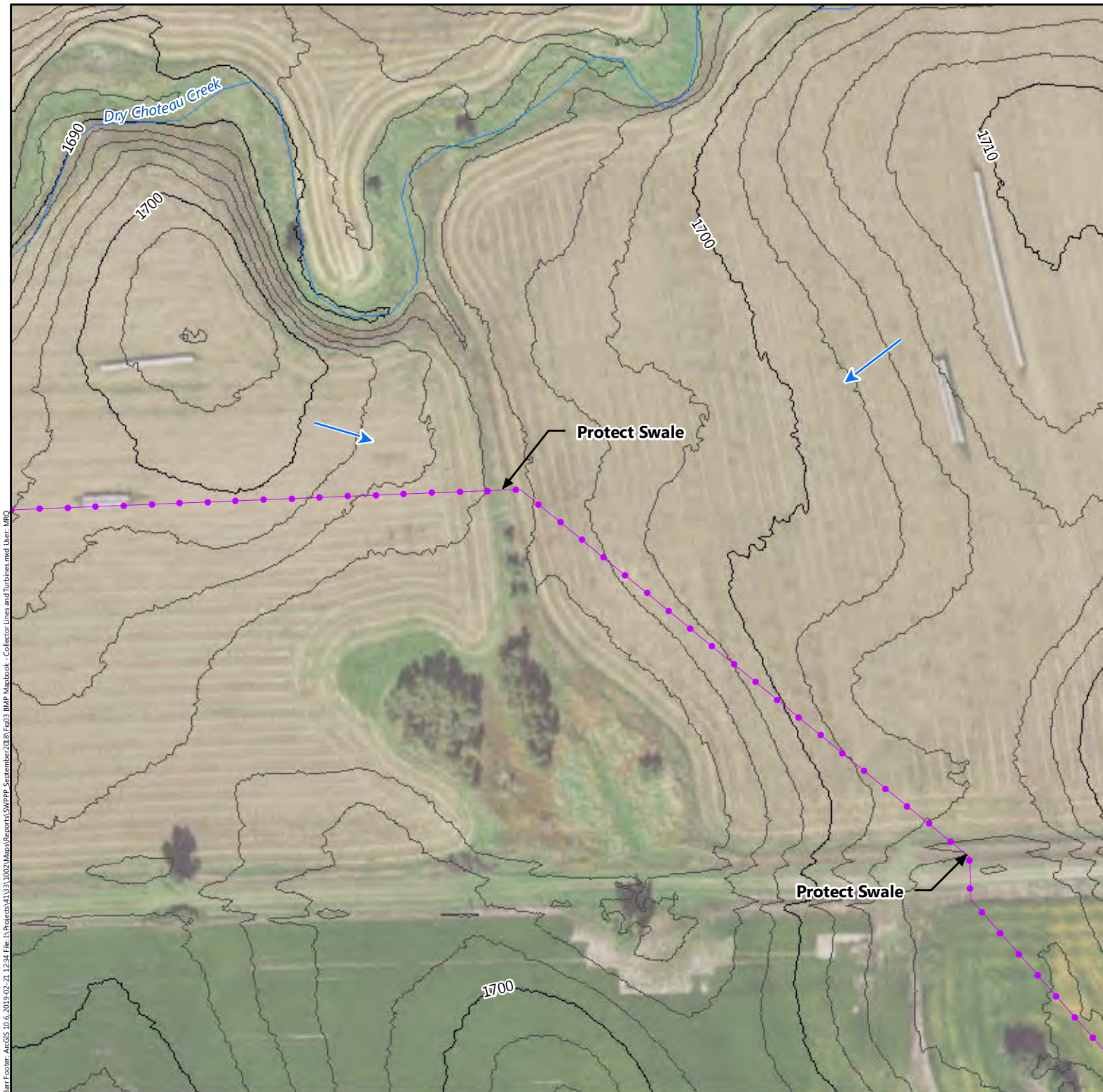


Figure 3-130

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





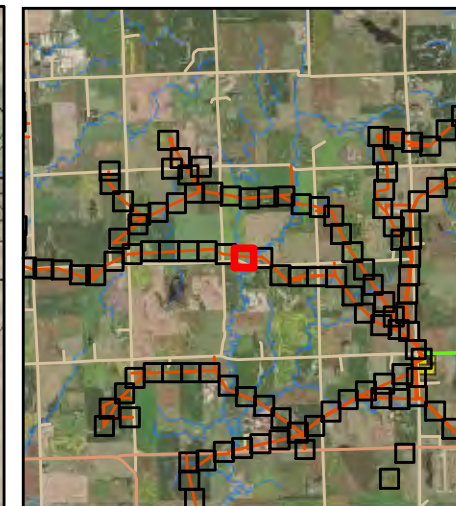
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



Figure 3-131

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



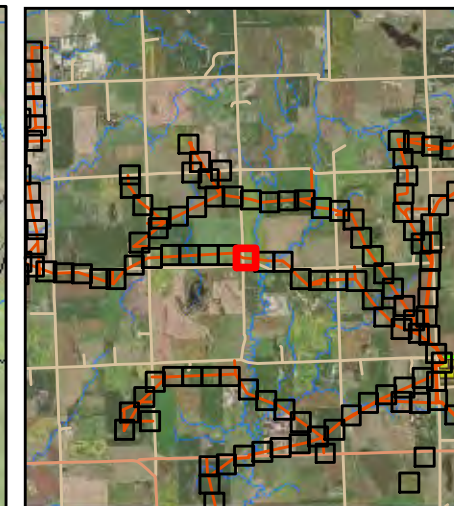
Feet



Figure 3-132

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





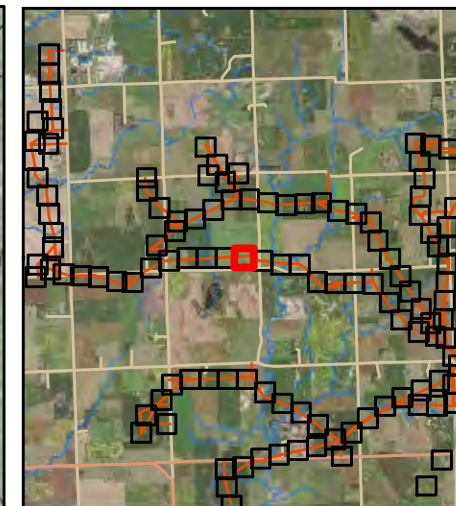
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



Figure 3-133

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





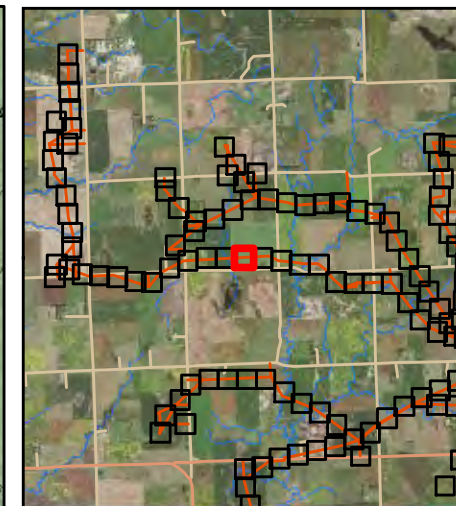
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-134

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





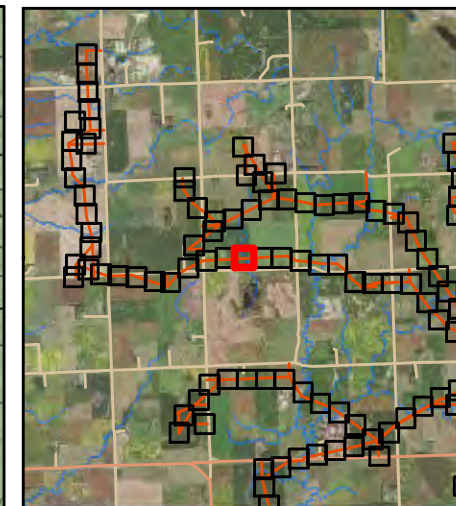
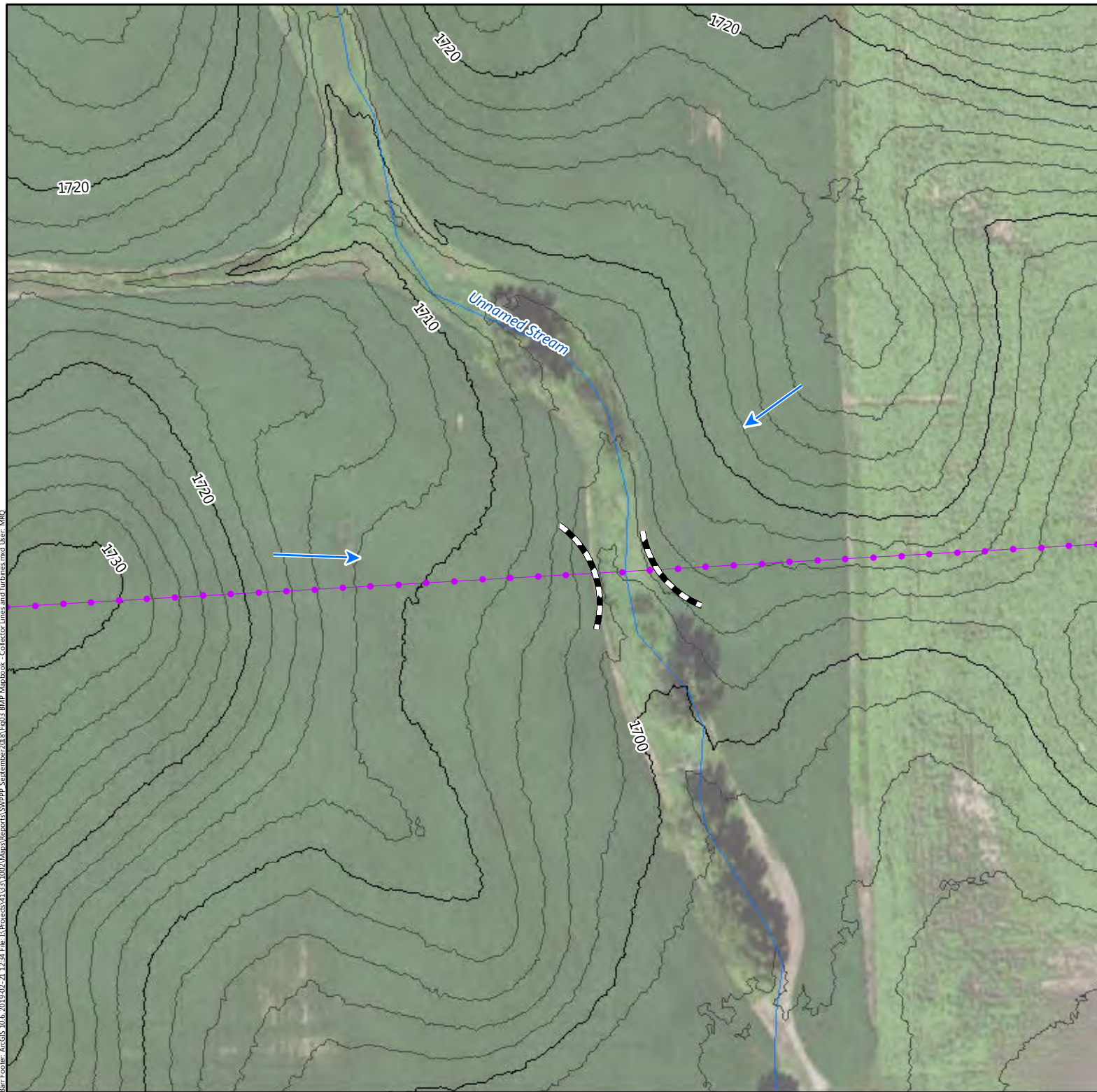
- Collector Lines (1/18/2019)
- ➡ Flow Direction



Figure 3-135

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





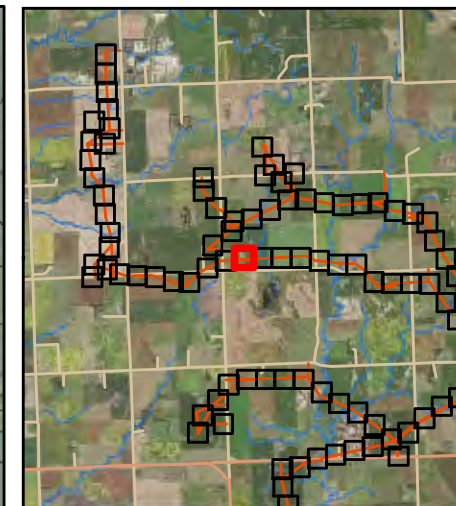
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen  
 Berm



Figure 3-136

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen Berm



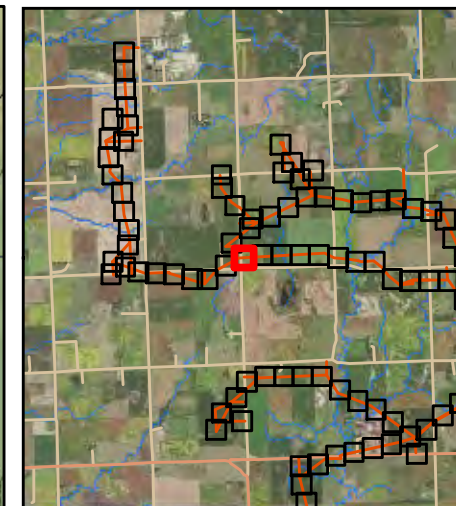
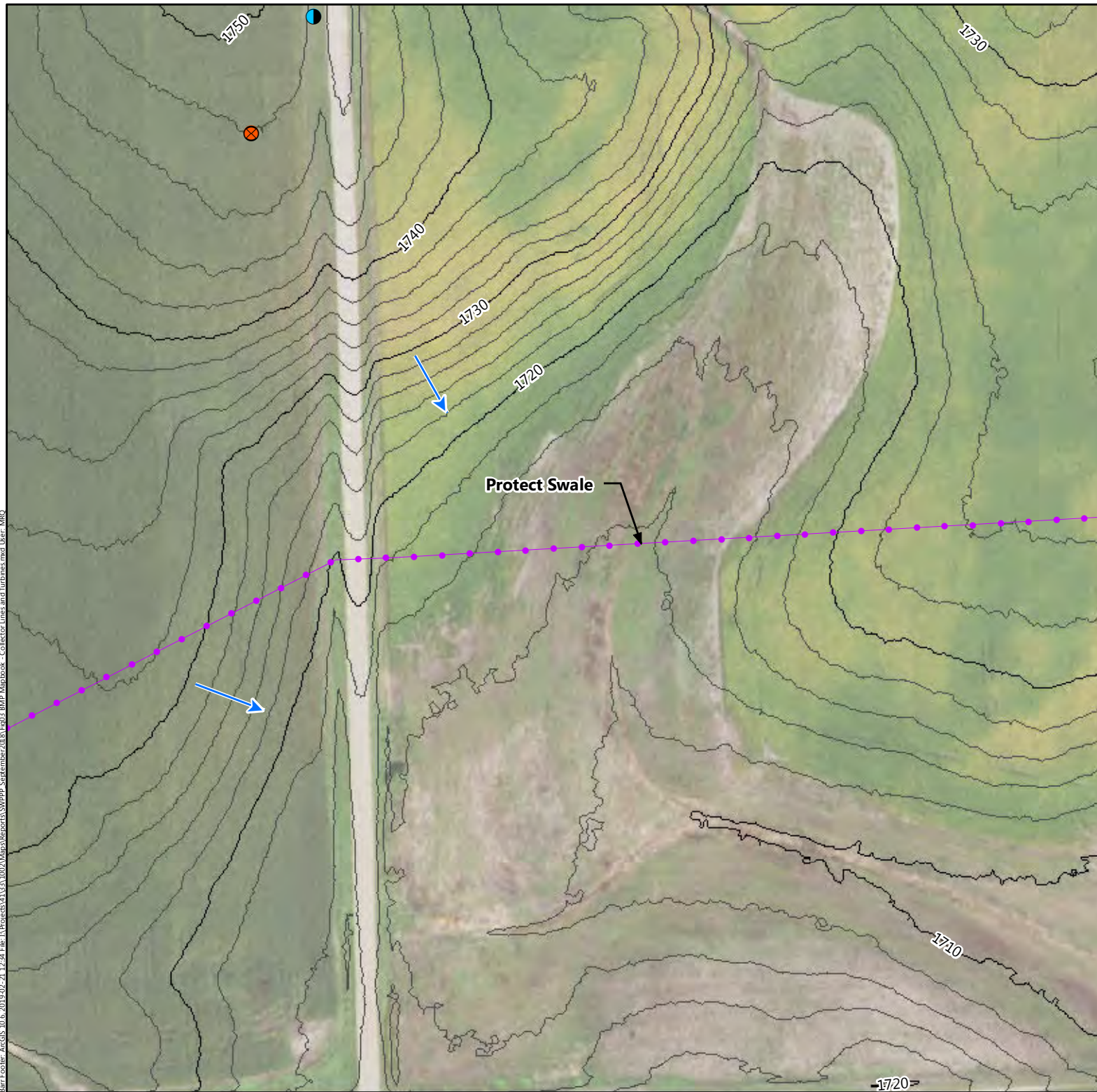
Feet



Figure 3-137

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





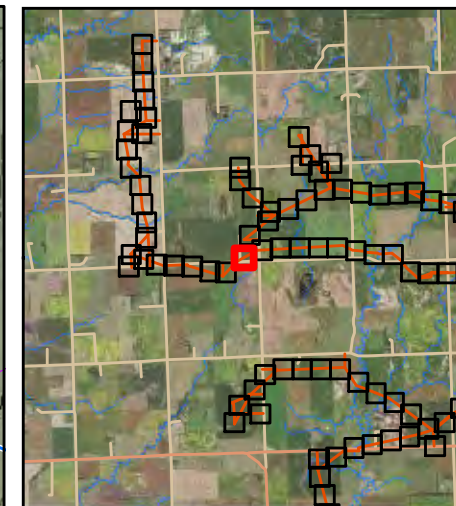
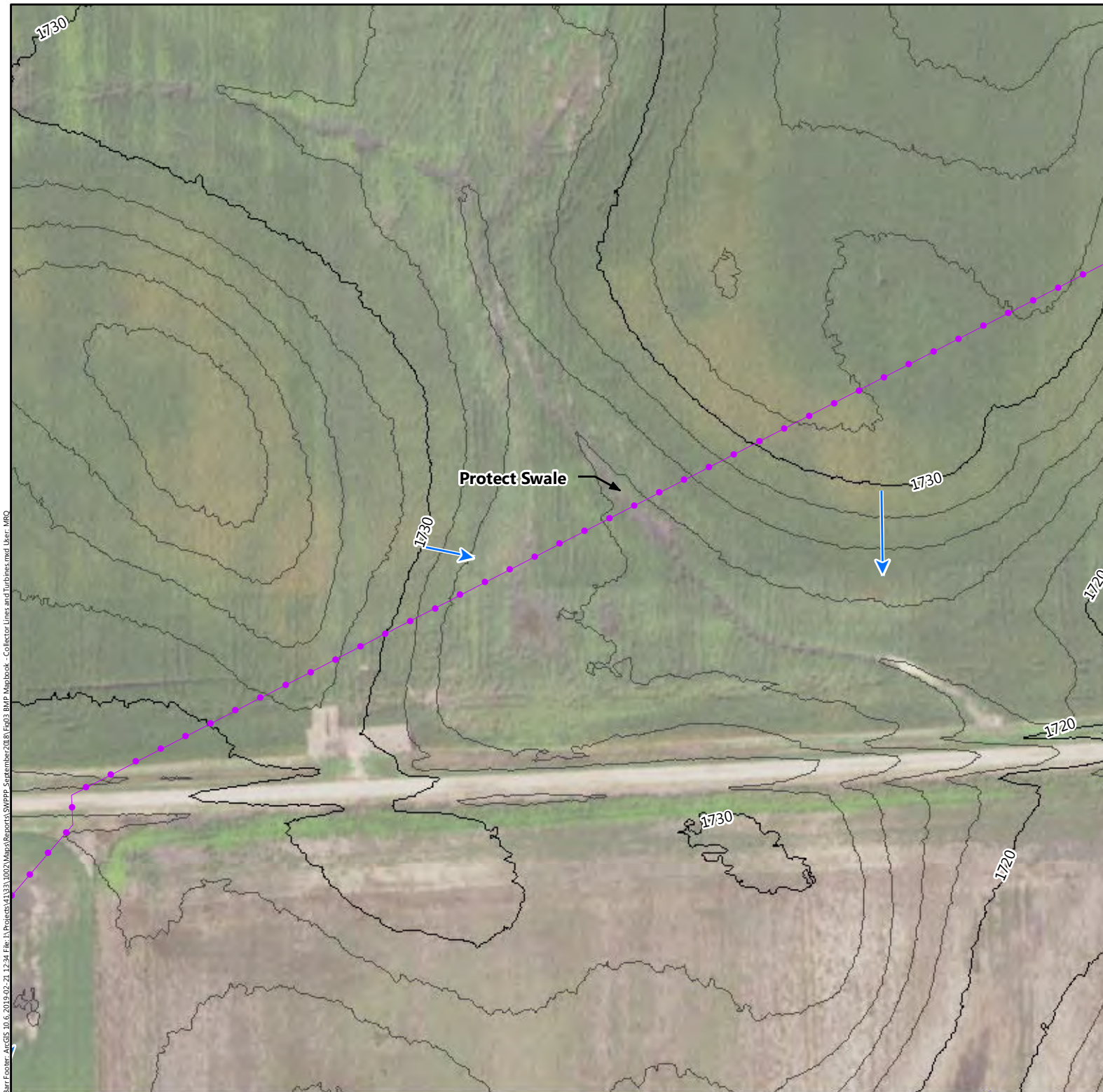
- Gate
- Culvert
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-138

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~~~~~ Stream/River (USGS Dataset)
- Flow Direction



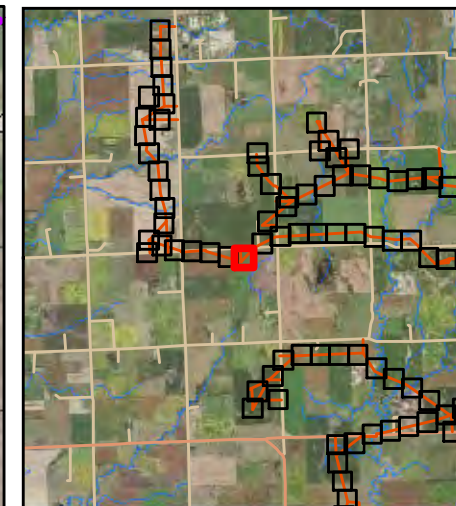
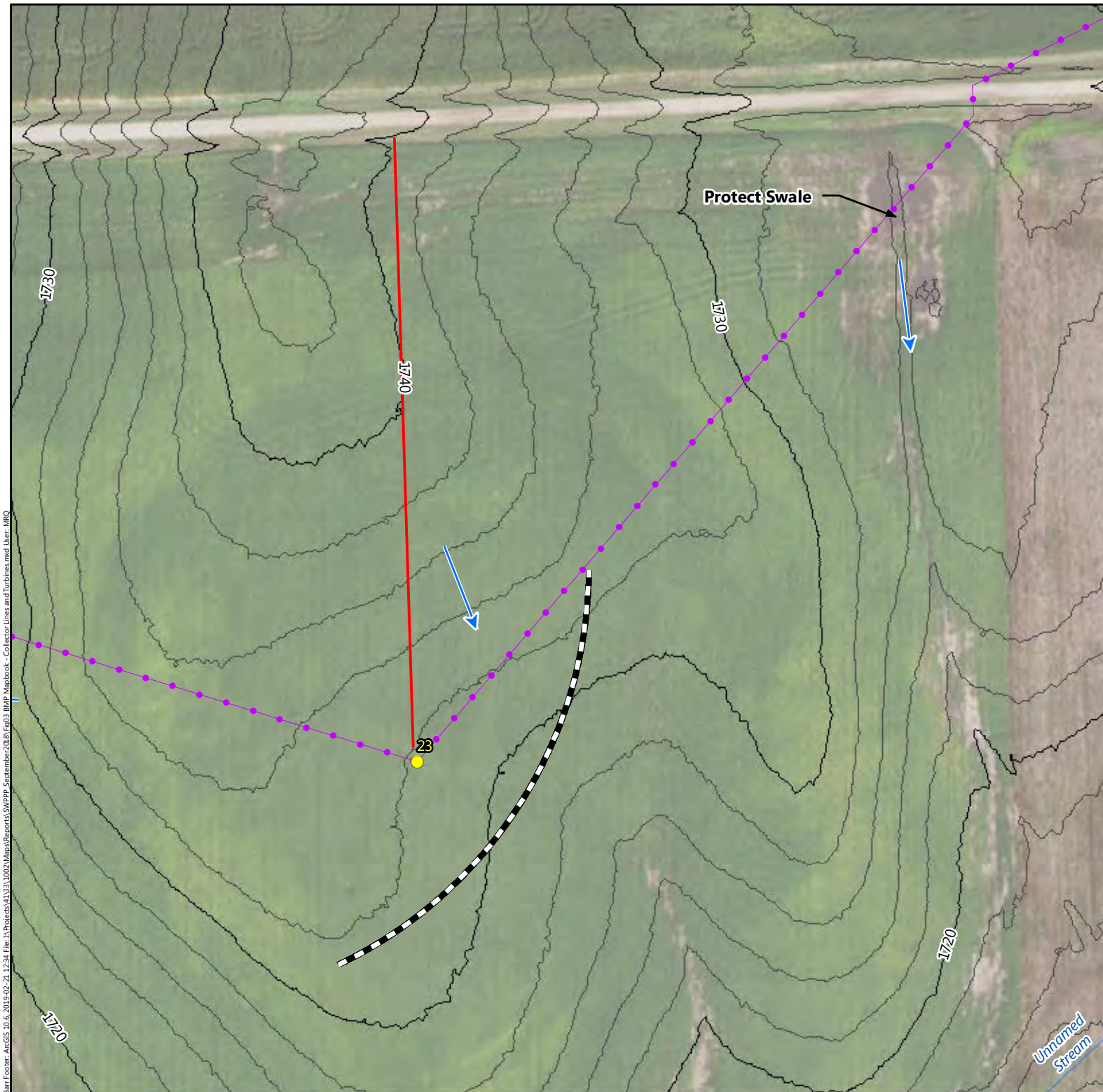
Feet



Figure 3-139

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





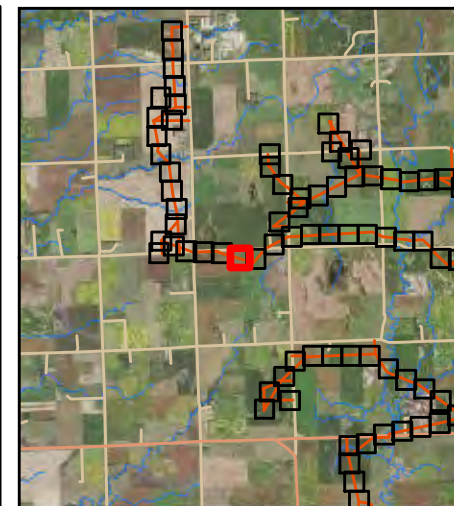
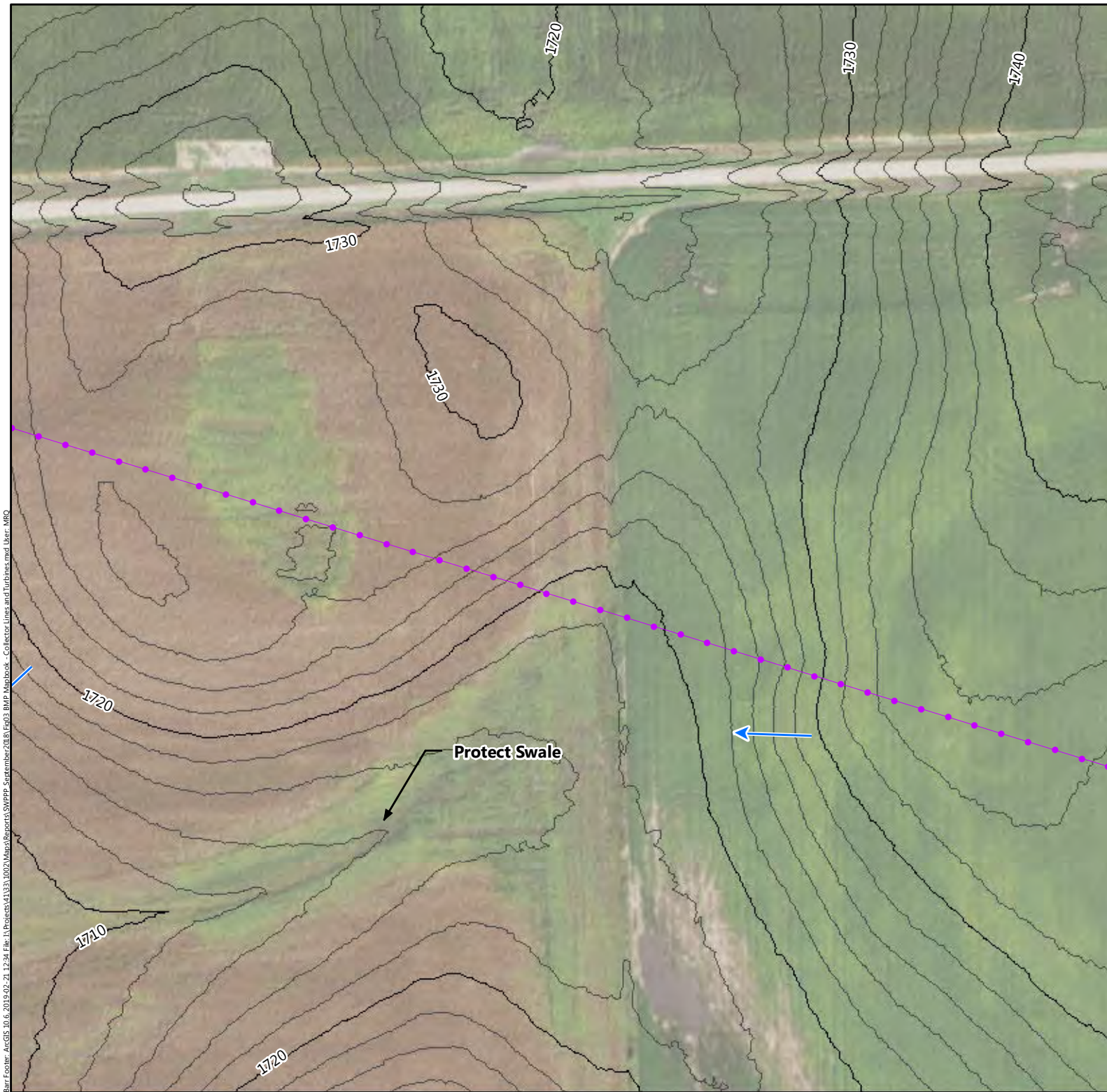
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➡ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen  
 Berm



Figure 3-140

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

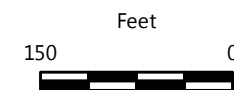
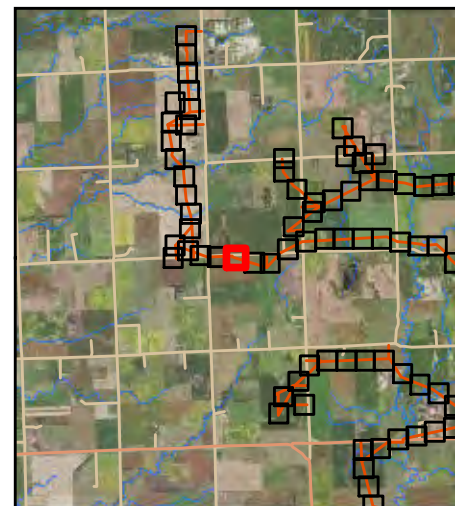


Figure 3-141

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





Collector Lines (1/18/2019)  
Flow Direction



Figure 3-142

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



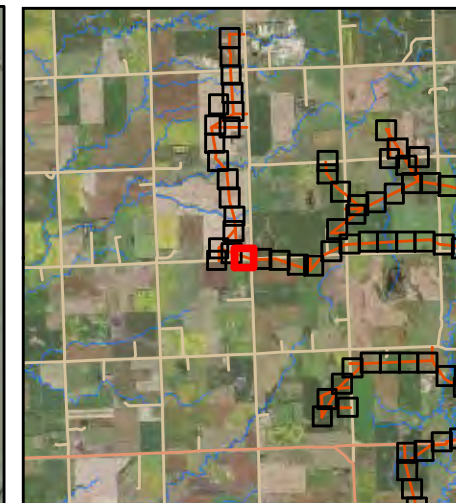
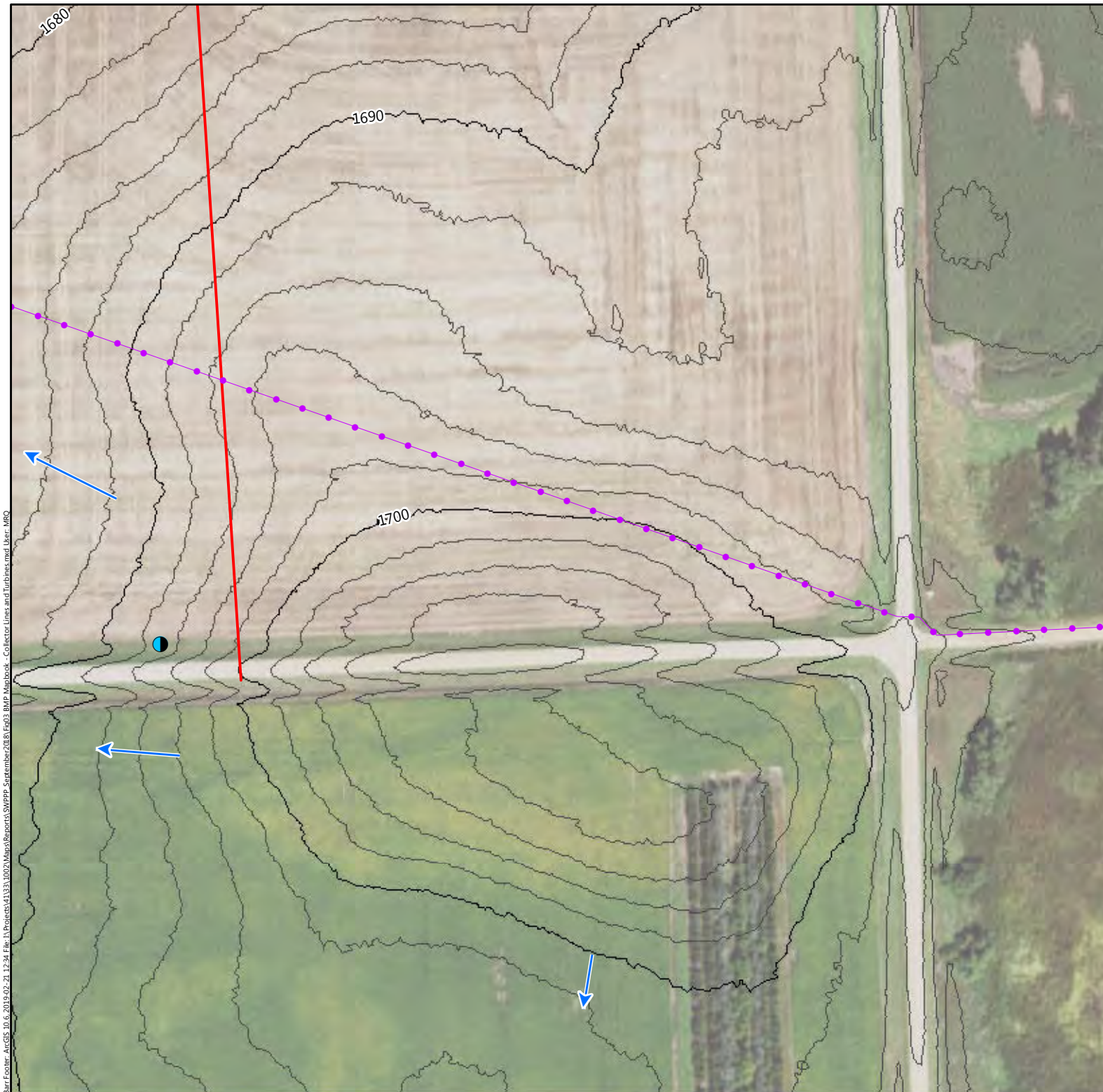
Feet



Figure 3-143

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota









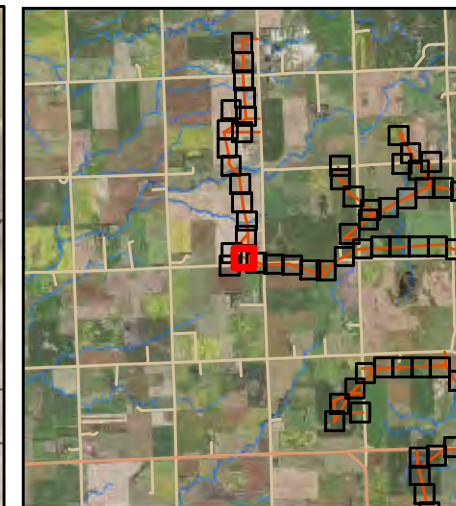
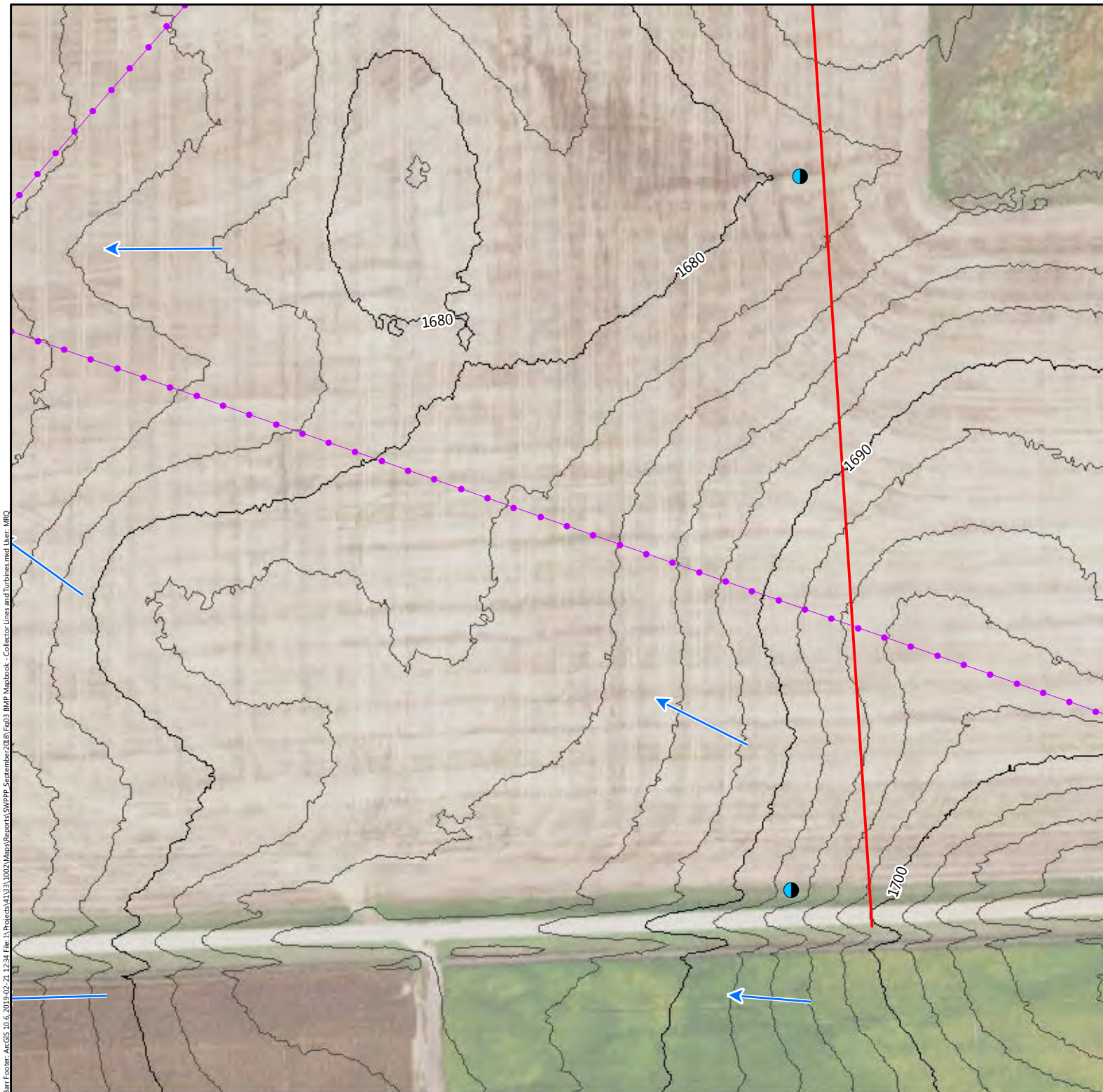
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction



Figure 3-144

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota









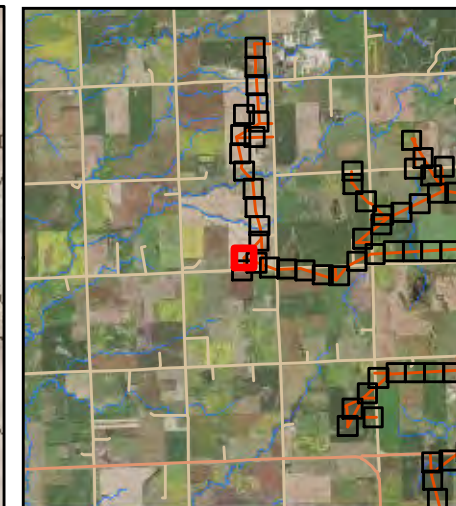
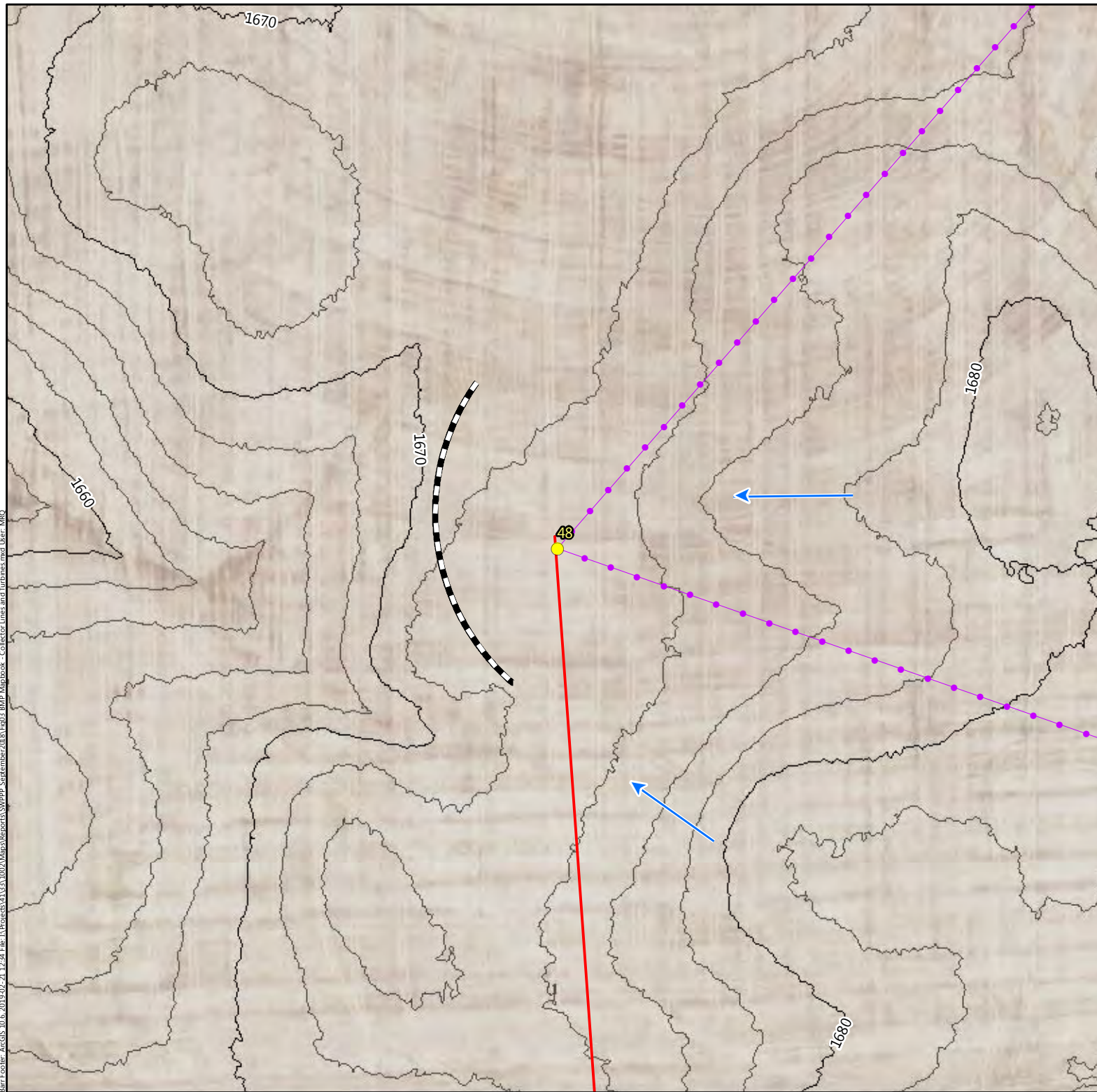
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction



Figure 3-145

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





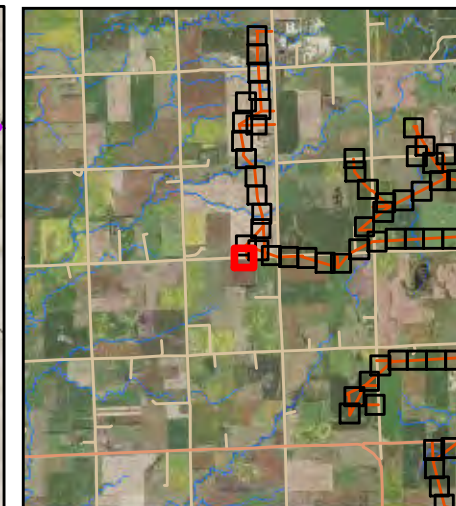
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-146

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota










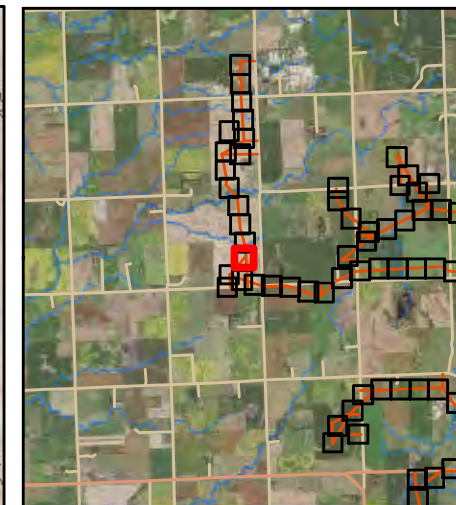
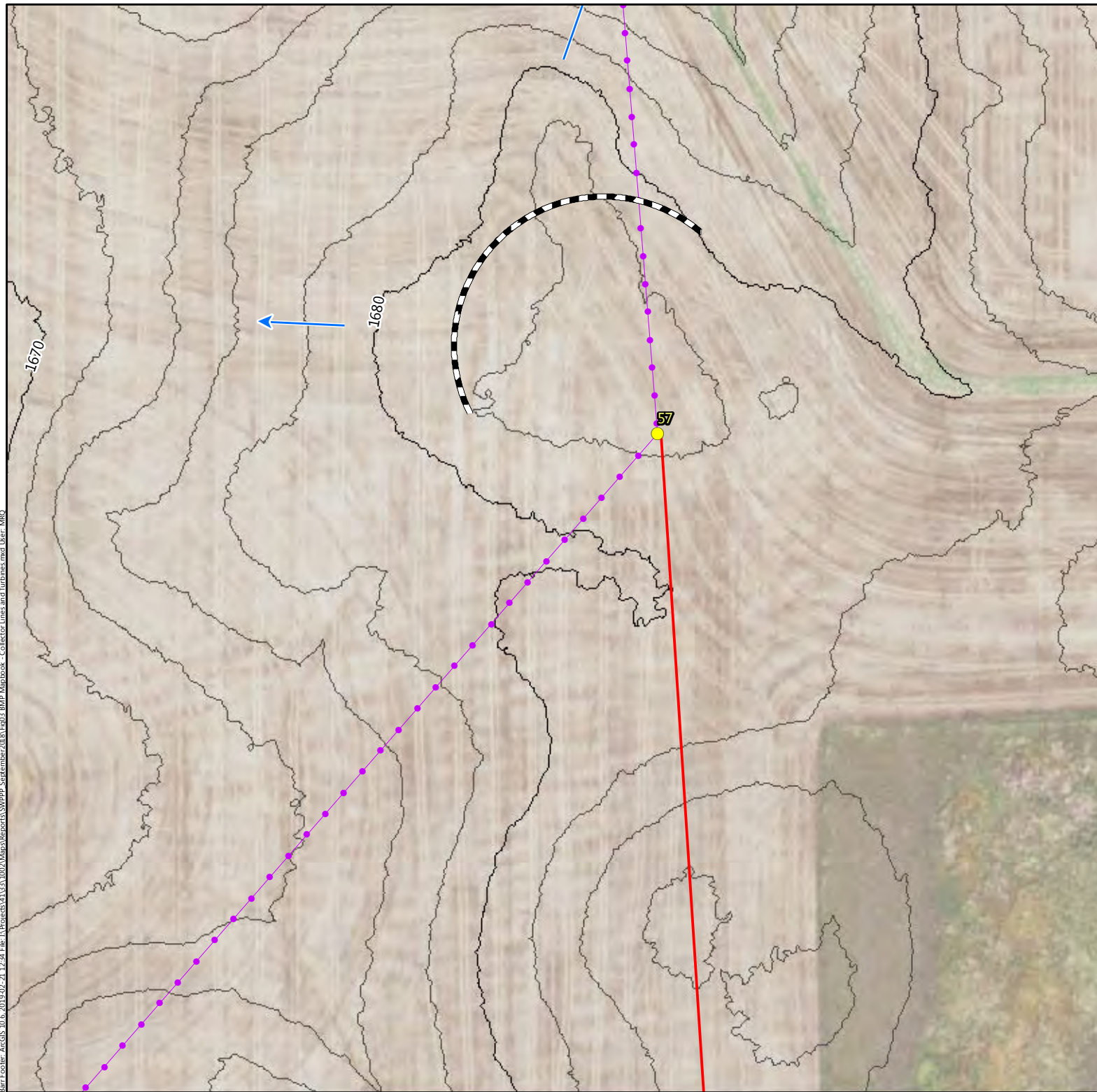
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-147

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





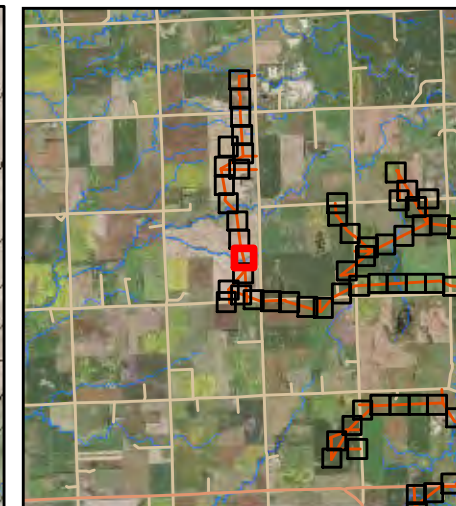
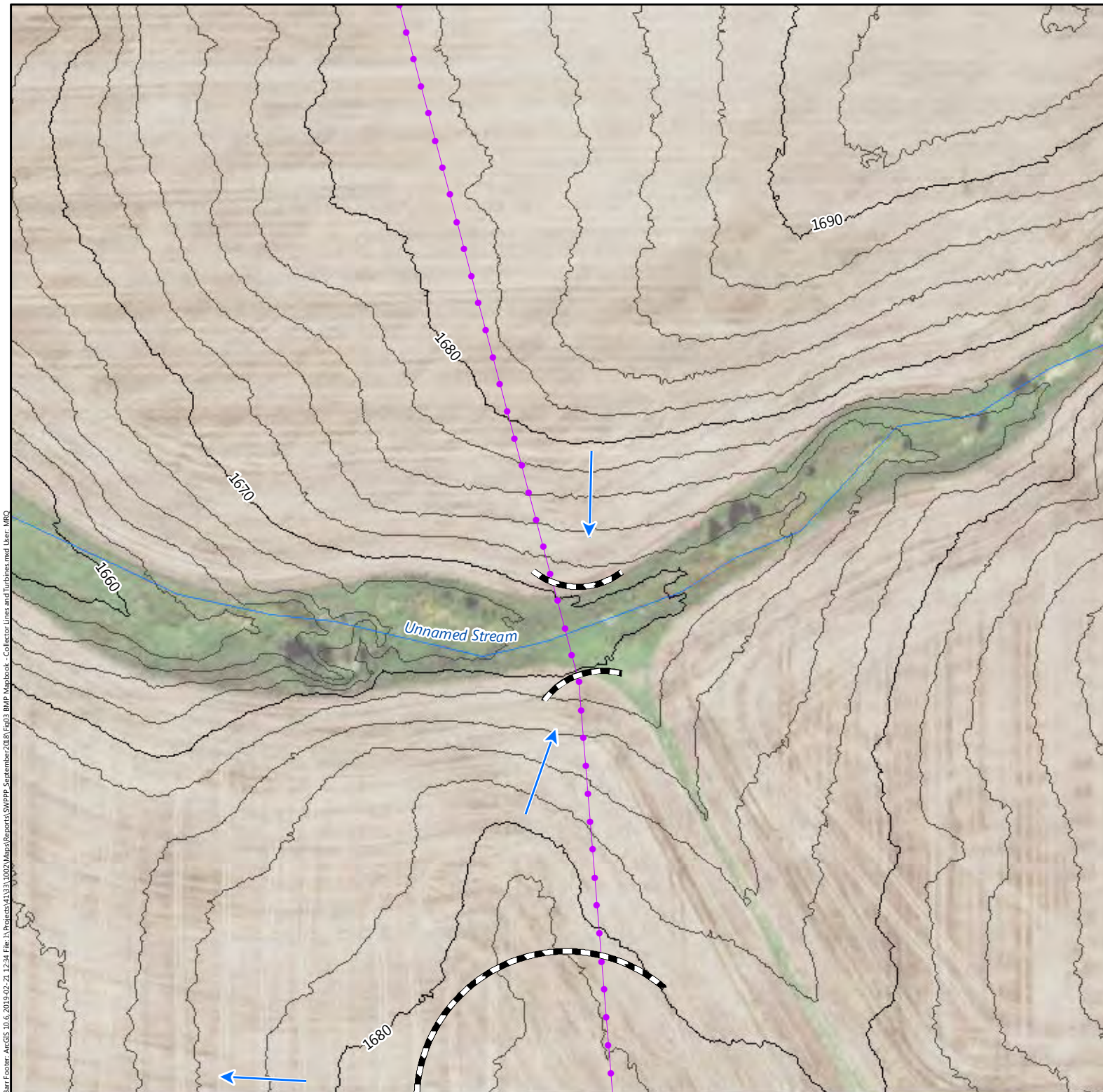
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-148

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm

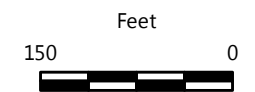
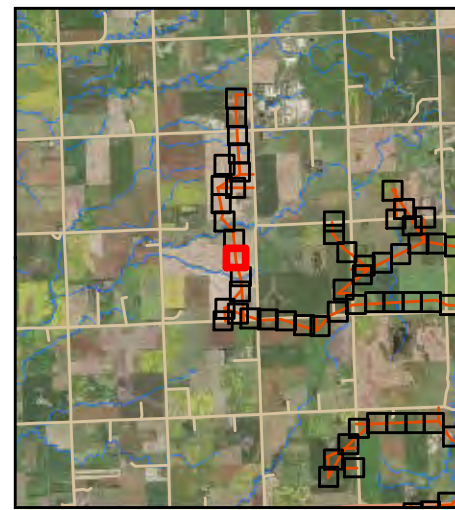


Figure 3-149

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





Collector Lines (1/18/2019)

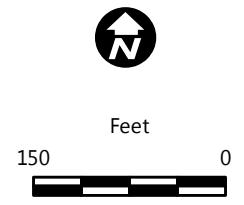
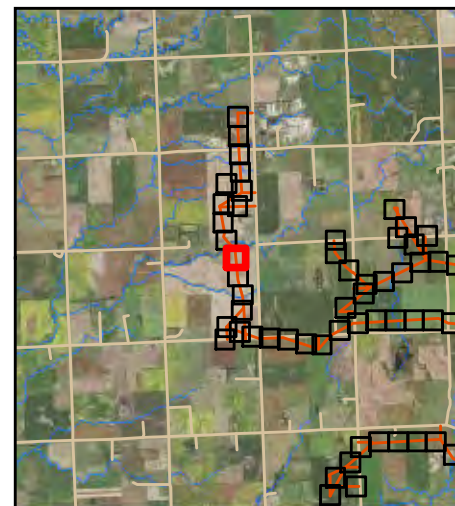
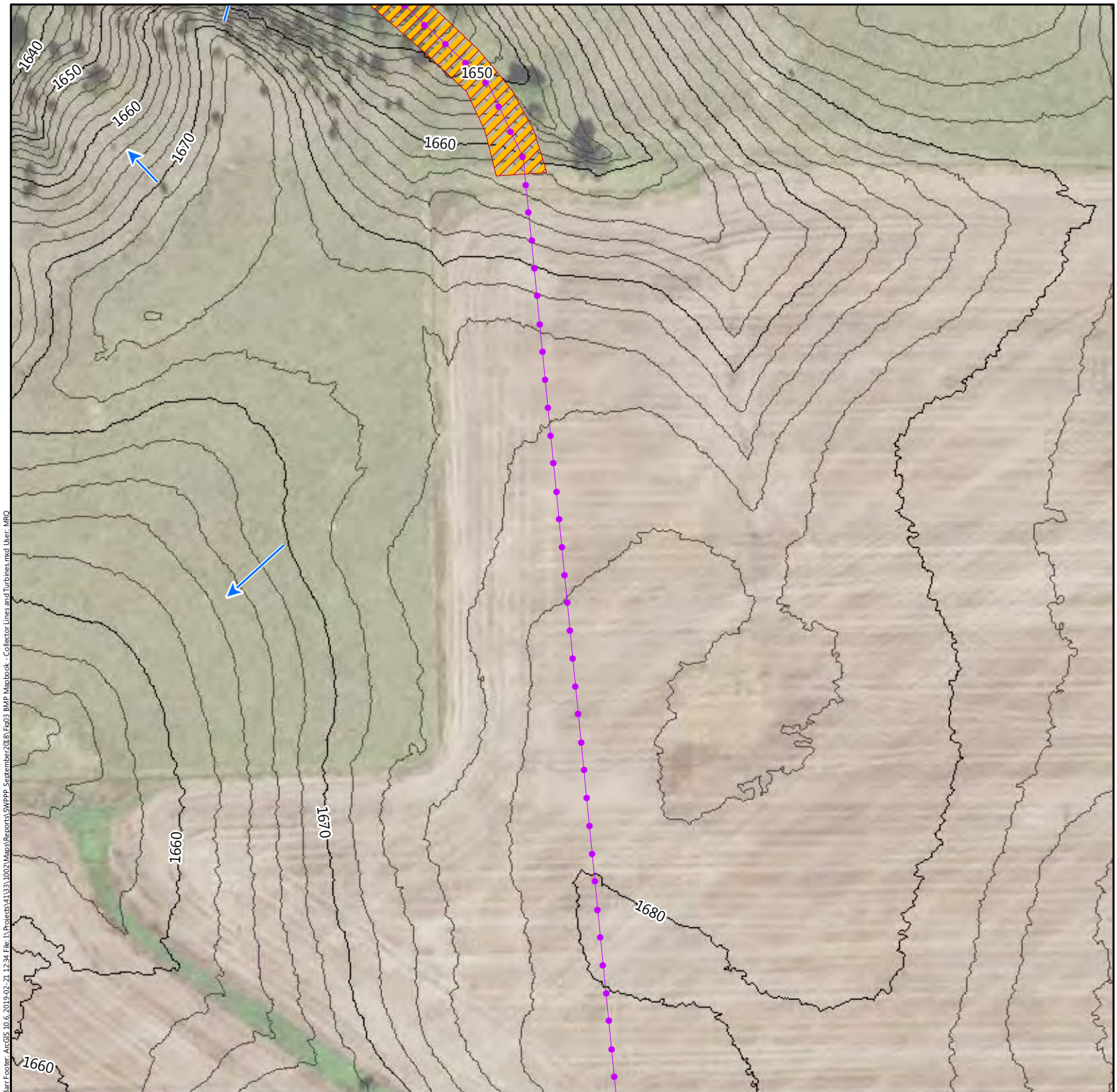


Figure 3-150

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





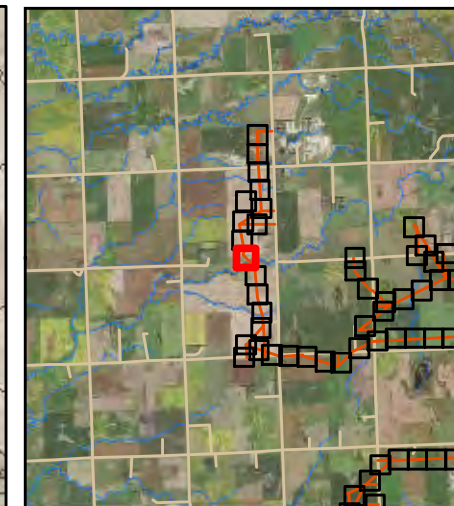
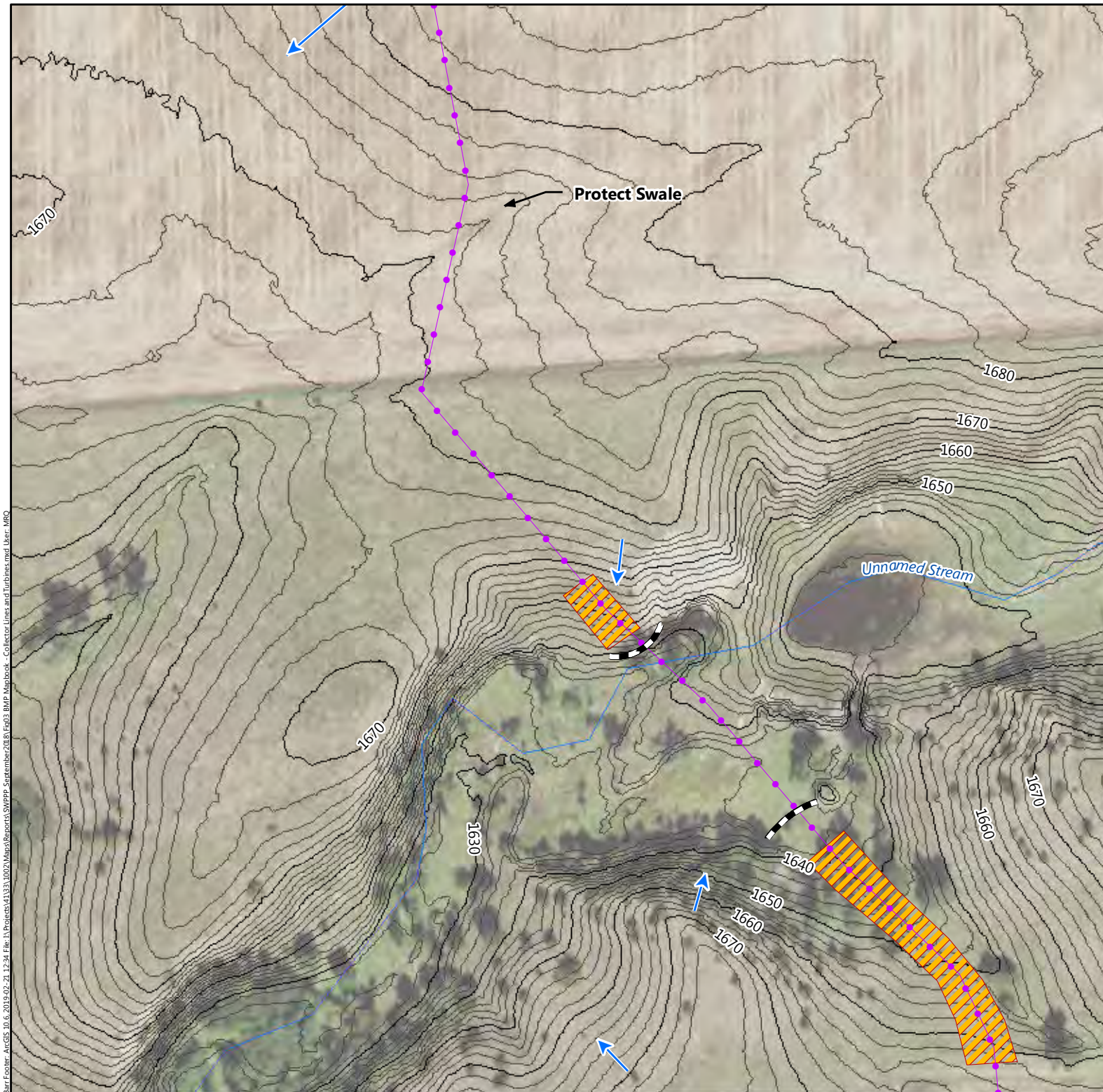
- Collector Lines (1/18/2019)
- Flow Direction
- Erosion Control Blanket BMP



Figure 3-151

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm
- Erosion Control Blanket BMP

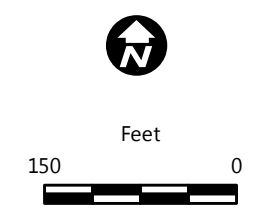
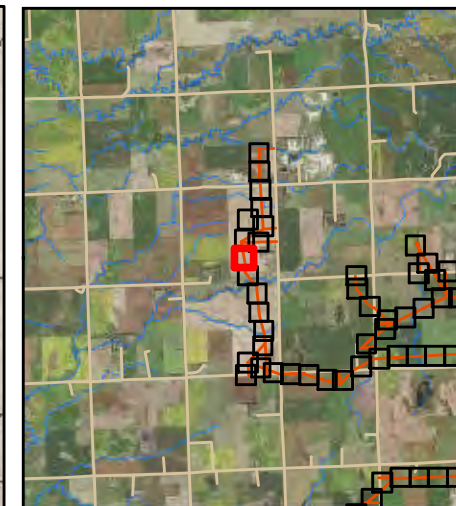
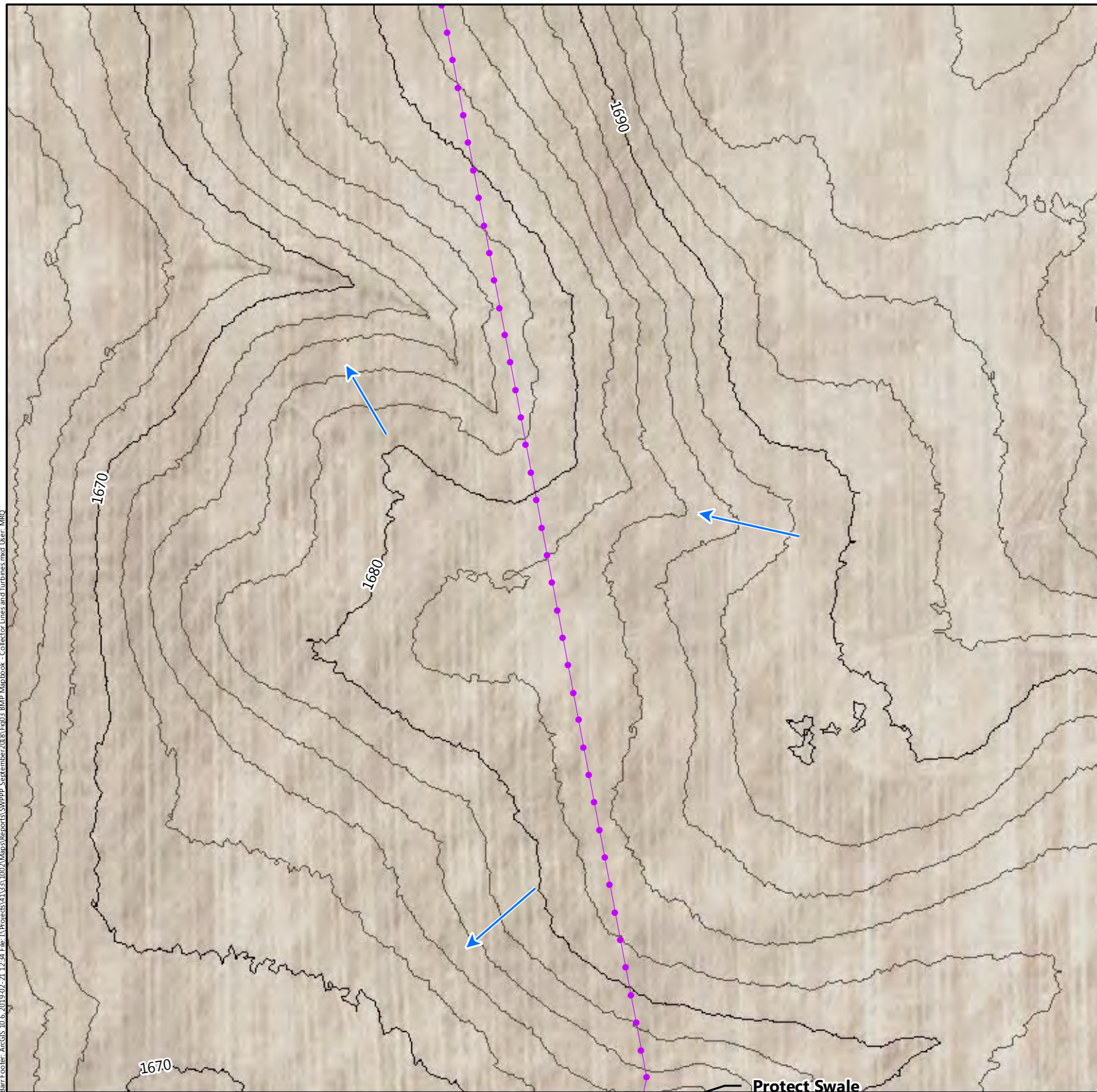


Figure 3-152

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





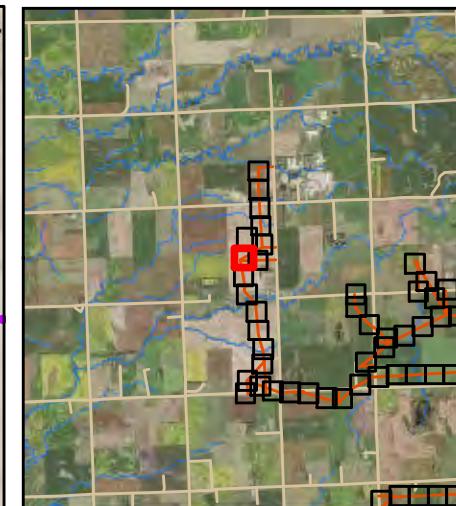
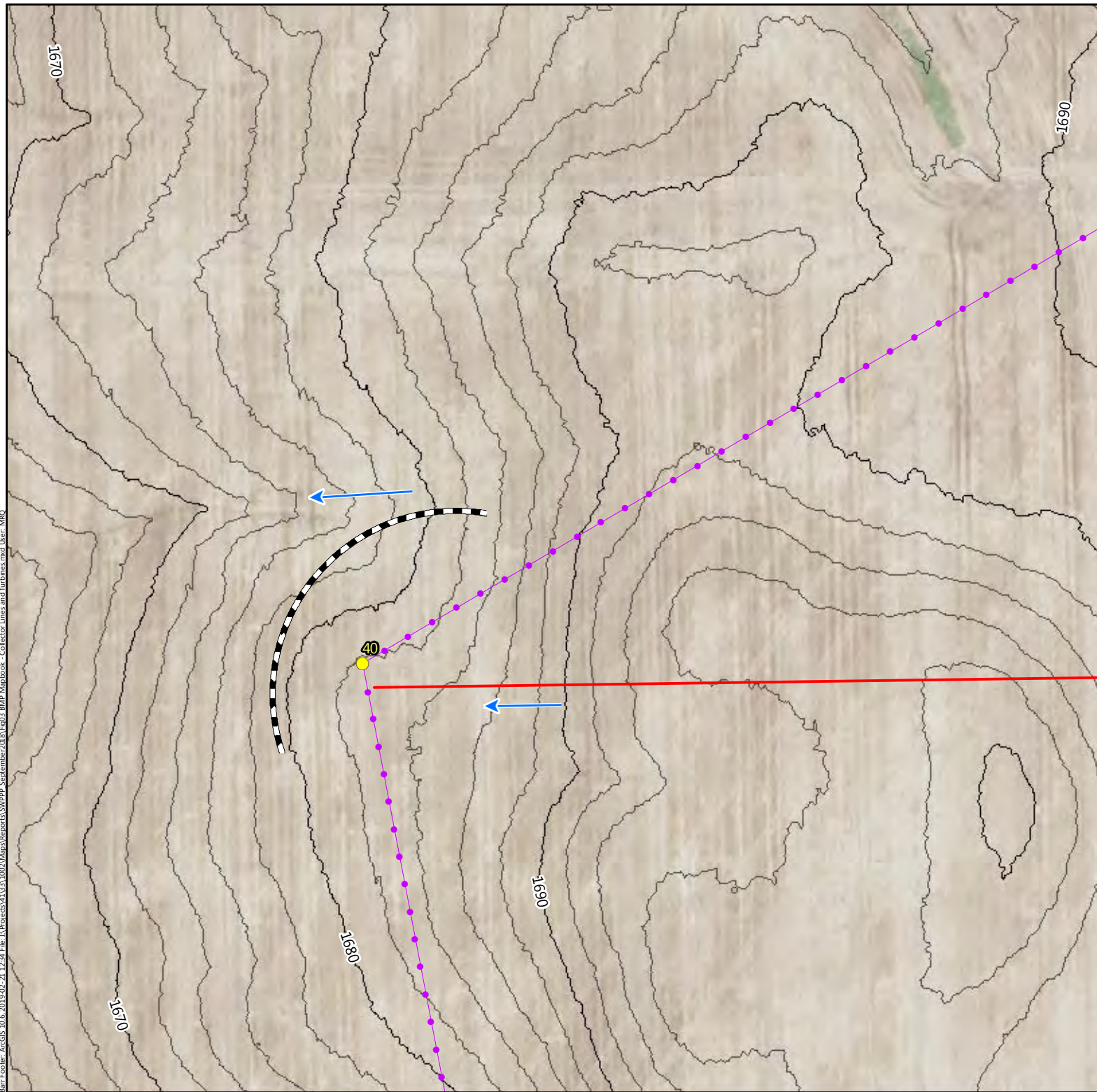
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-153

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





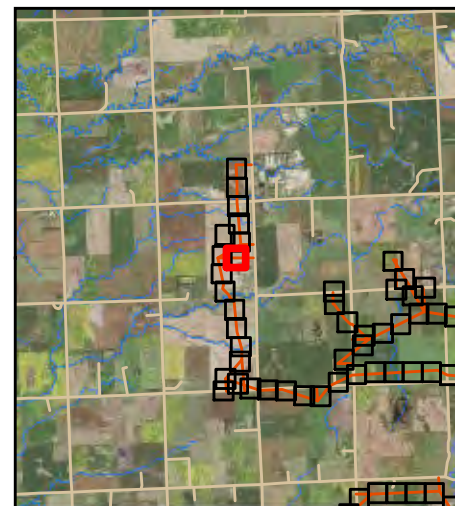
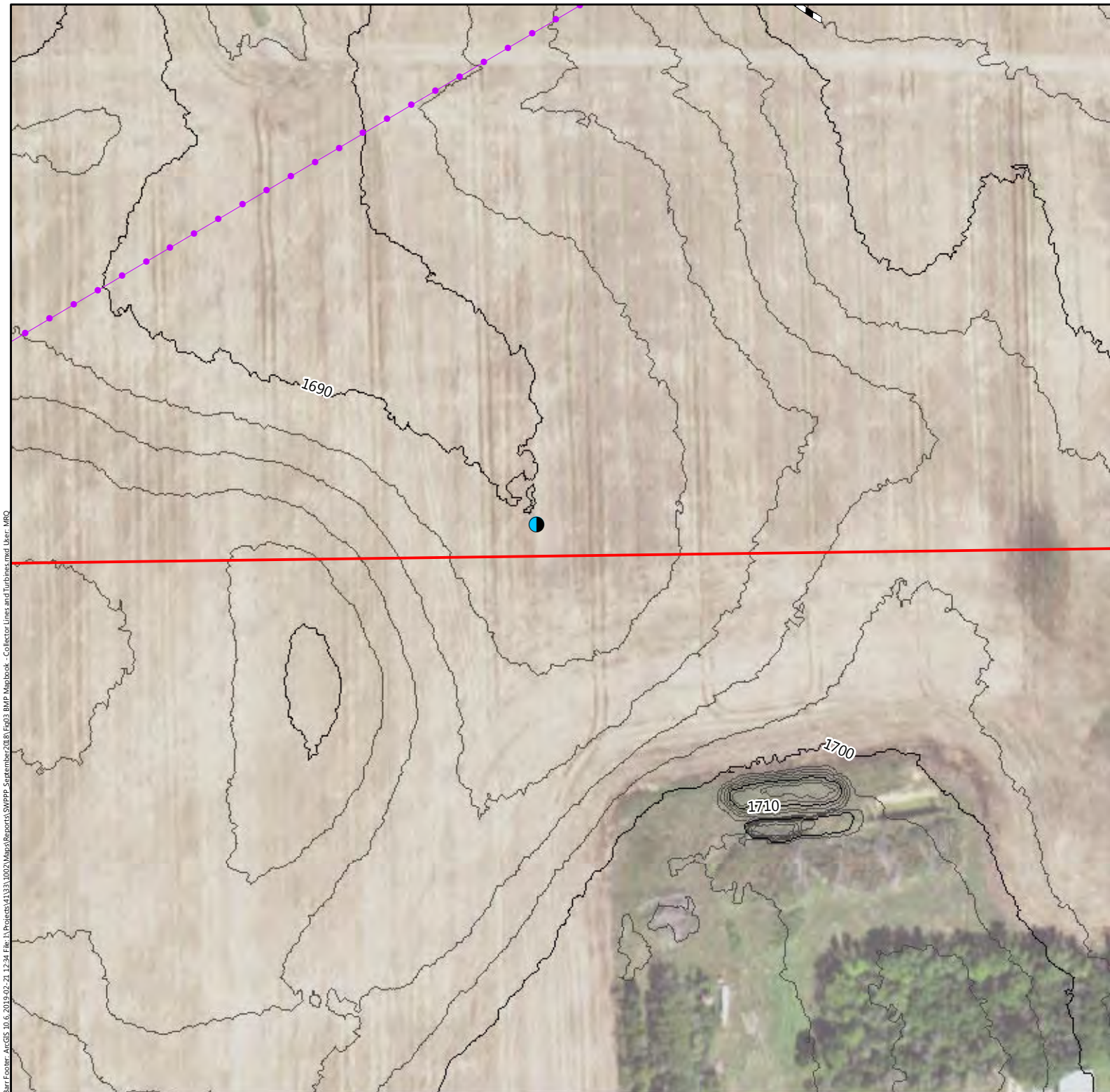
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm







Figure 3-154

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

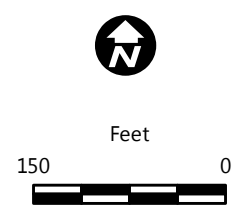
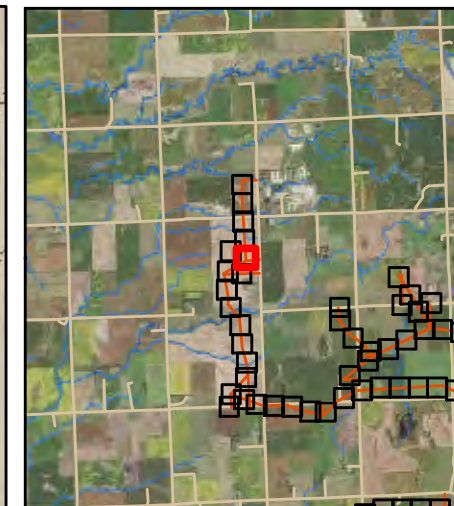
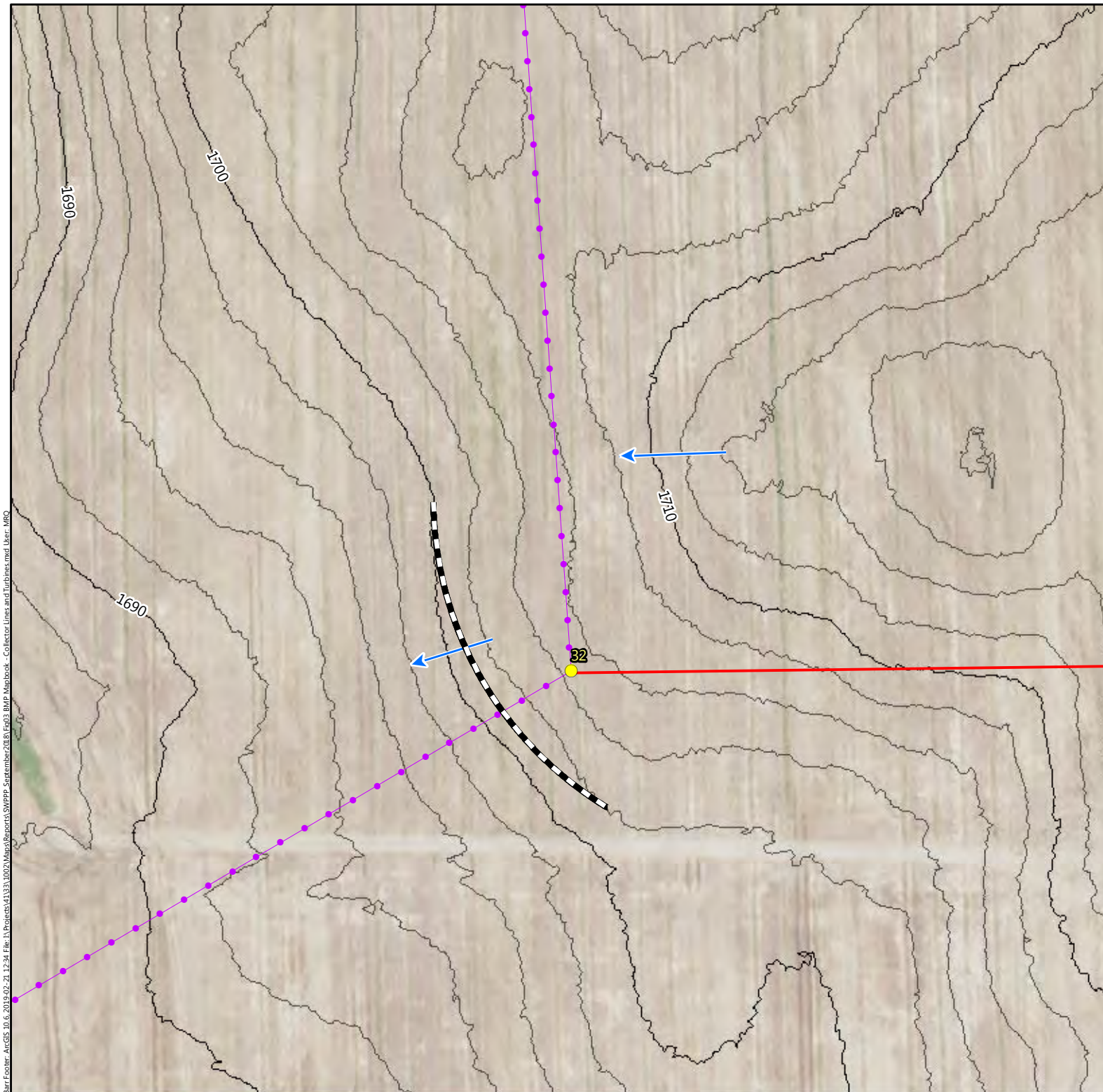


Figure 3-155

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➡ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

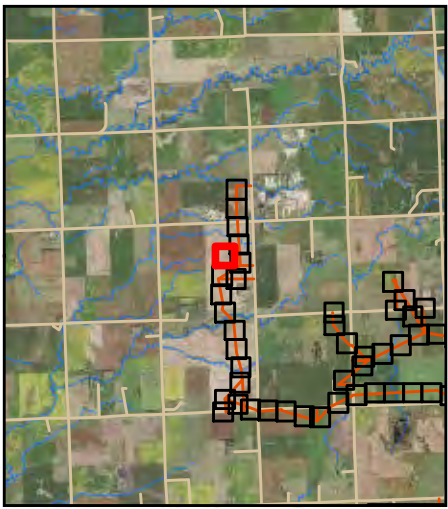


Figure 3-156

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota



Per Footer: ArcGIS 10.6 2019-02-21 12:34 File: I:\Projects\41333\1002\Maps\Reports\SWPPP\_September2018\Fig3 BMP Mapbook - Collector Lines and Turbines.mxd User: MRQ




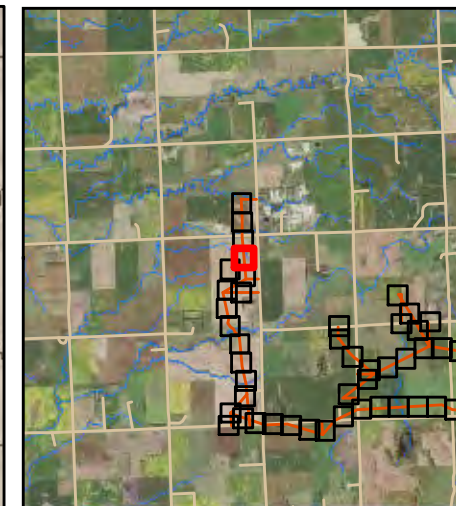
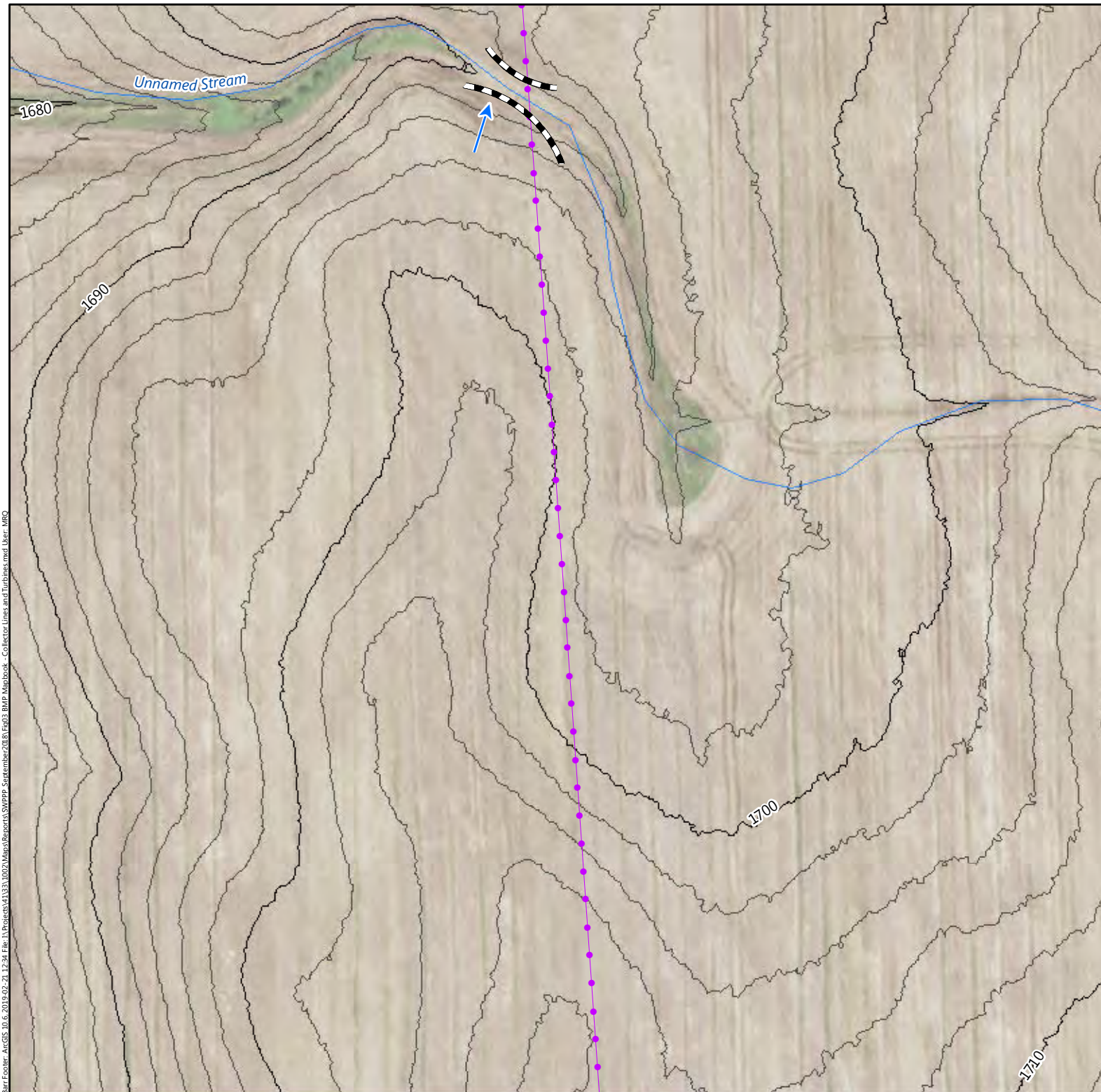
 Culvert




Figure 3-157

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen Berm

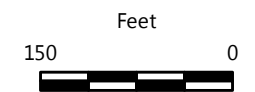
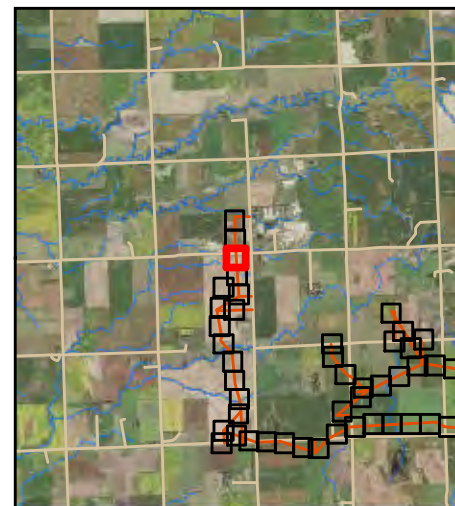
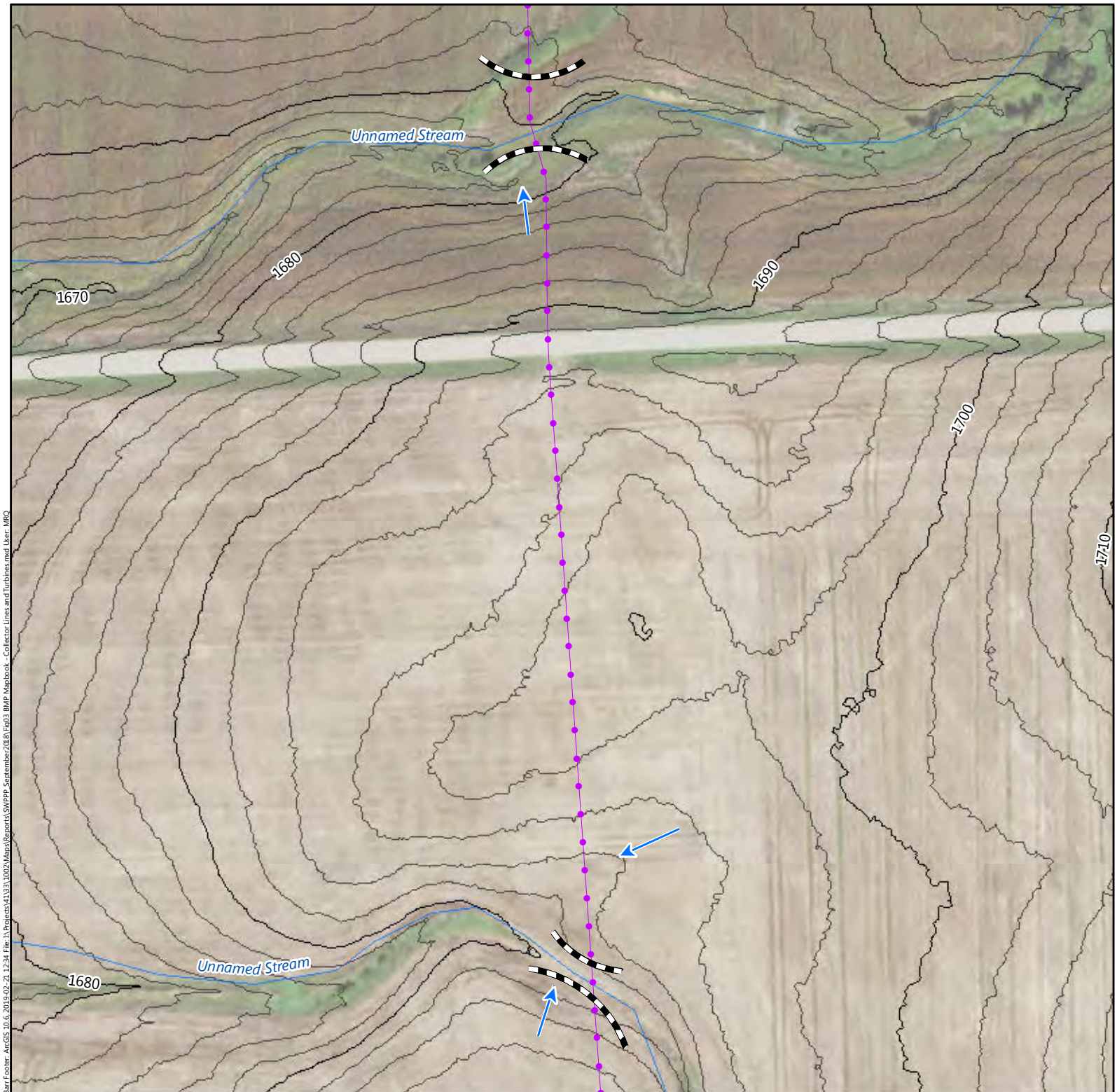


Figure 3-158

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





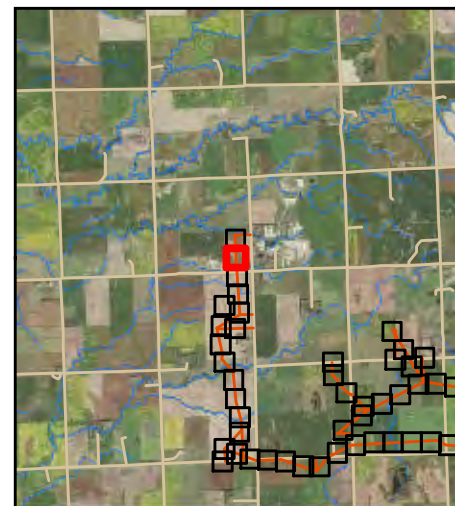
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
— — — Diversion Ditch, or Earthen  
Berm



Figure 3-159

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





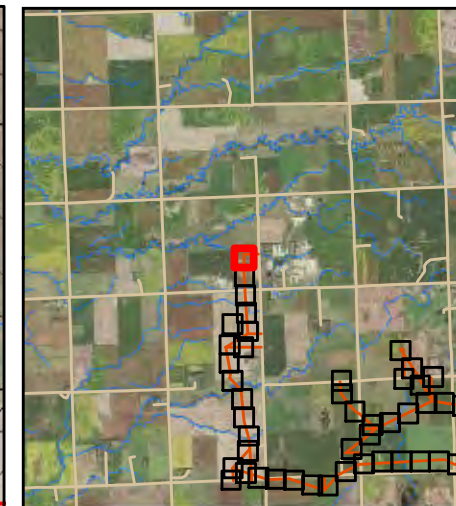
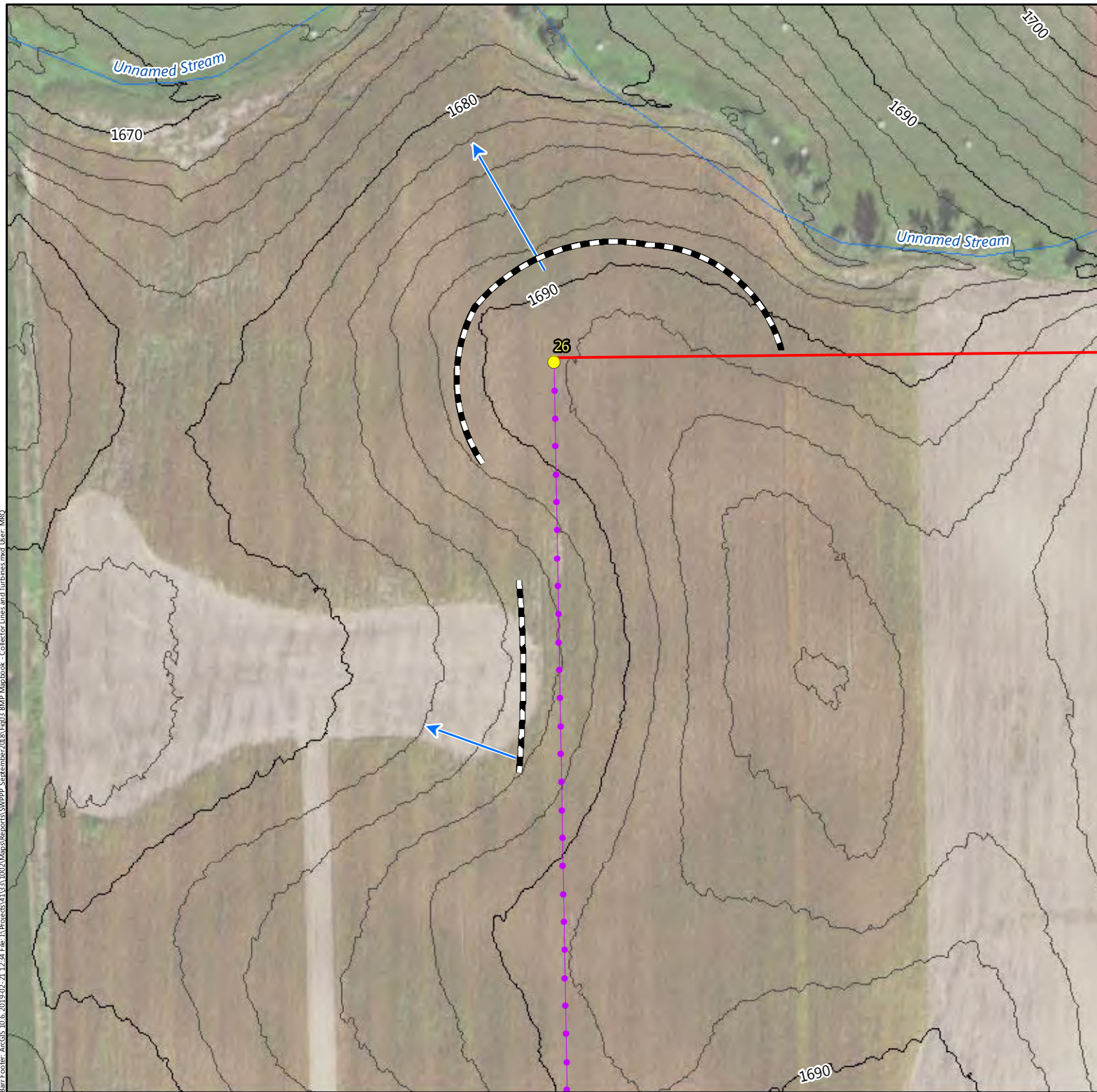
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-160

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

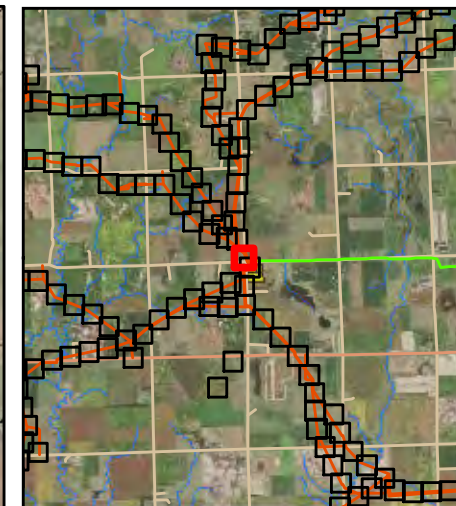
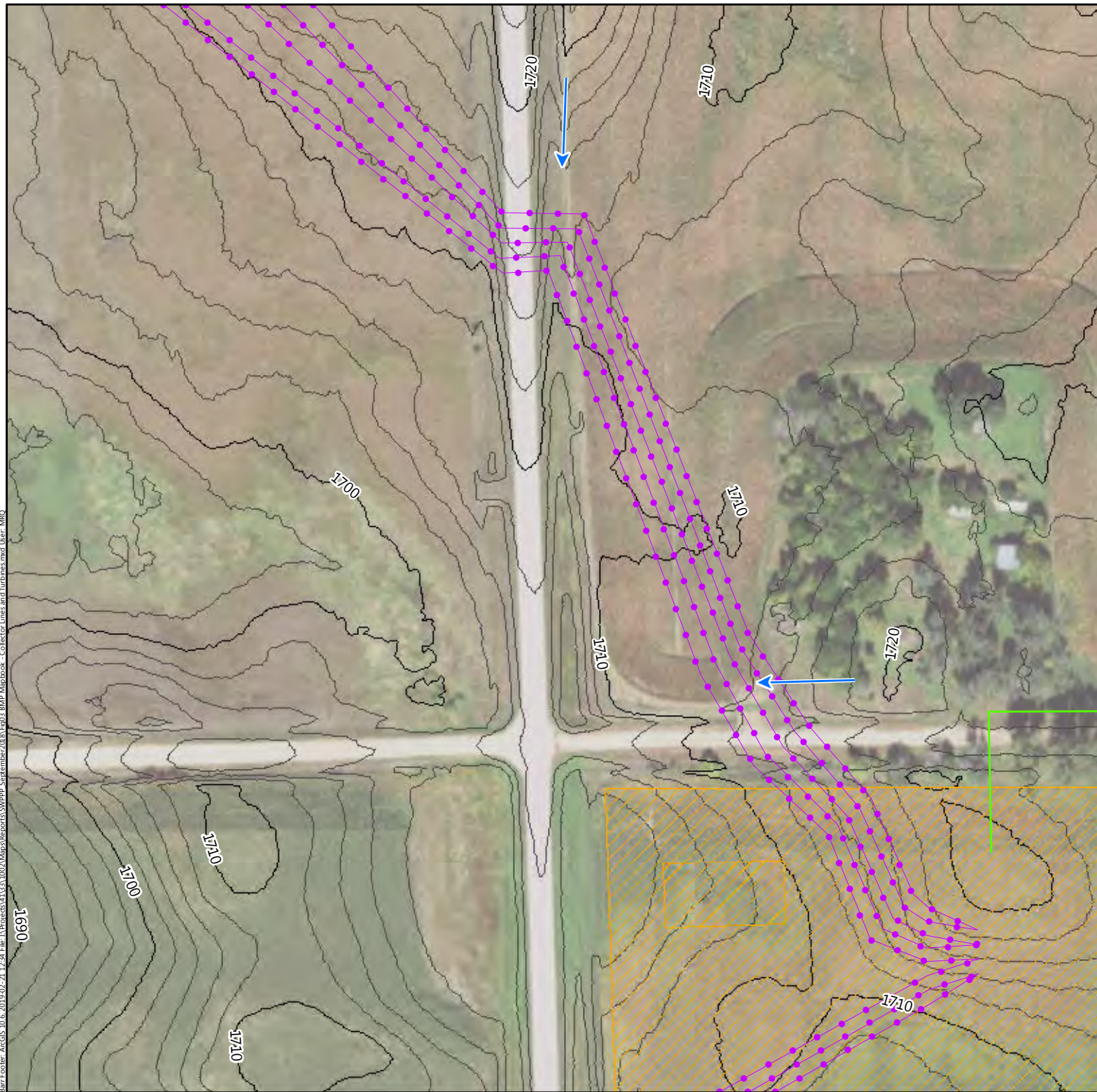


Feet  
150 0

Figure 3-161

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





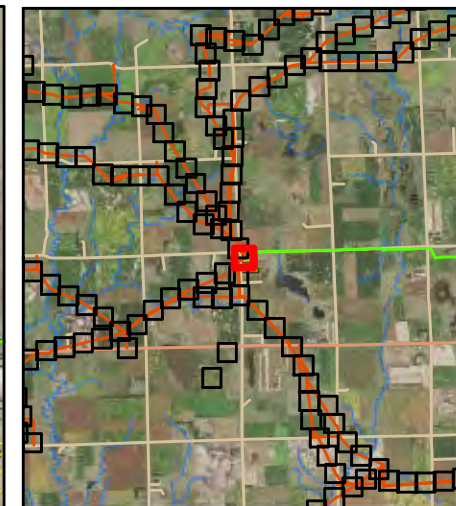
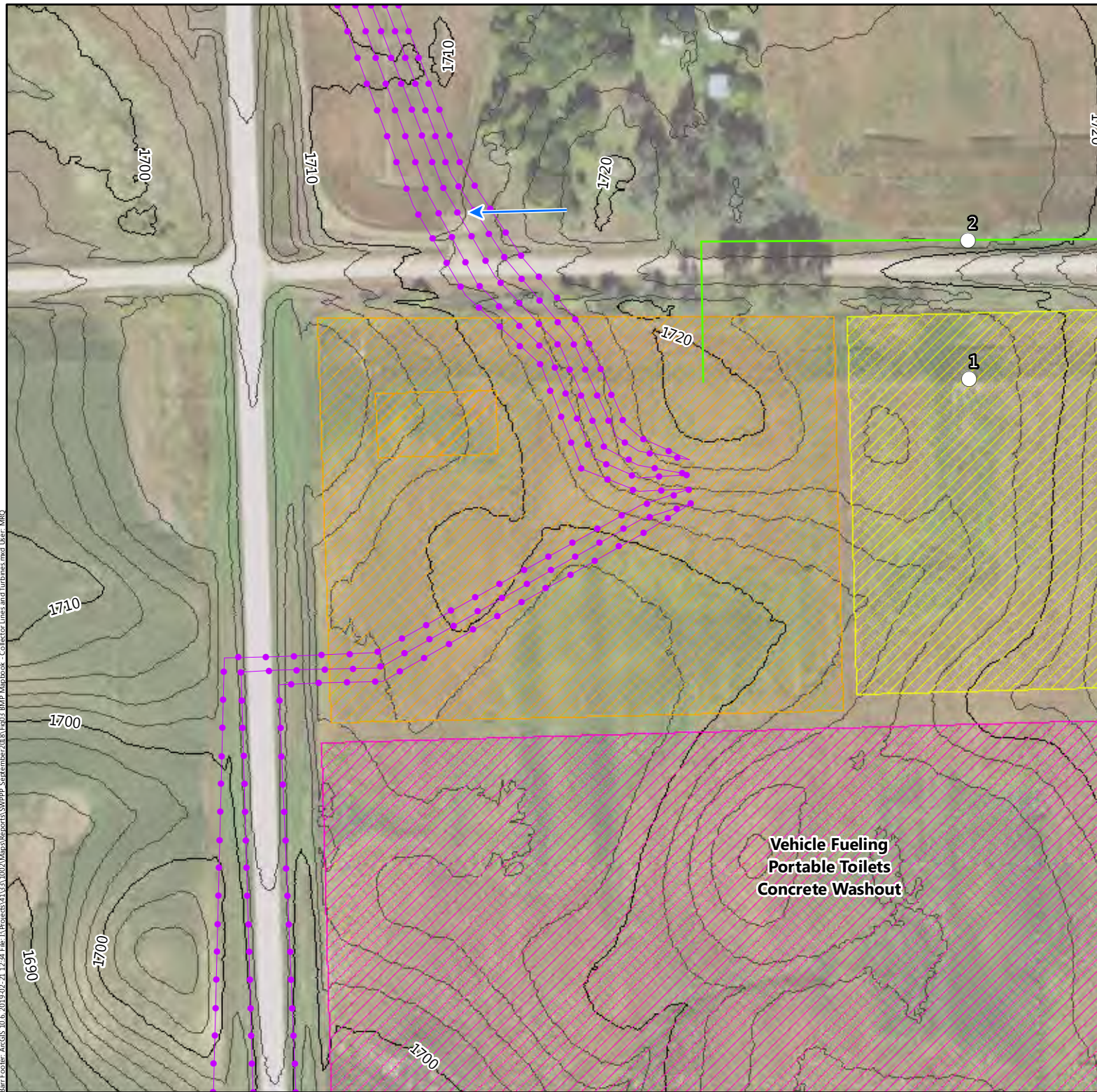
- Collector Lines (1/18/2019)
- Transmission Line Alignment
- Flow Direction
- O&M Building Area



Figure 3-162

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- ▨ Laydown Yard
- ▨ O&M Building Area
- ▨ Substation



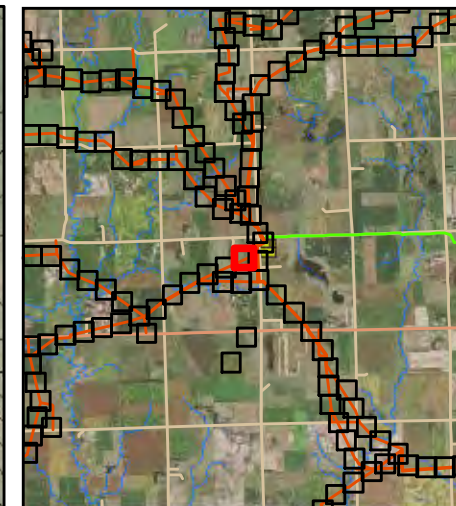
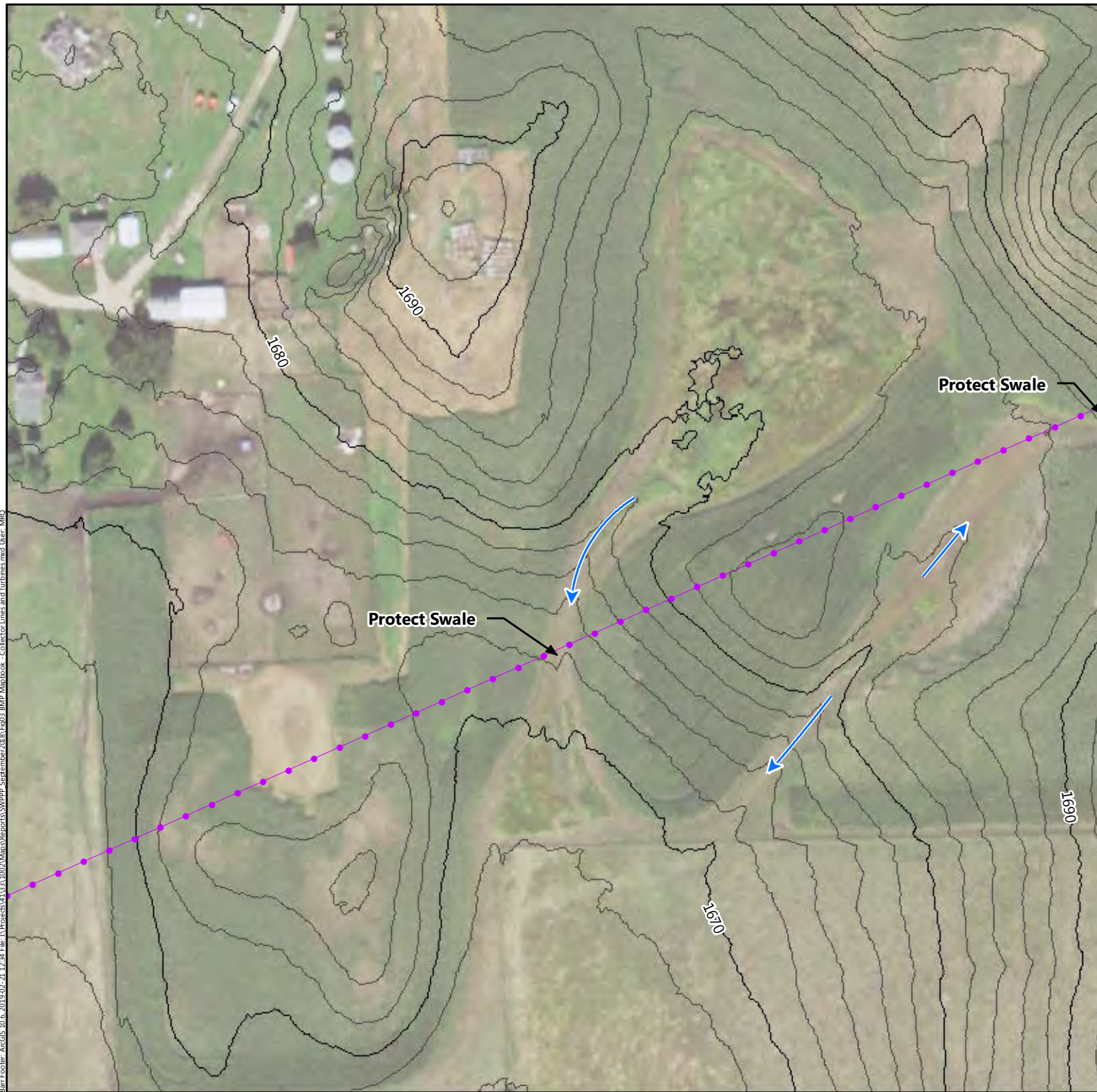
Feet



Figure 3-163

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





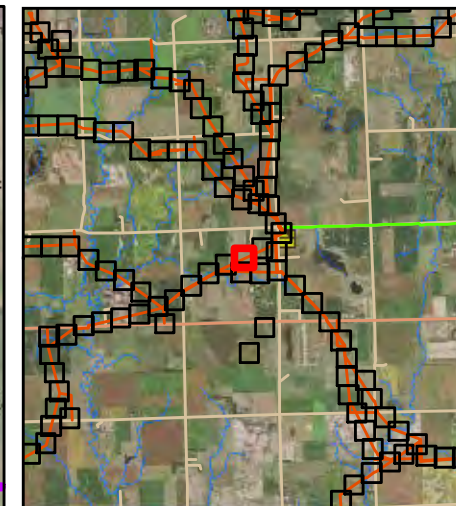
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-164

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)



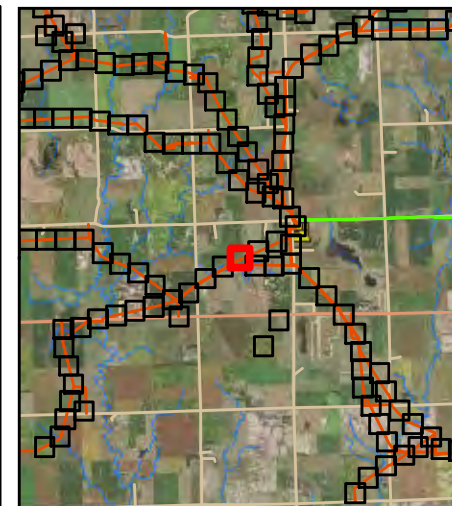
Feet



Figure 3-165

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm

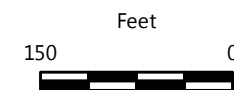
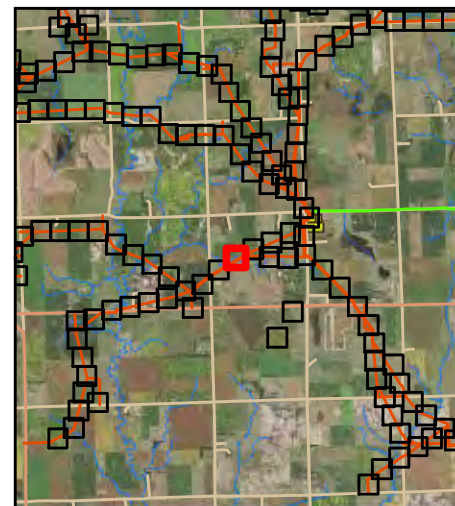


Figure 3-166

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





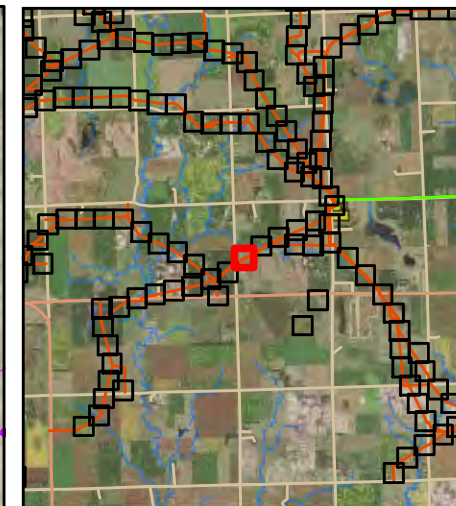
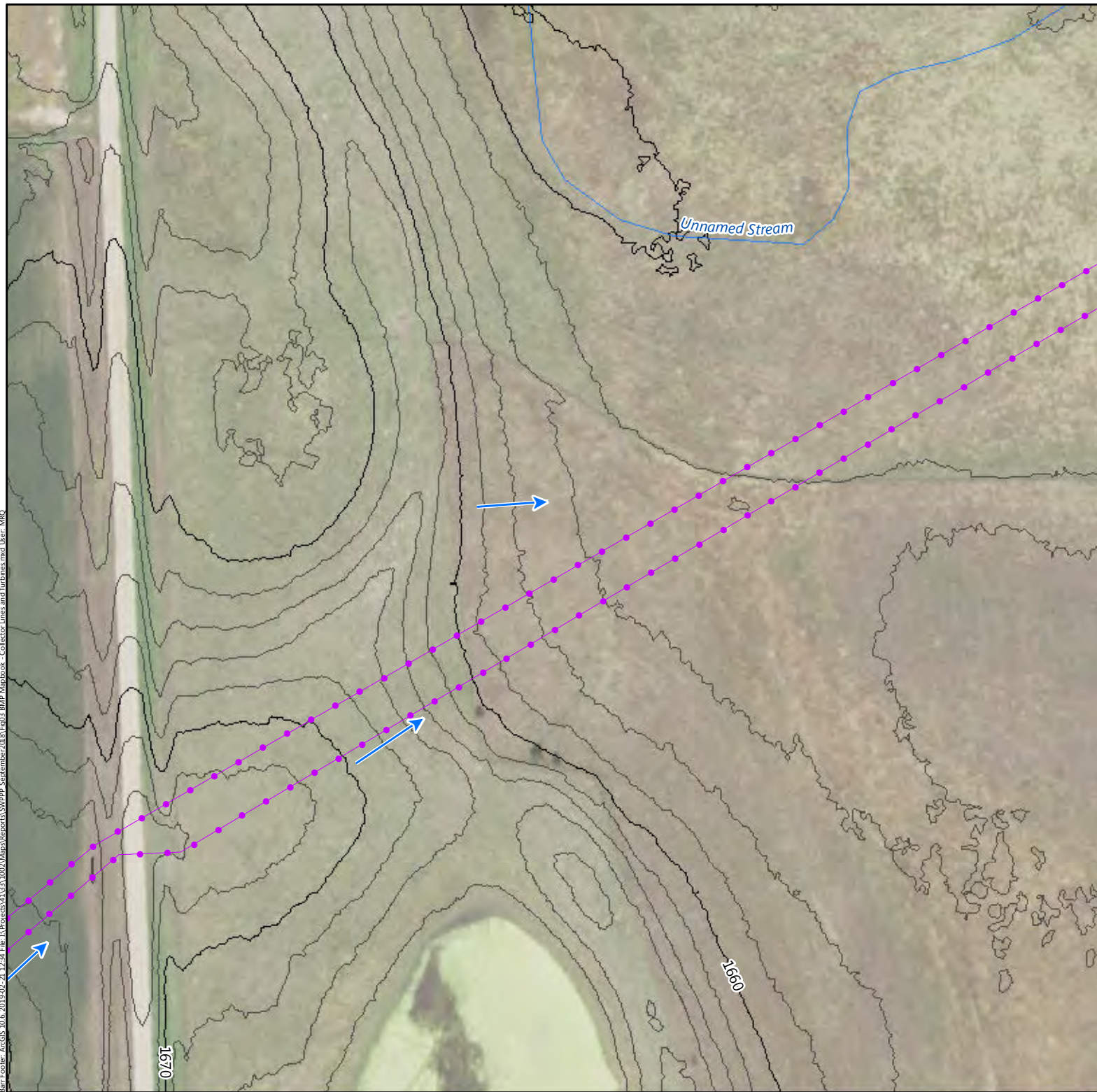
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



Figure 3-167

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





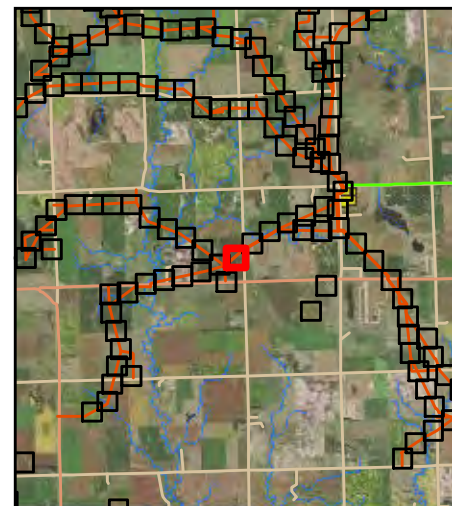
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



Figure 3-168

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm

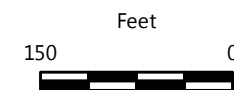
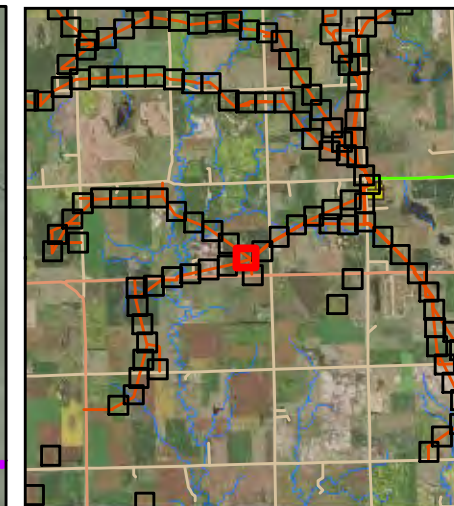
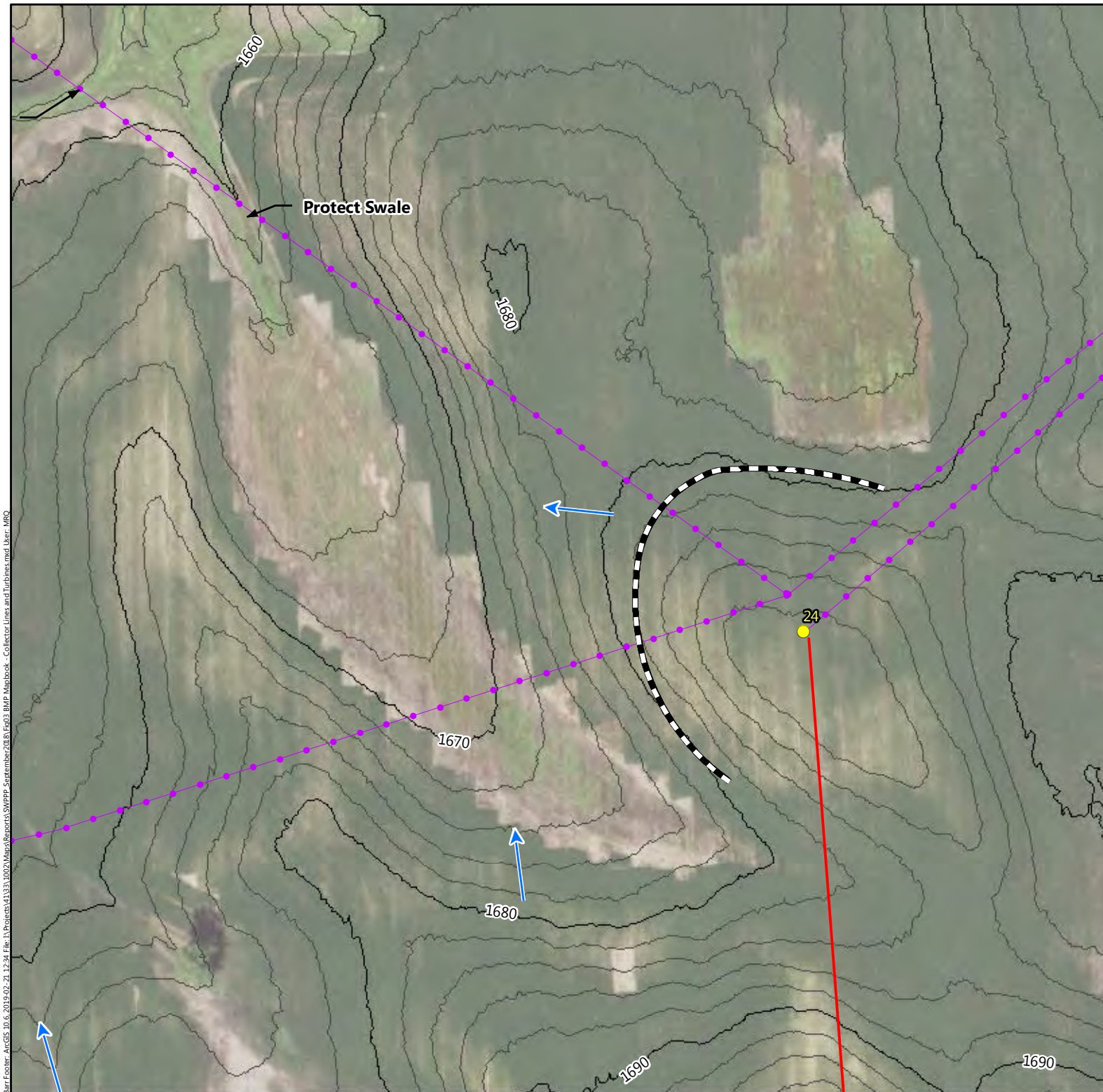


Figure 3-169

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➡ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

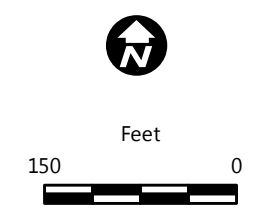
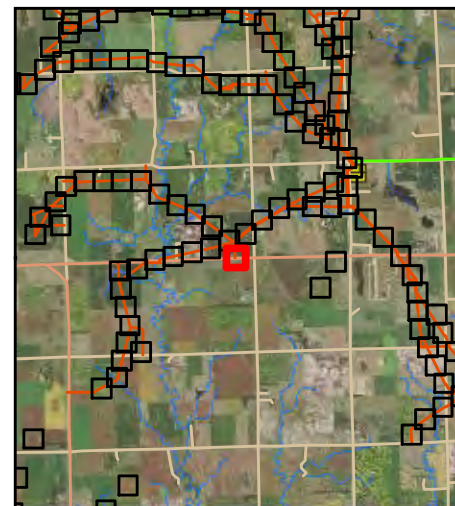


Figure 3-170

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





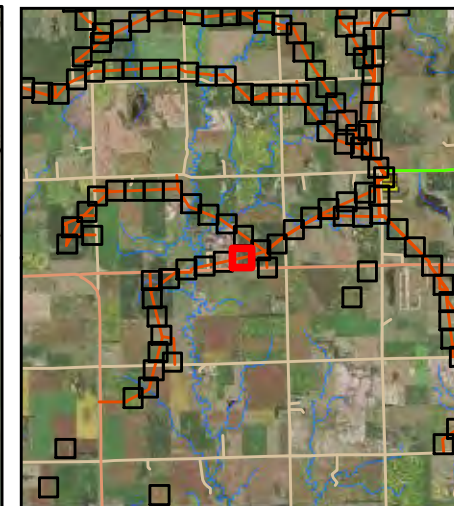
- Gate
- Culvert
- Access Road (1/18/2019)
- Flow Direction



Figure 3-171

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





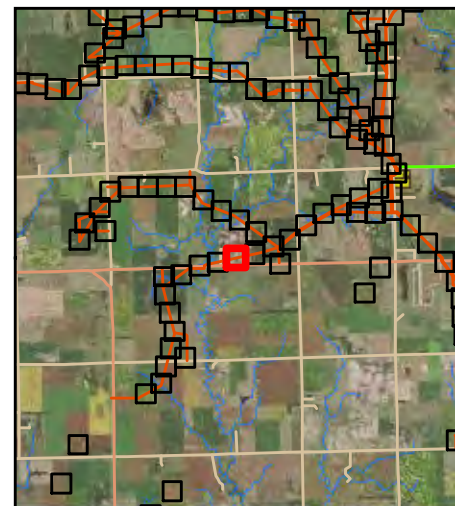
- Collector Lines (1/18/2019)
- ➔ Flow Direction



Figure 3-172

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





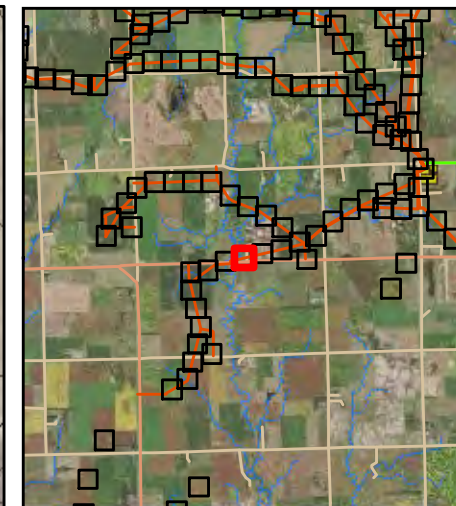
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-173

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



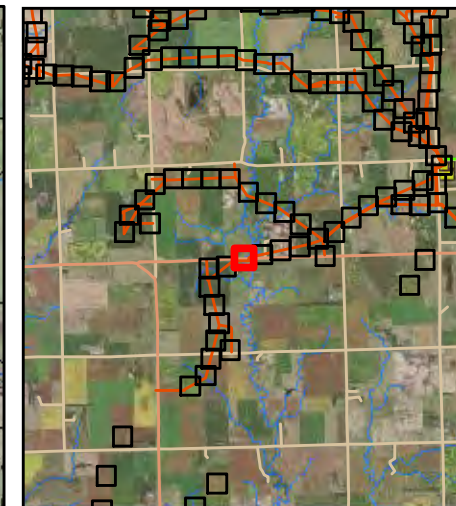
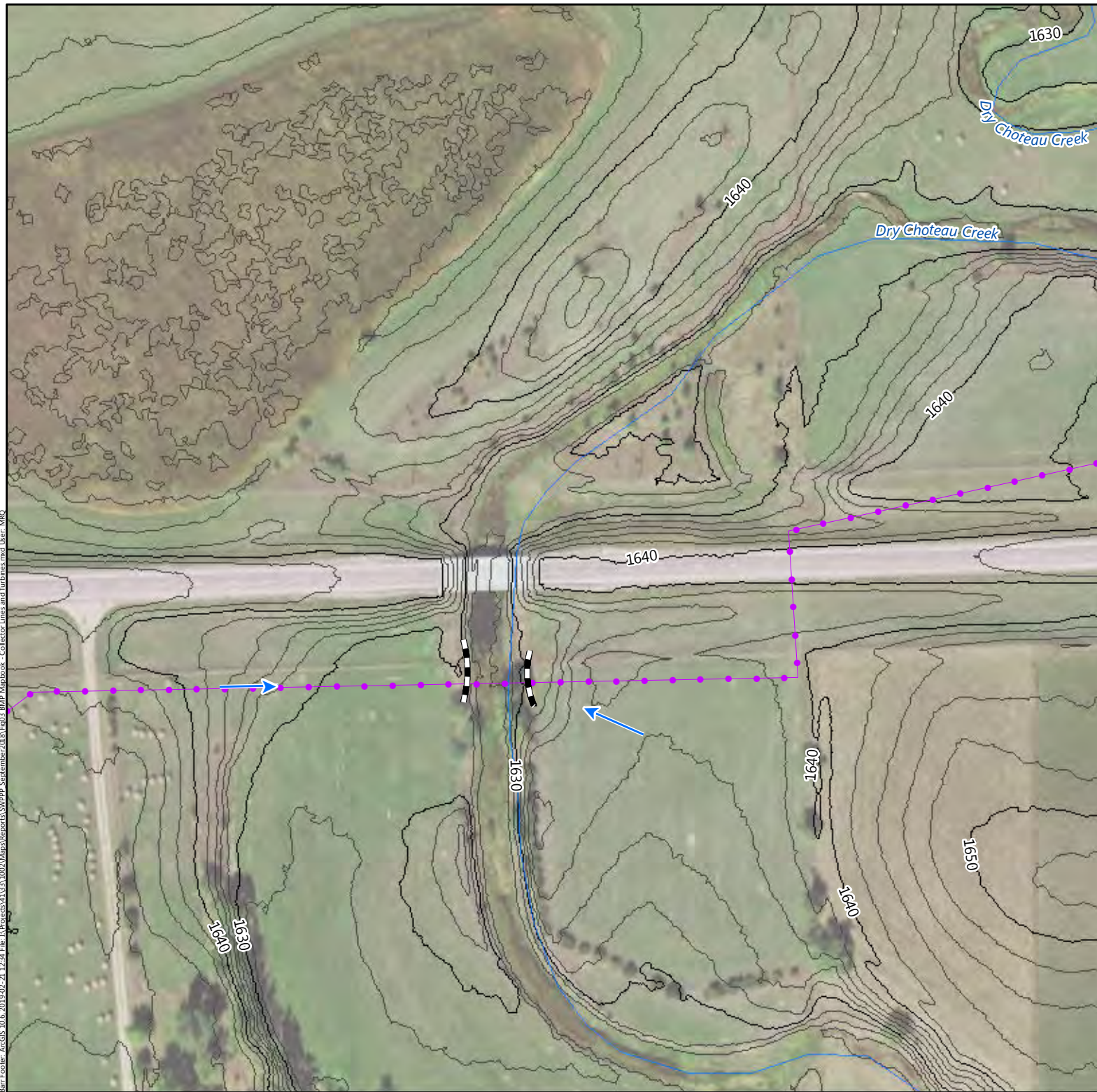
Feet



Figure 3-174

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





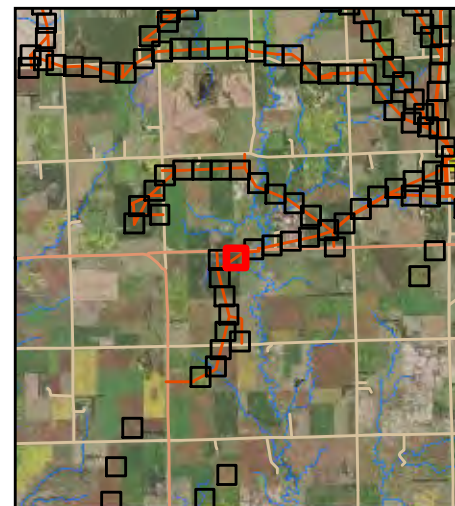
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen
- Berm



Figure 3-175

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





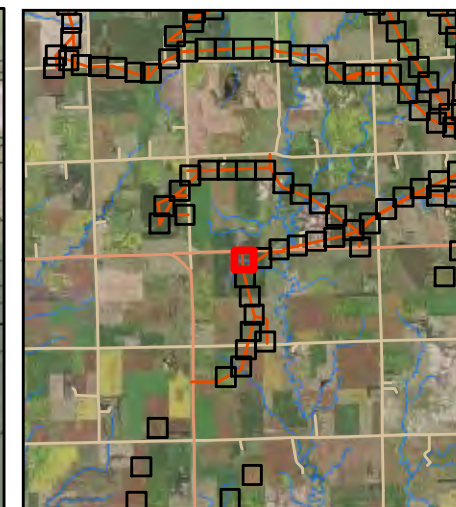
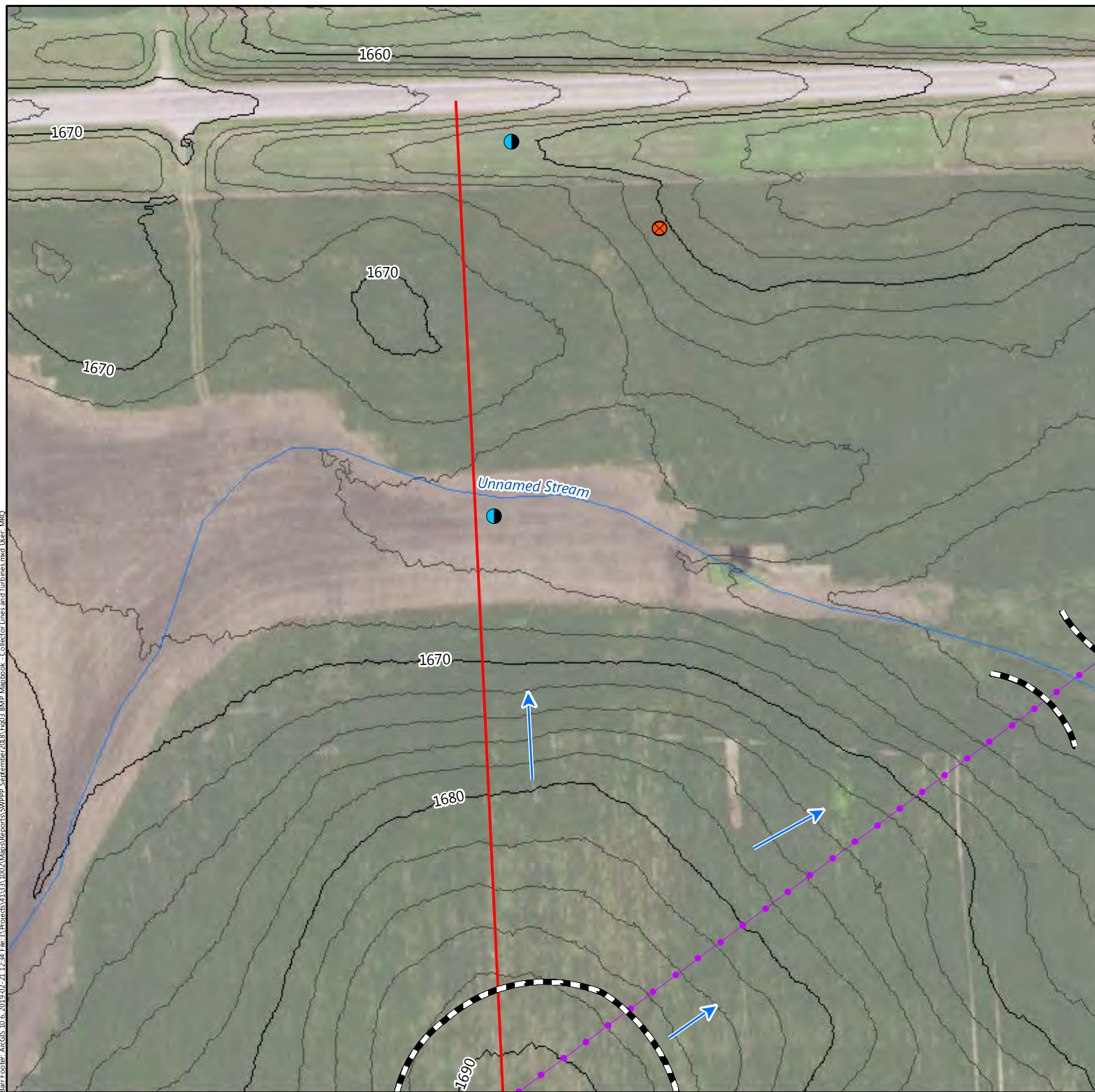
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



Figure 3-176

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





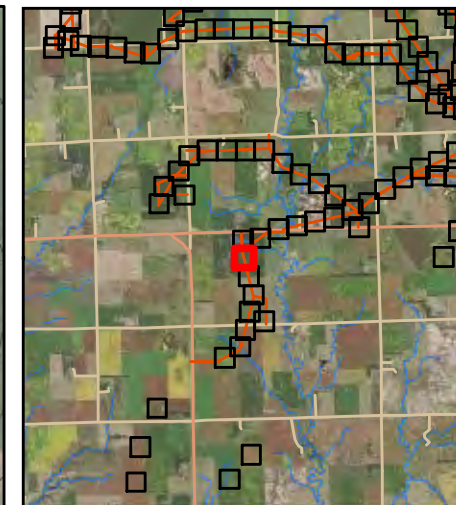
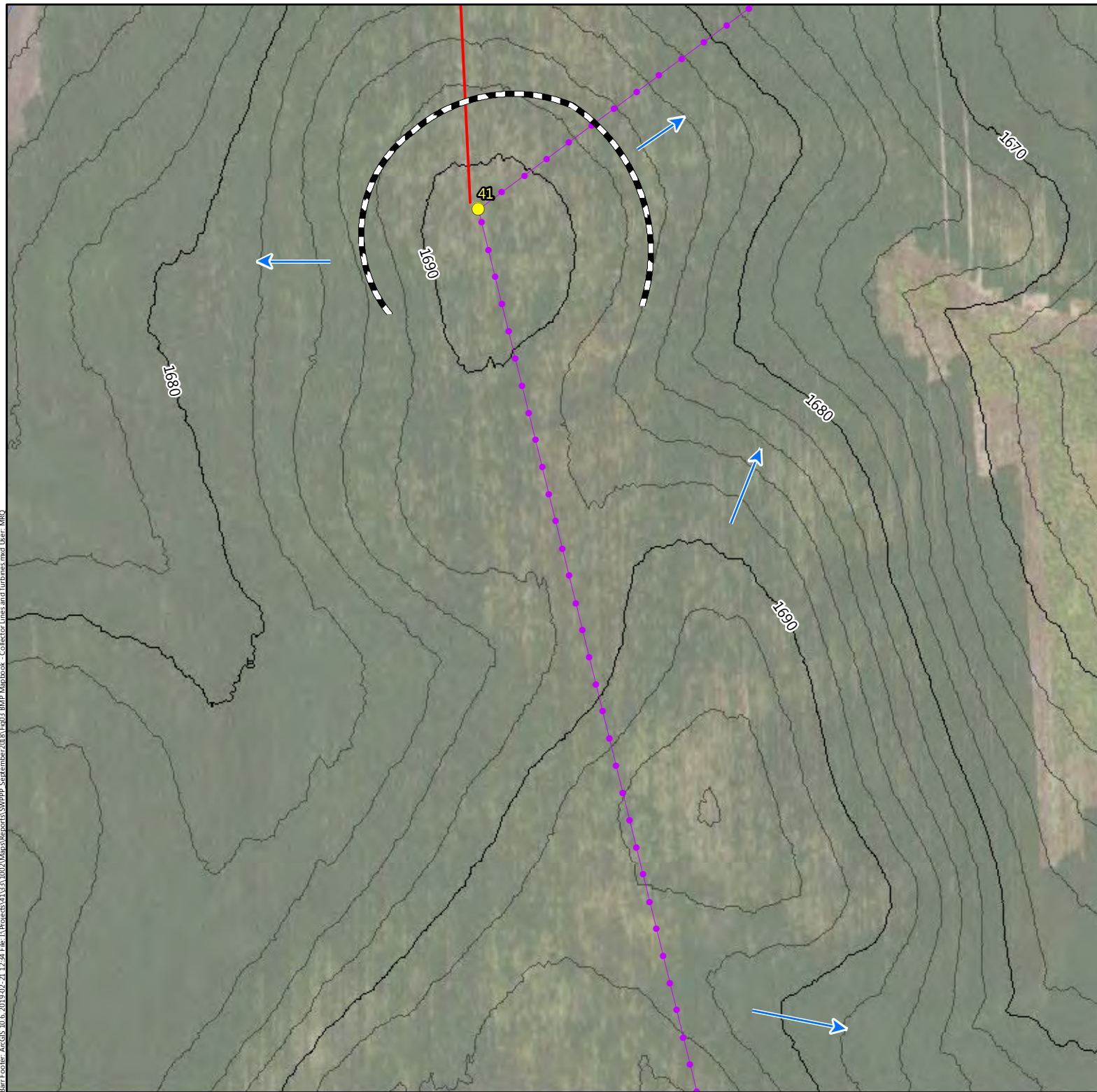
- Turbine Location (4/13/2018)
- ⊗ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- - - Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-177

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





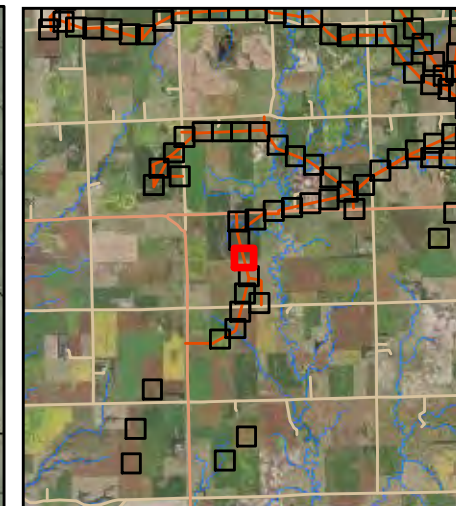
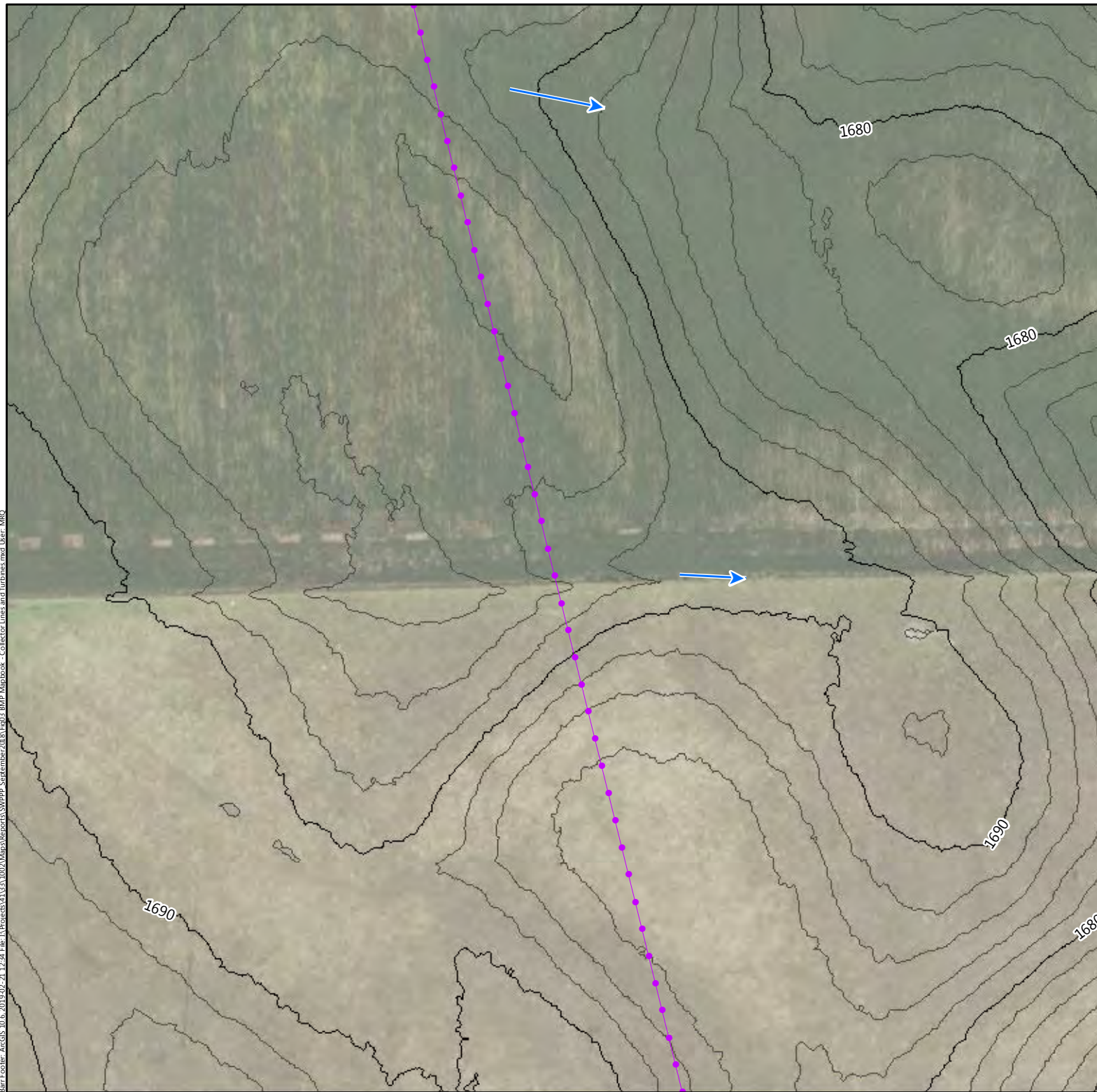
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-178

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





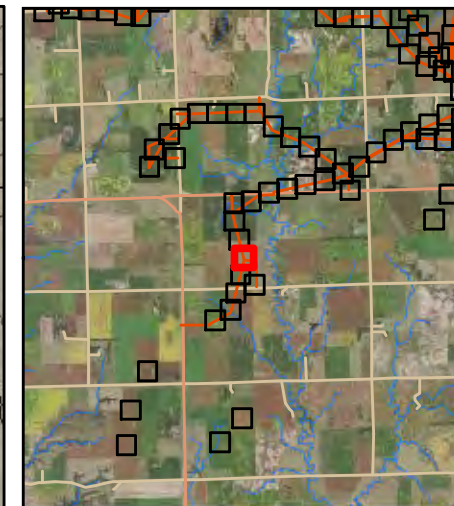
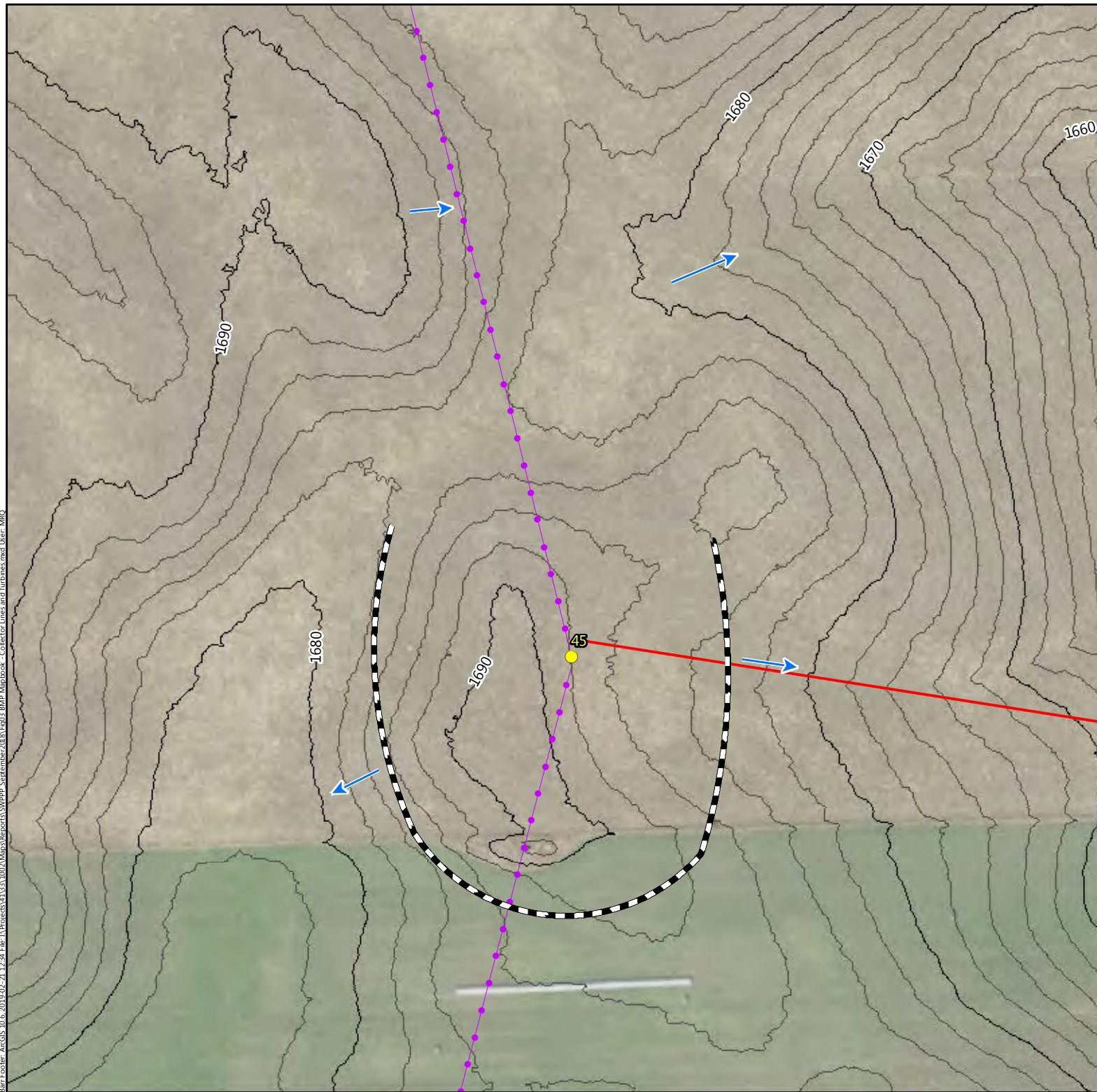
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-179

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





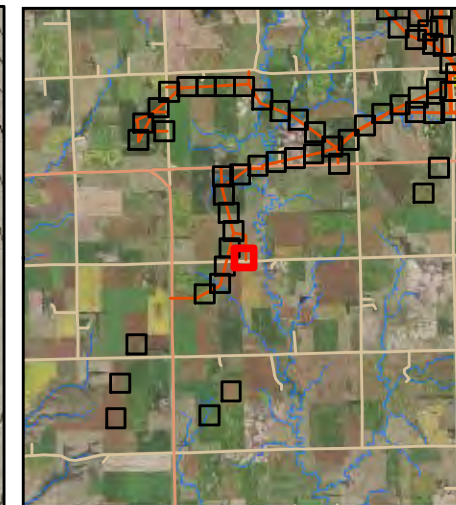
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-180

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota









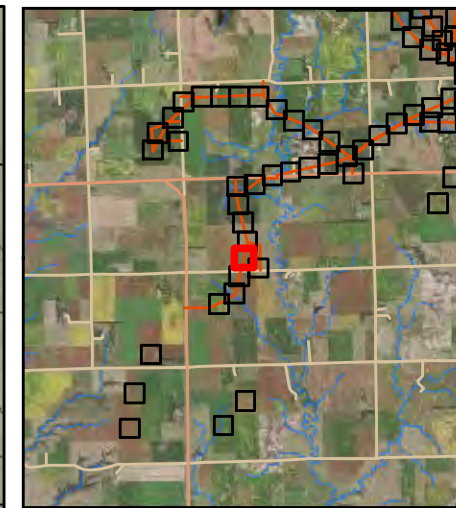
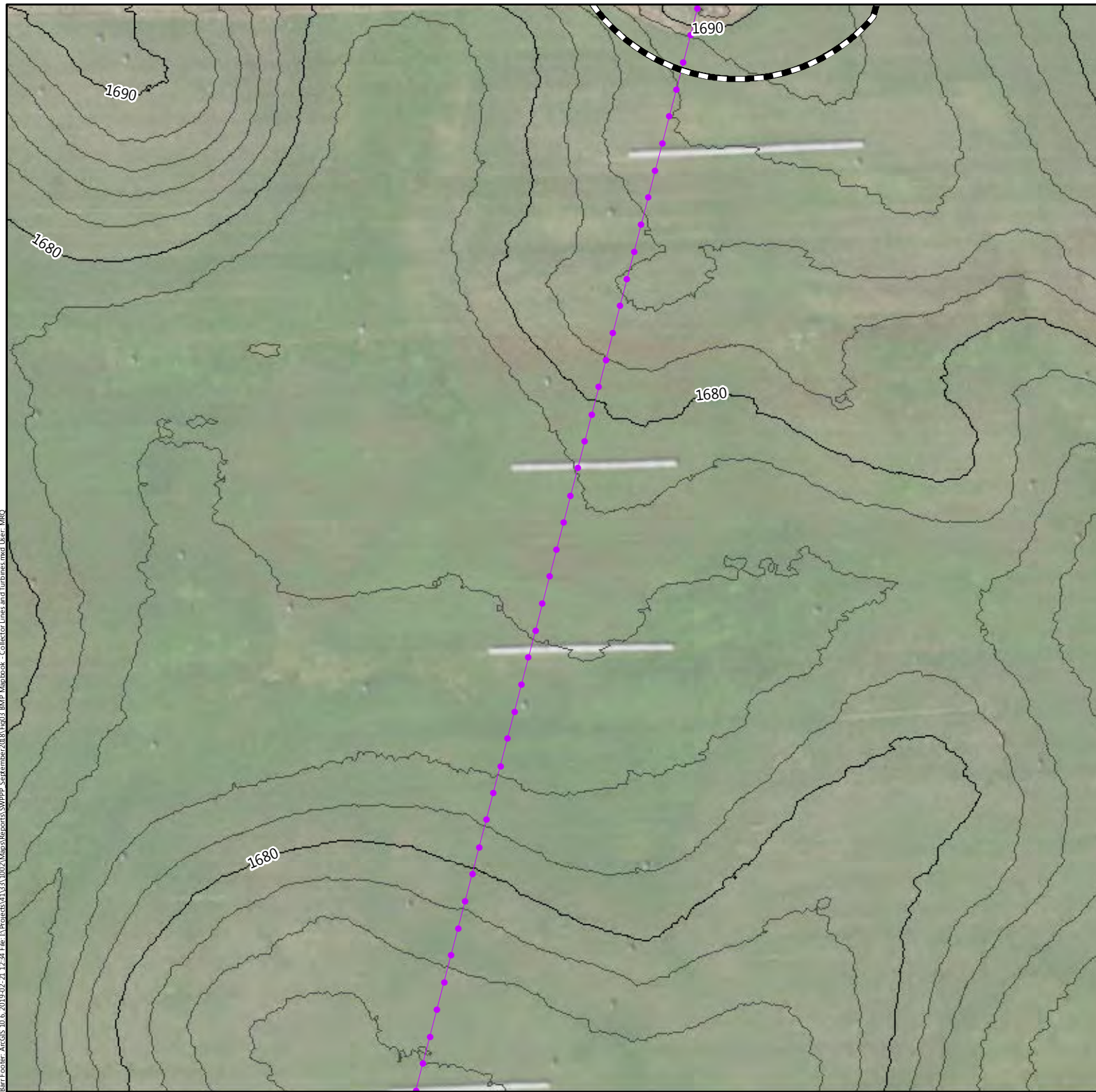
-  Gate
-  Culvert
-  Access Road (1/18/2019)
-  Flow Direction



Figure 3-181

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



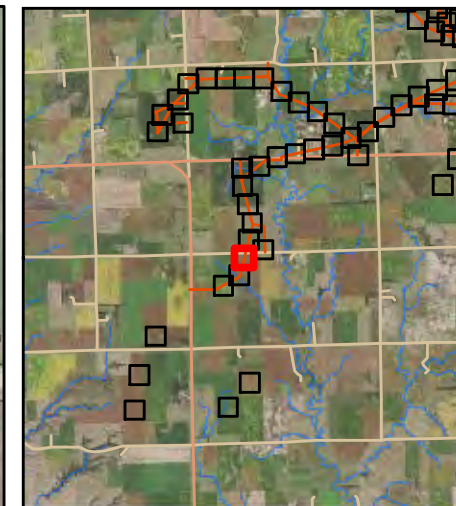
Feet



Figure 3-182

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





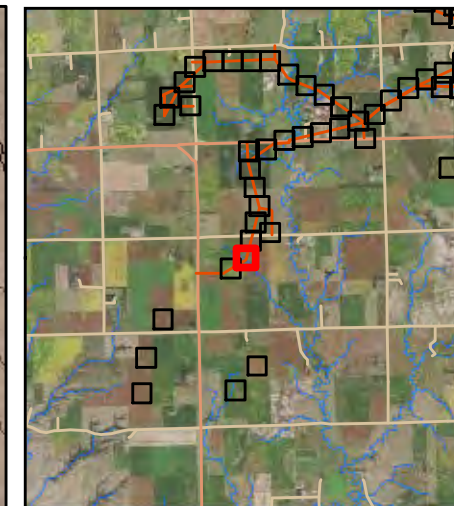
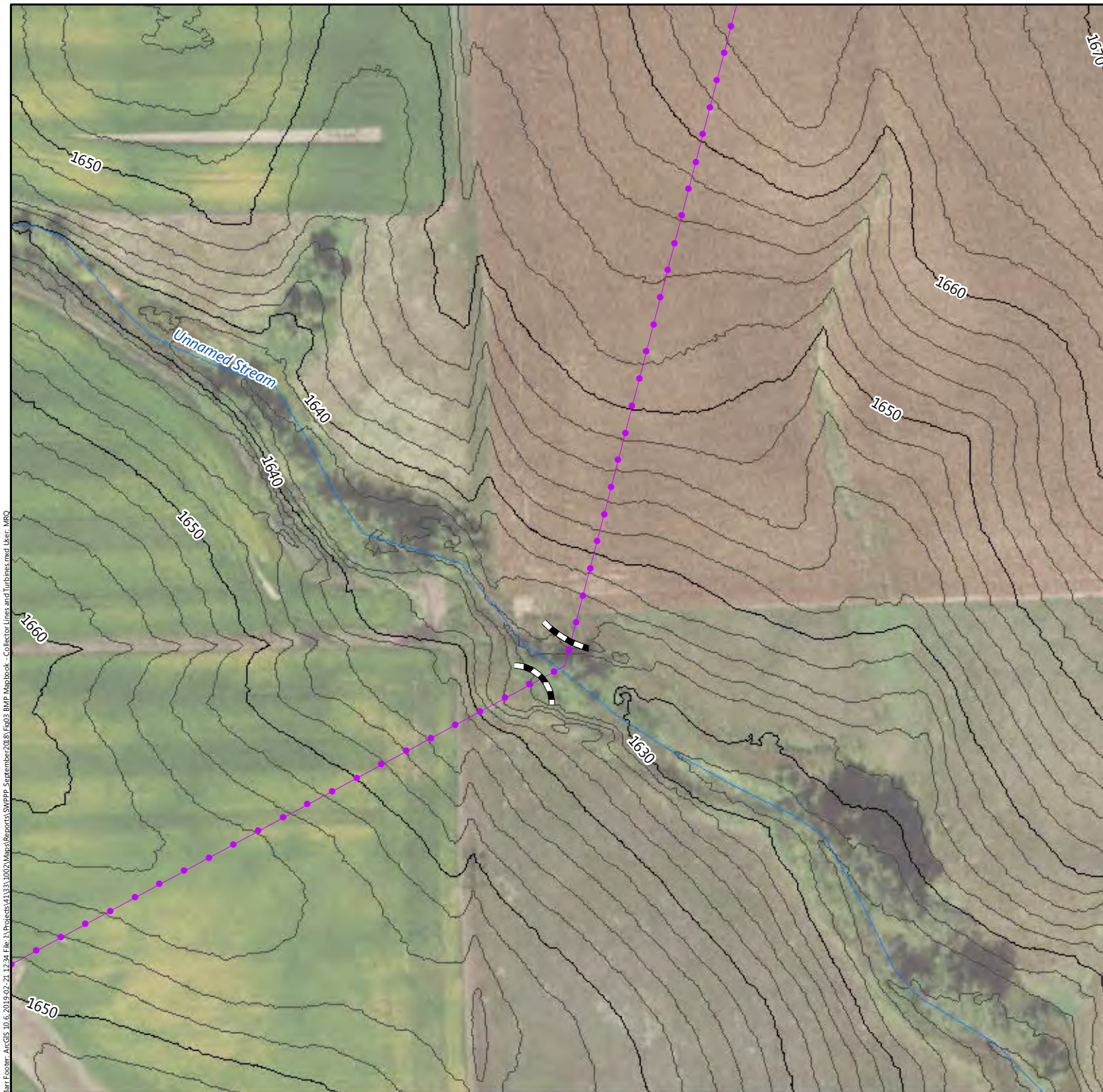
Collector Lines (1/18/2019)



Figure 3-183

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





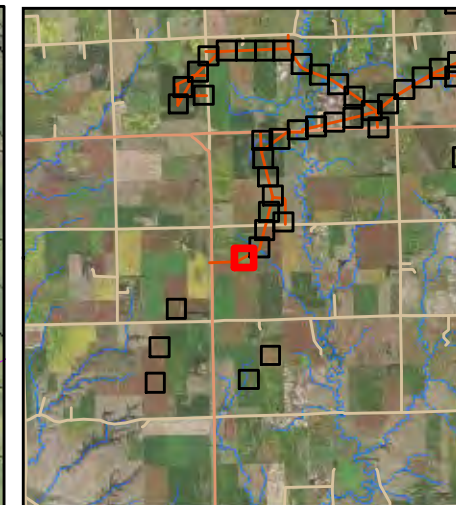
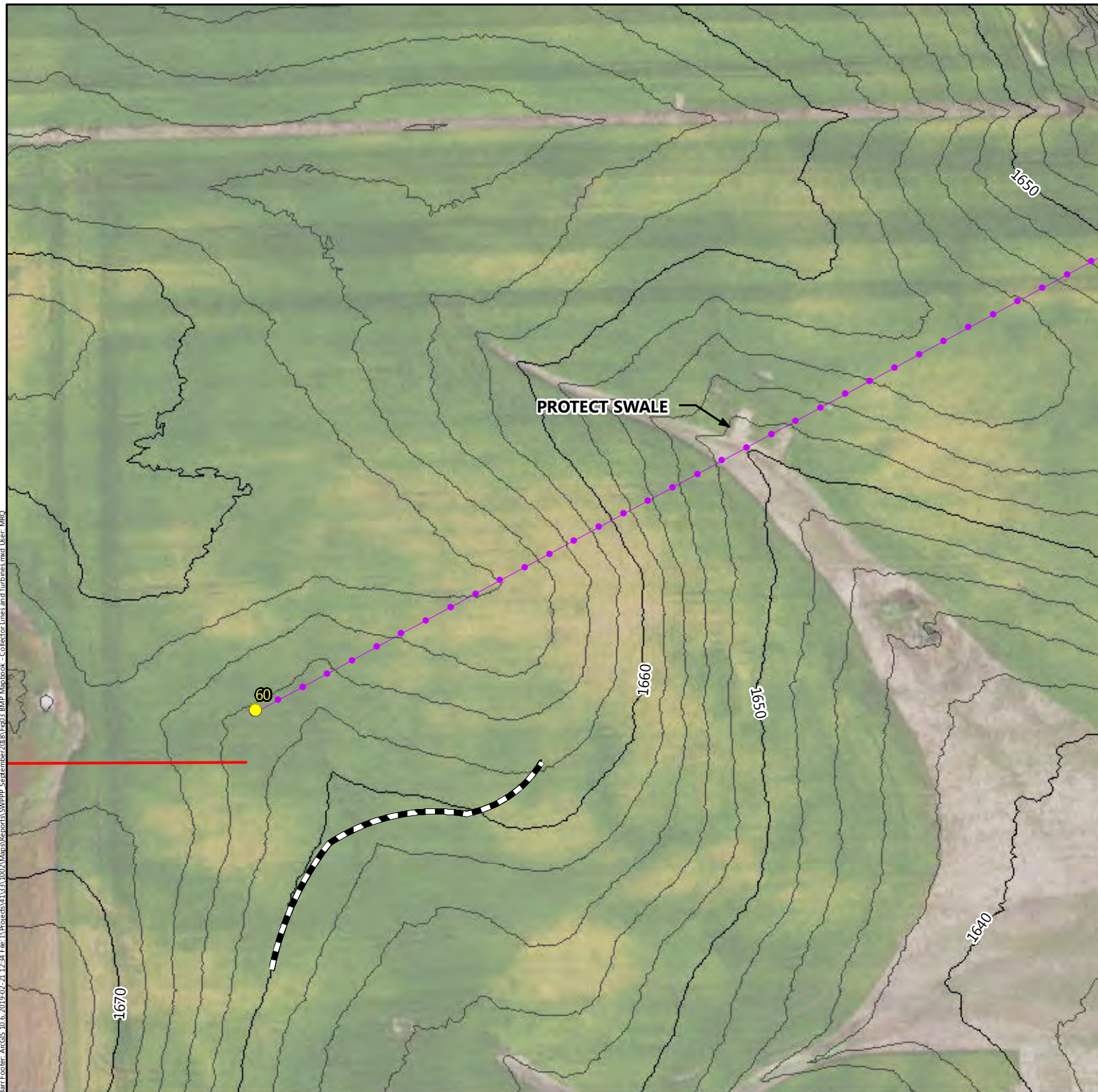
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-184

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





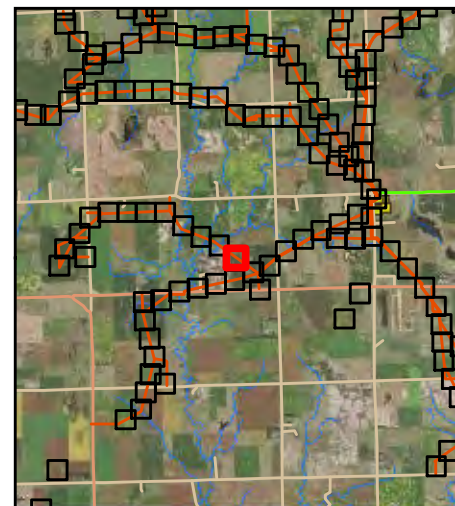
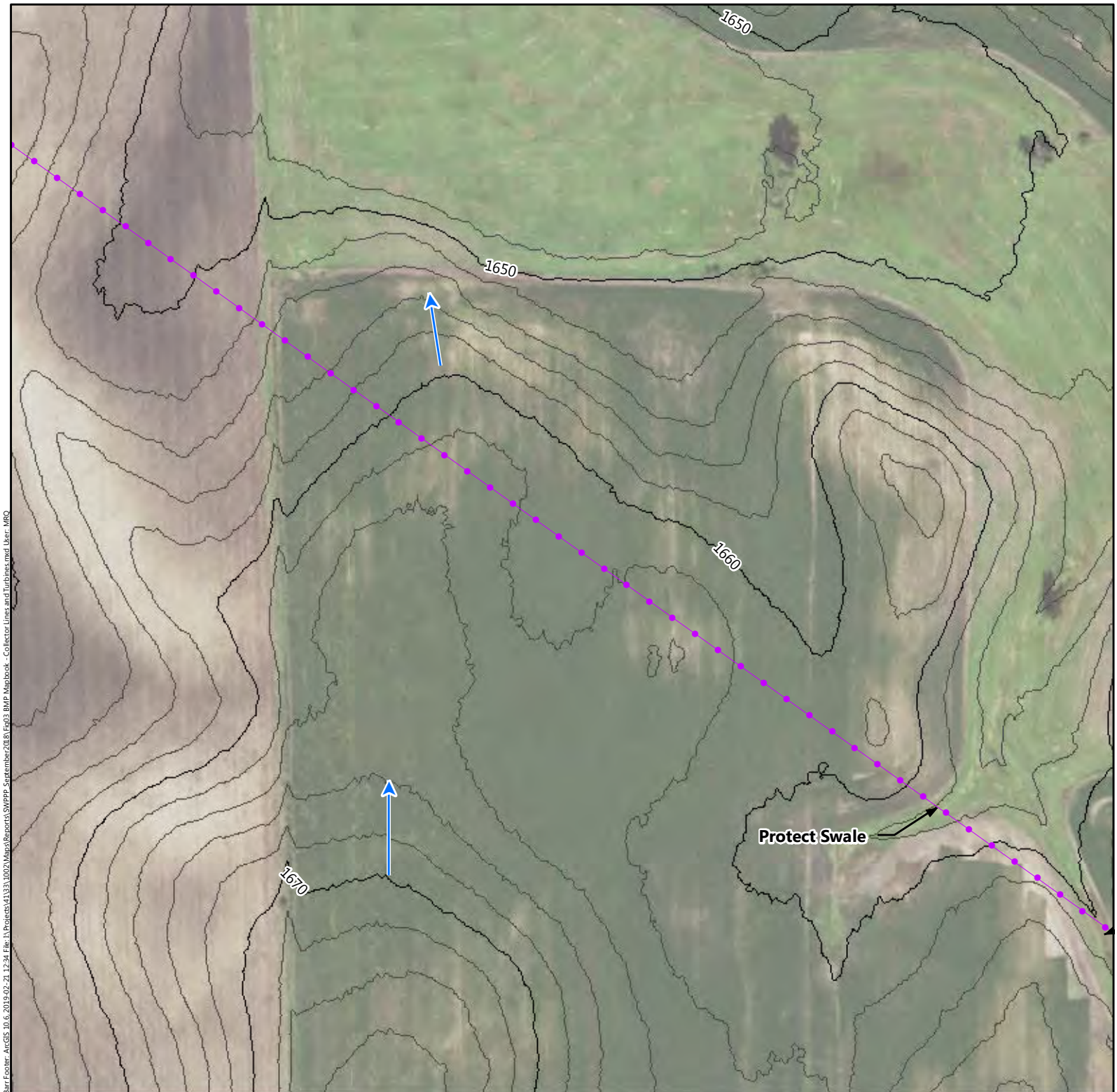
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



Figure 3-185

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

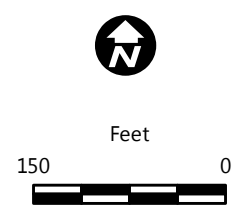


Figure 3-186

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota



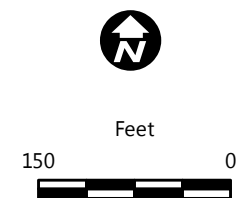
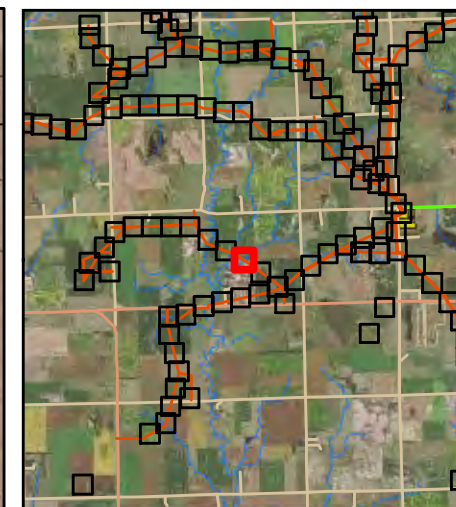
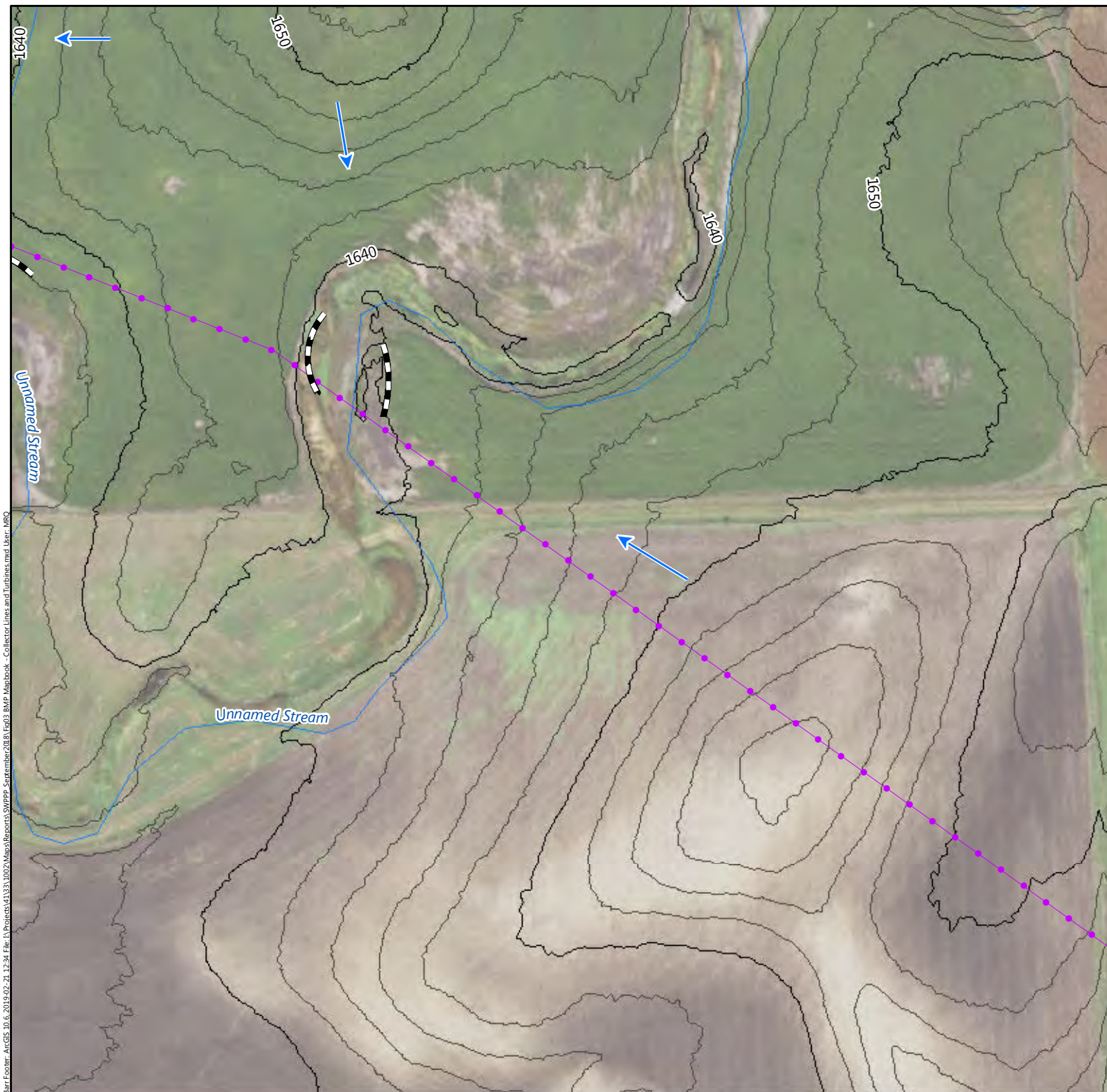
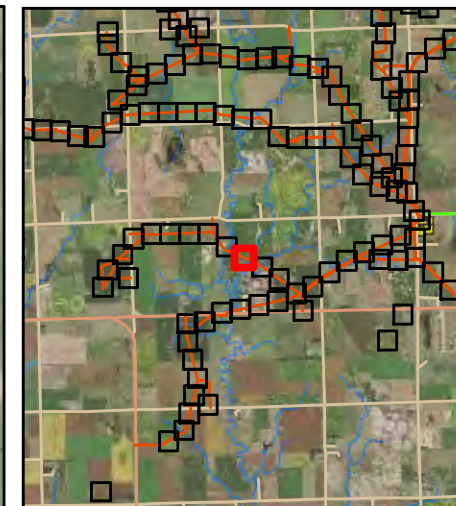
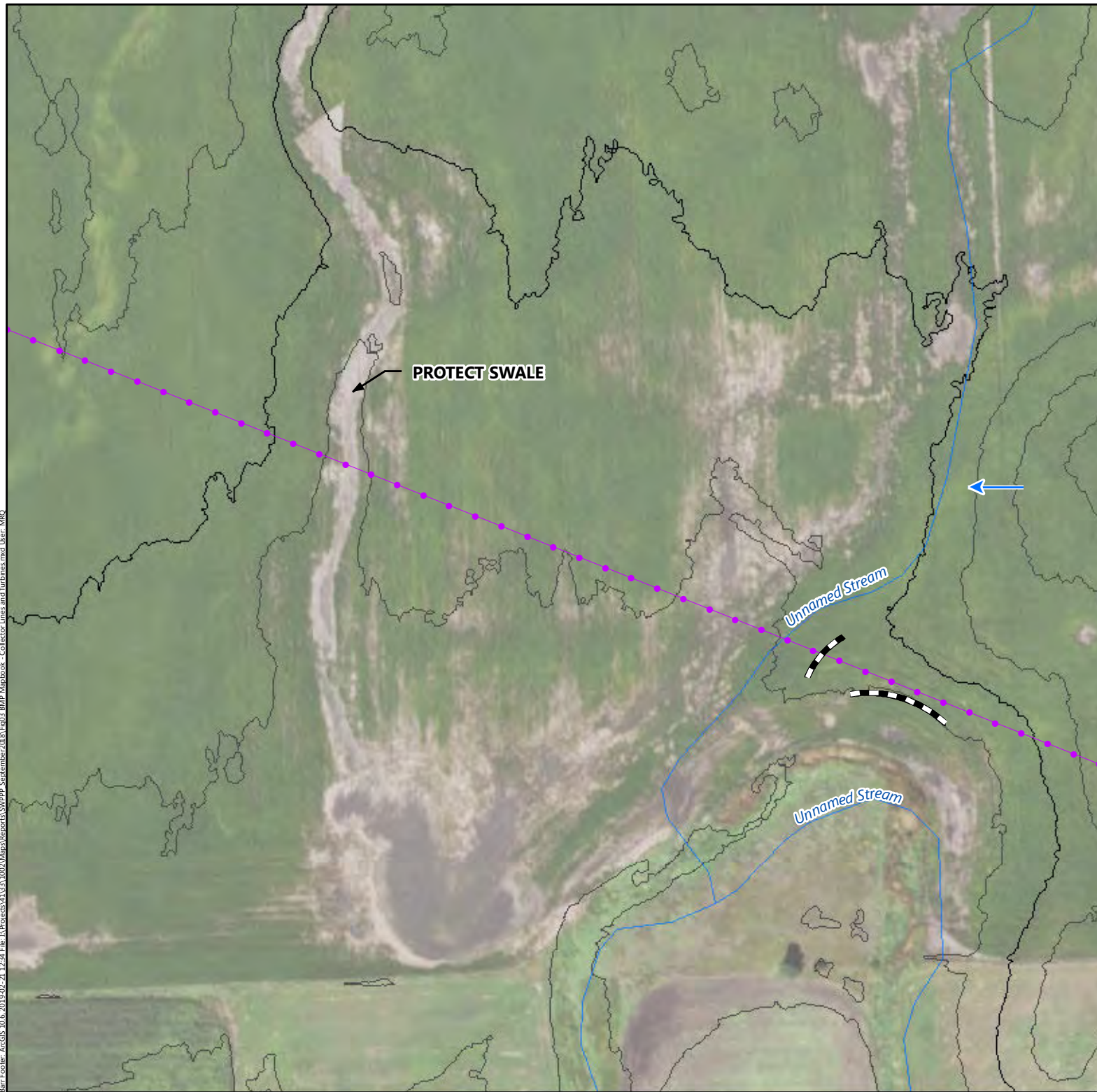


Figure 3-187

## EROSION CONTROL PLAN

Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





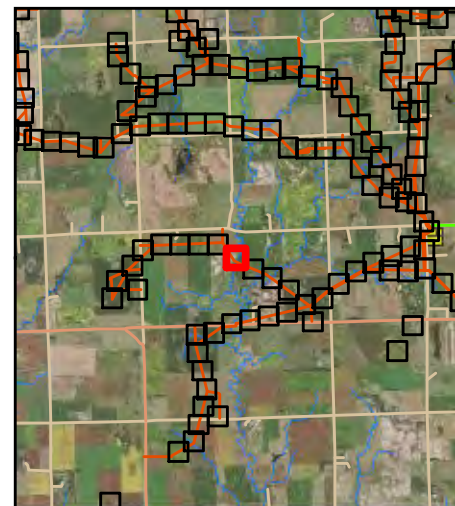
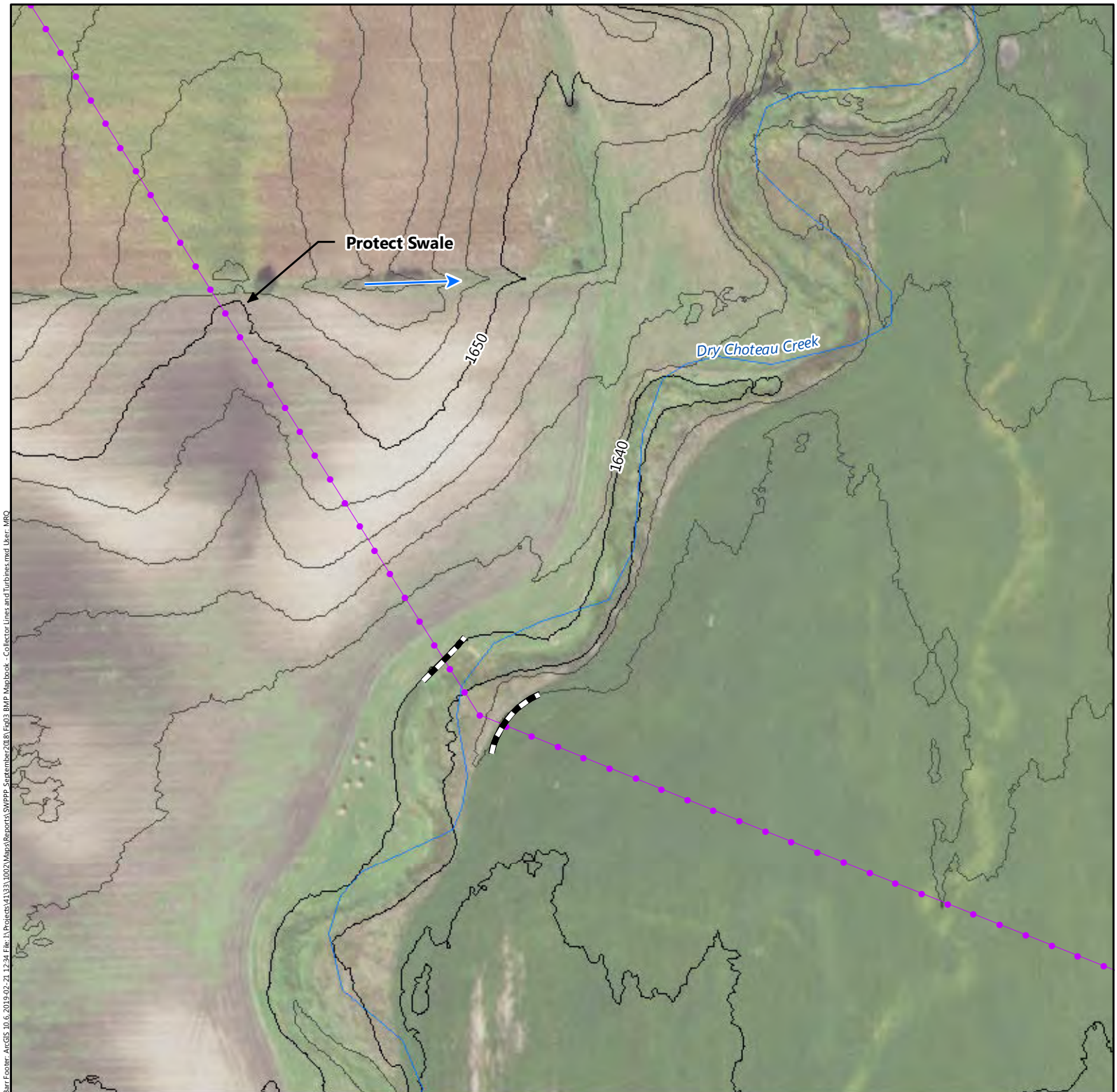
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen Berm



Figure 3-188

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm

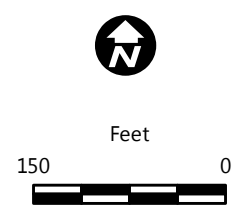
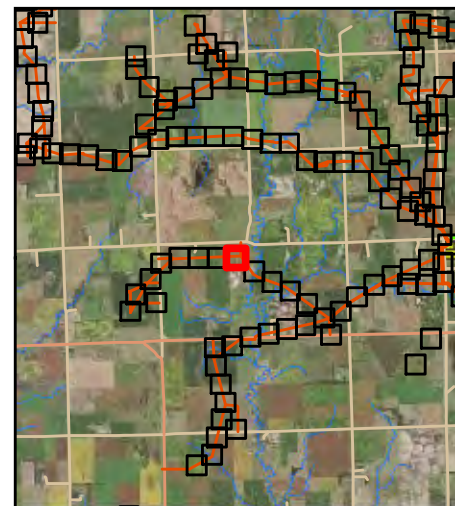
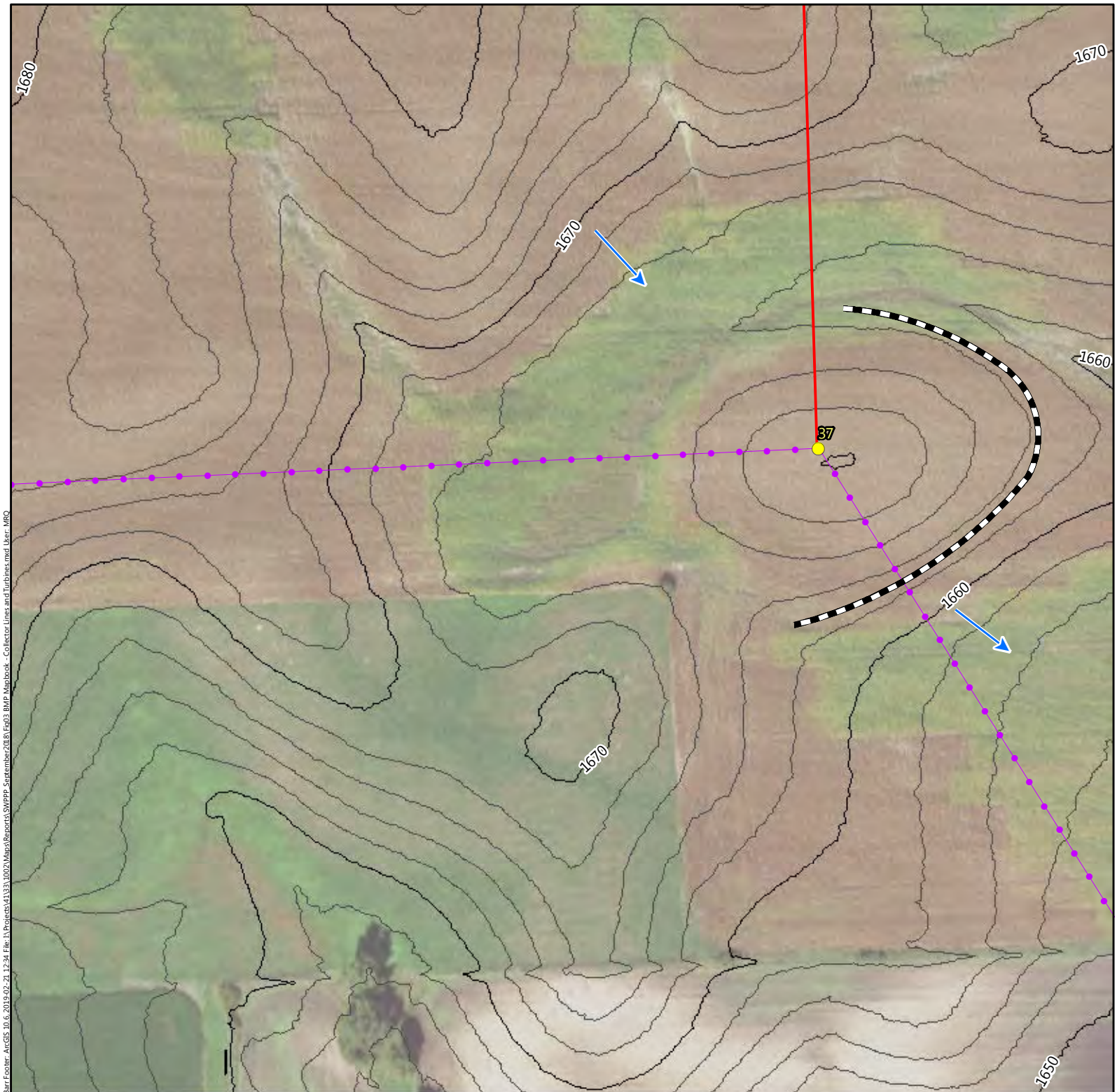


Figure 3-189

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





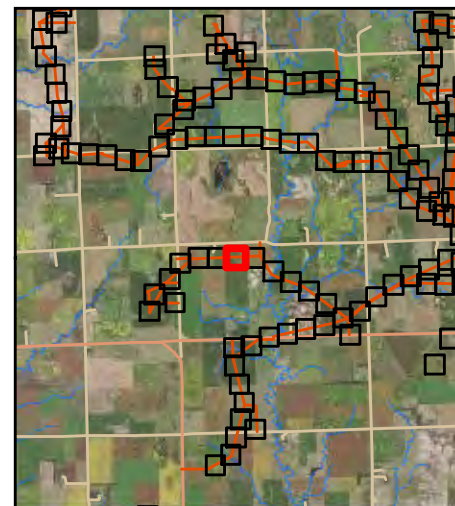
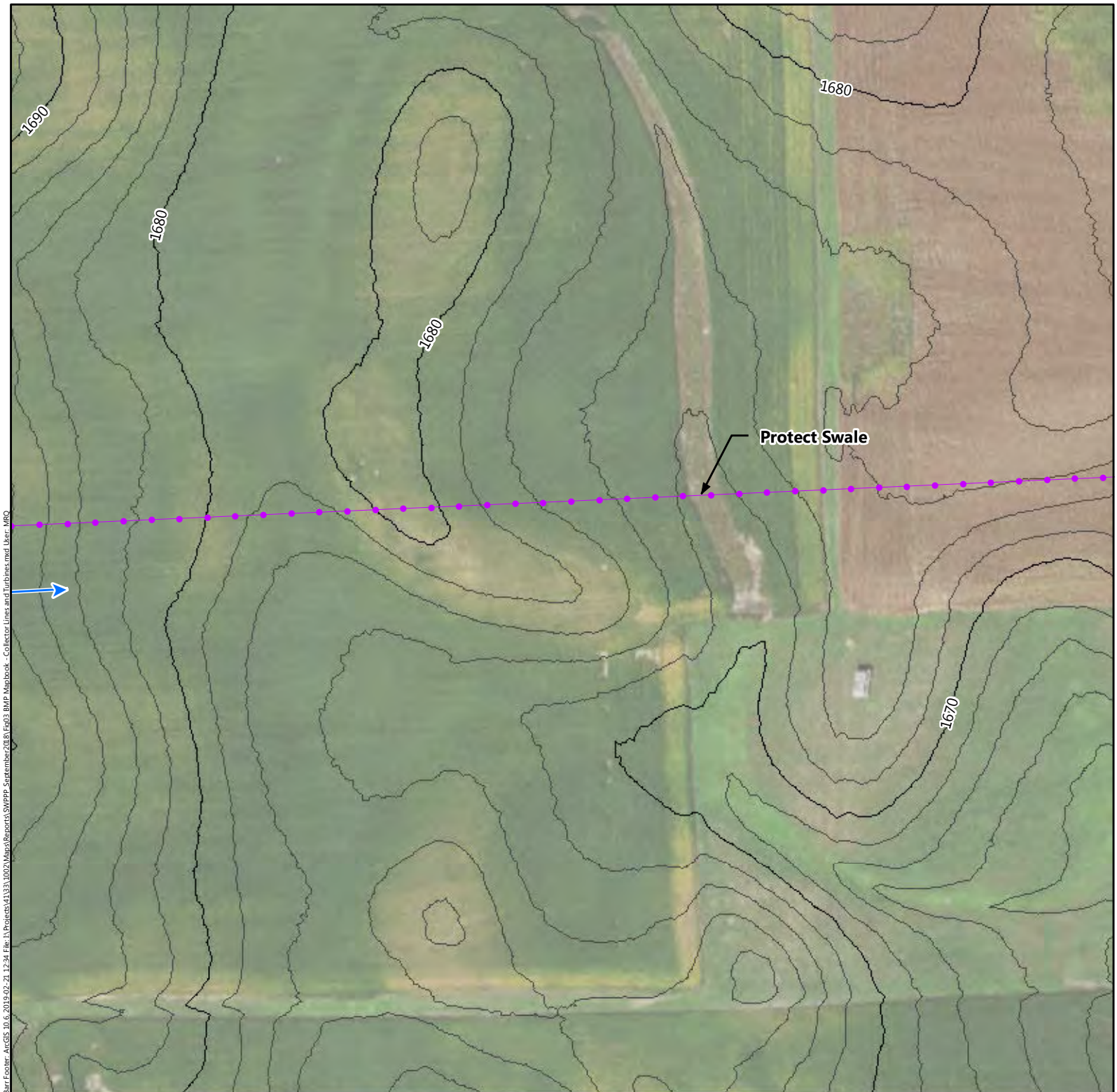
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- - - Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-190

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

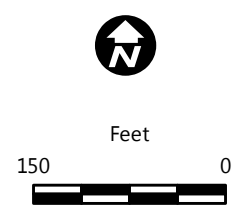
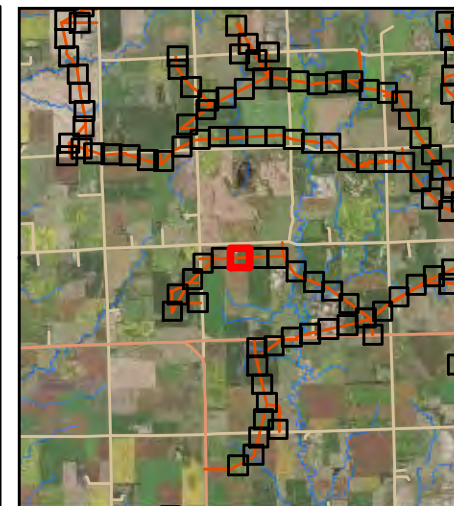


Figure 3-191

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ➔ Flow Direction

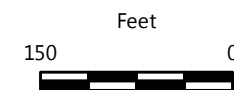
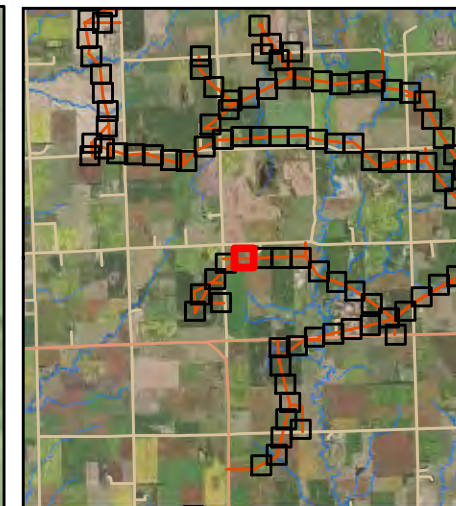
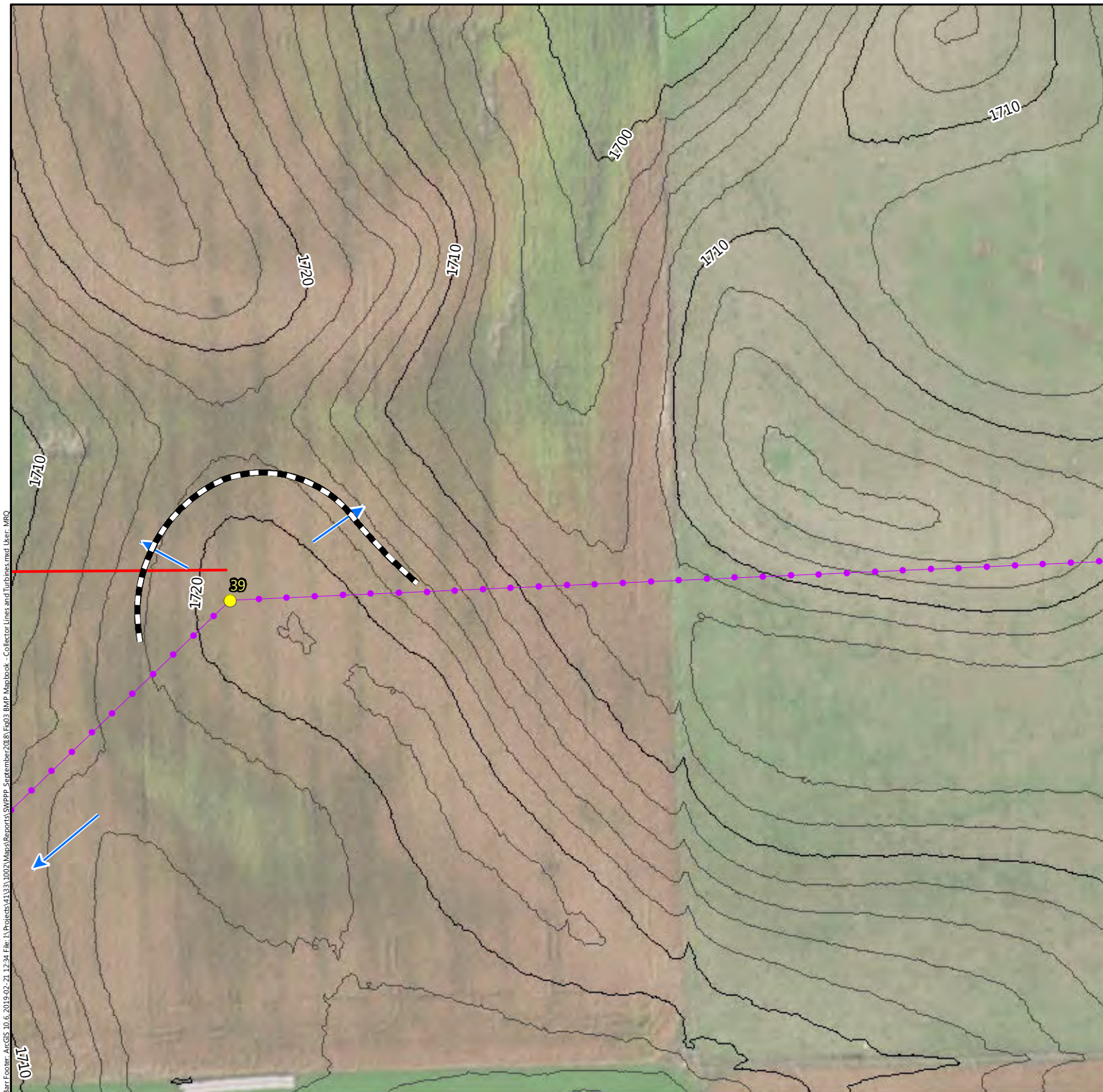


Figure 3-192

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





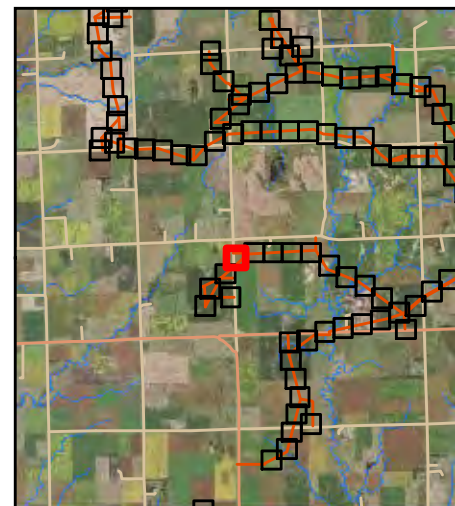
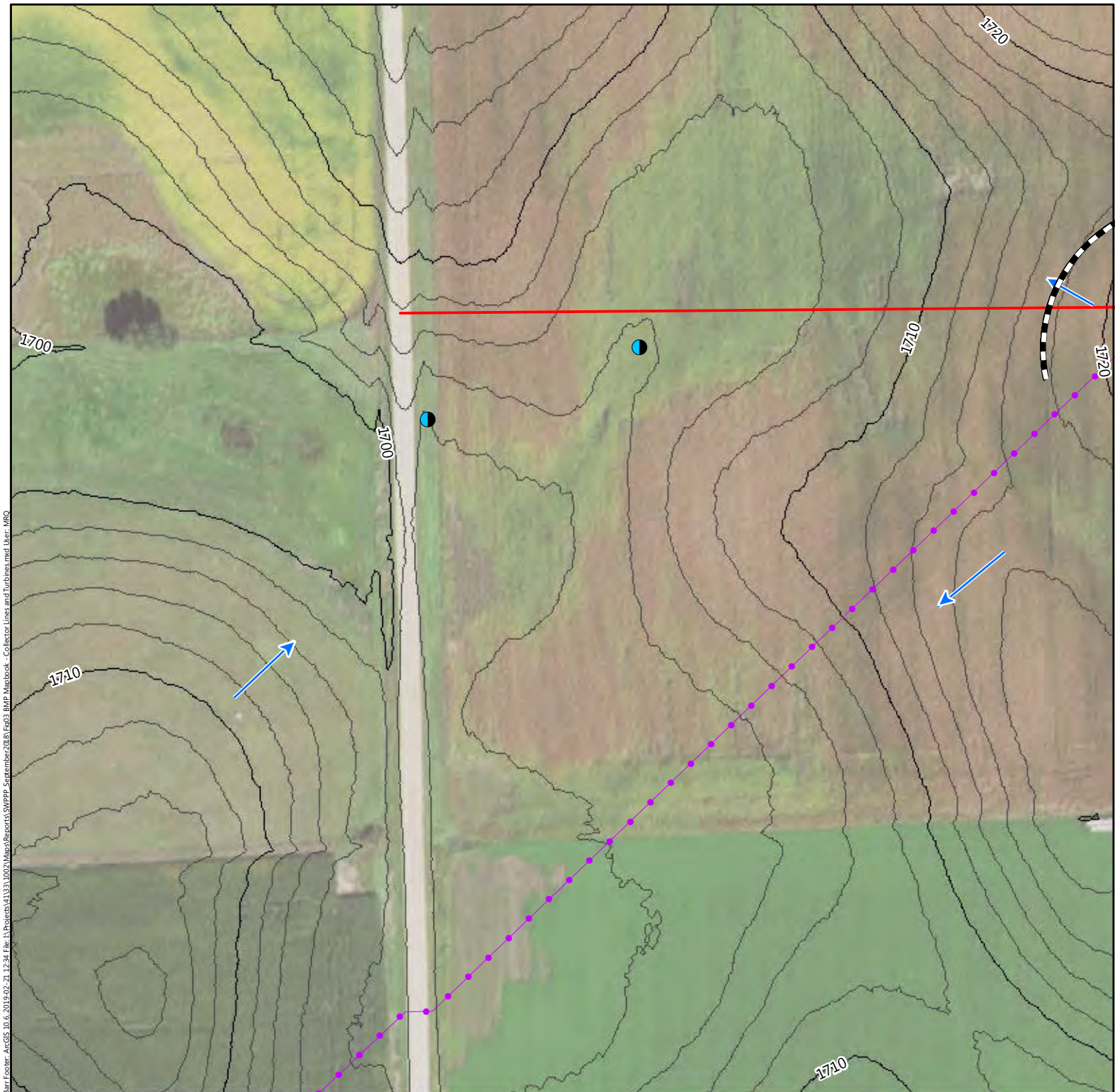
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-193

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota










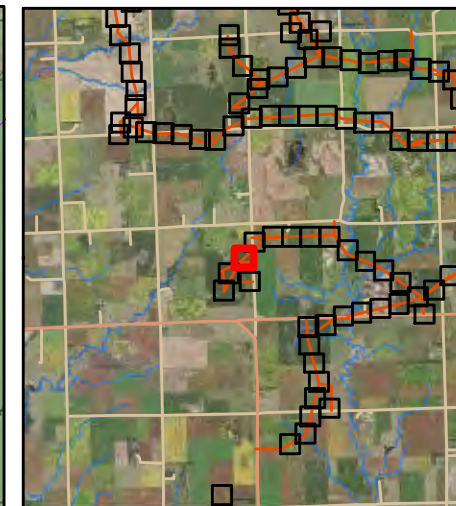
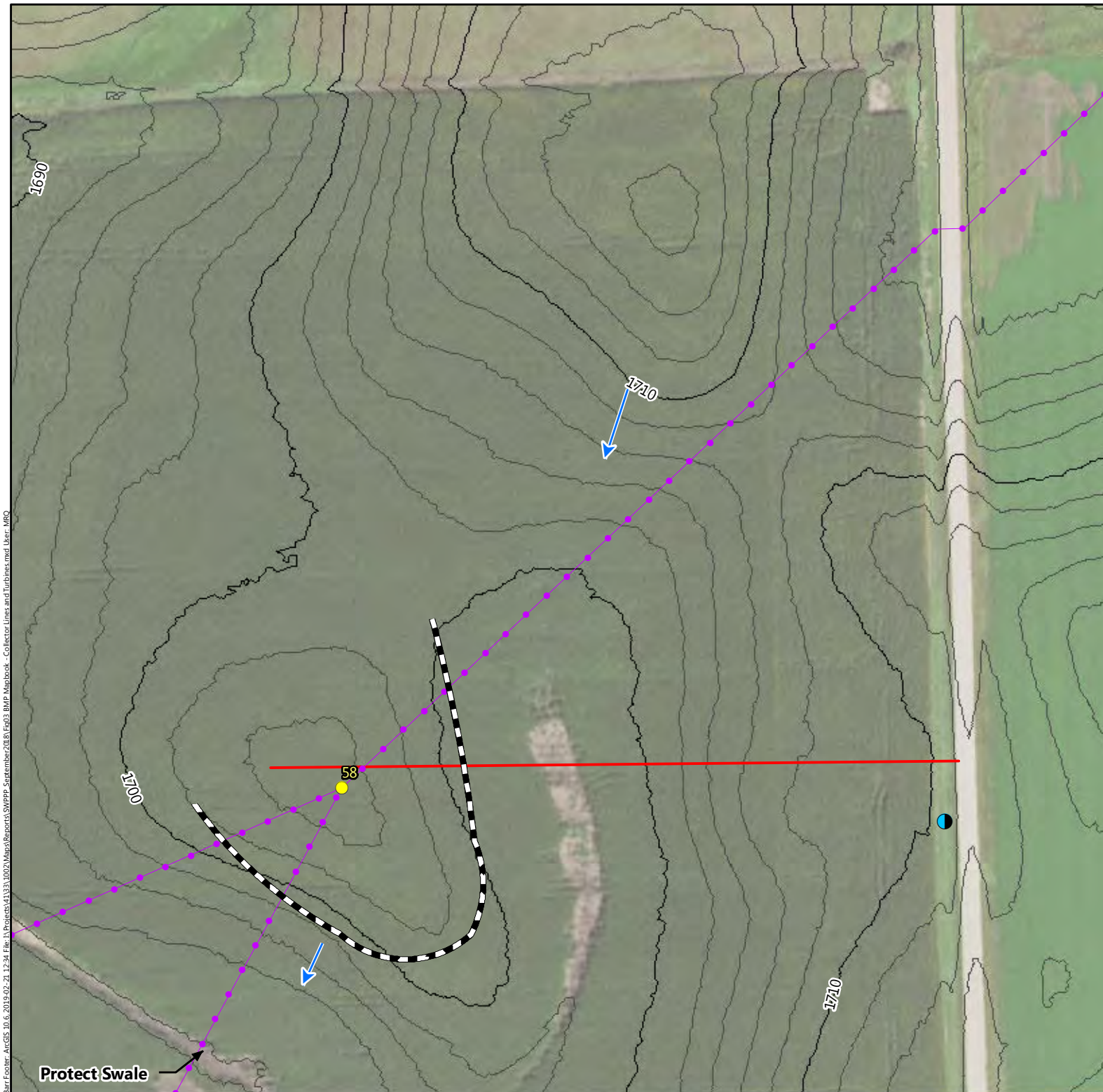
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-194

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





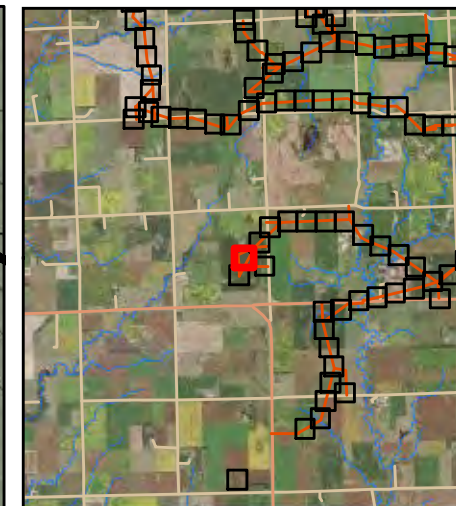
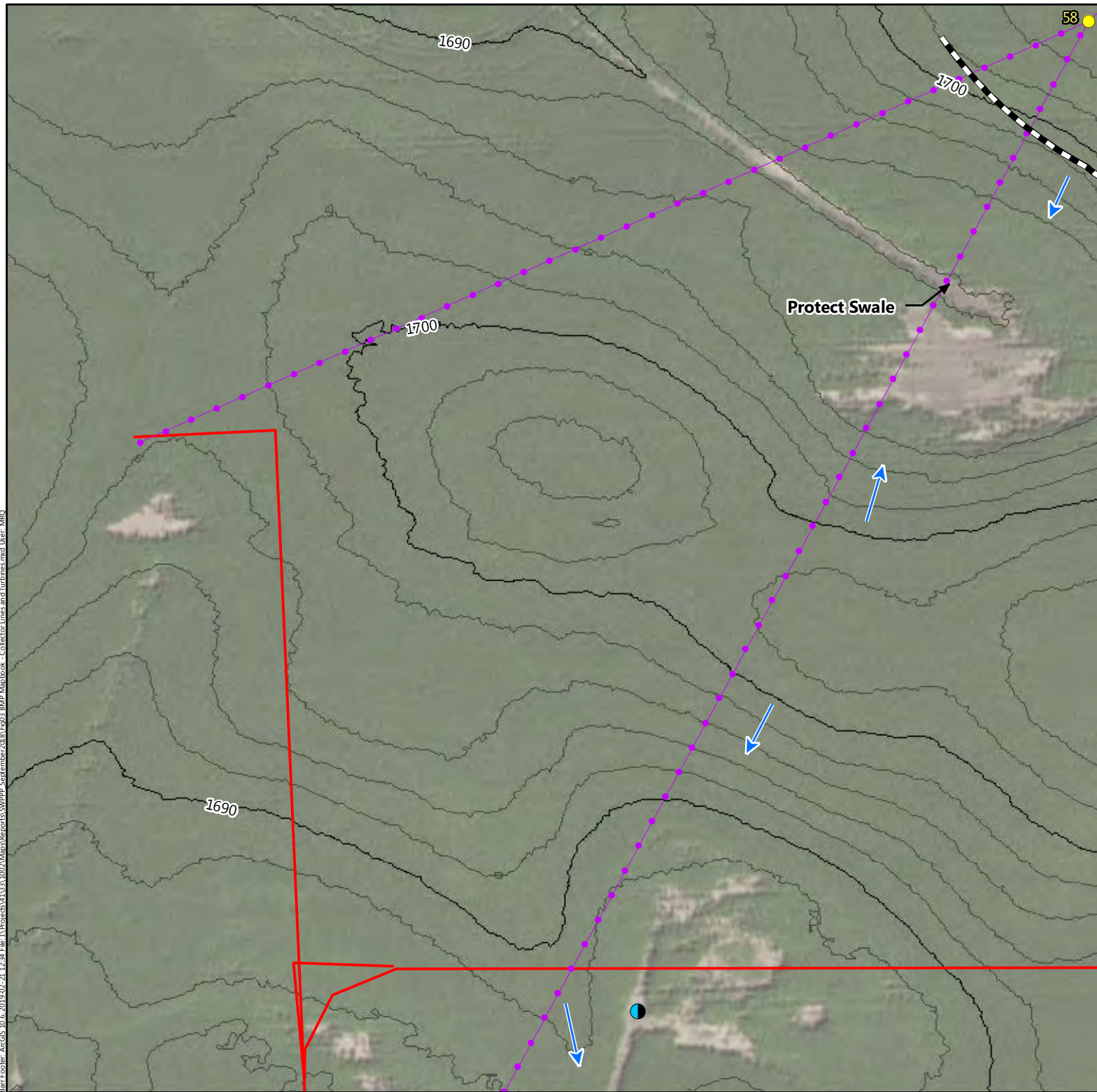
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-195

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





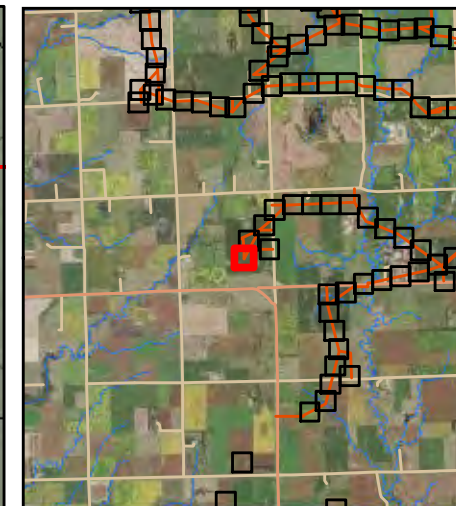
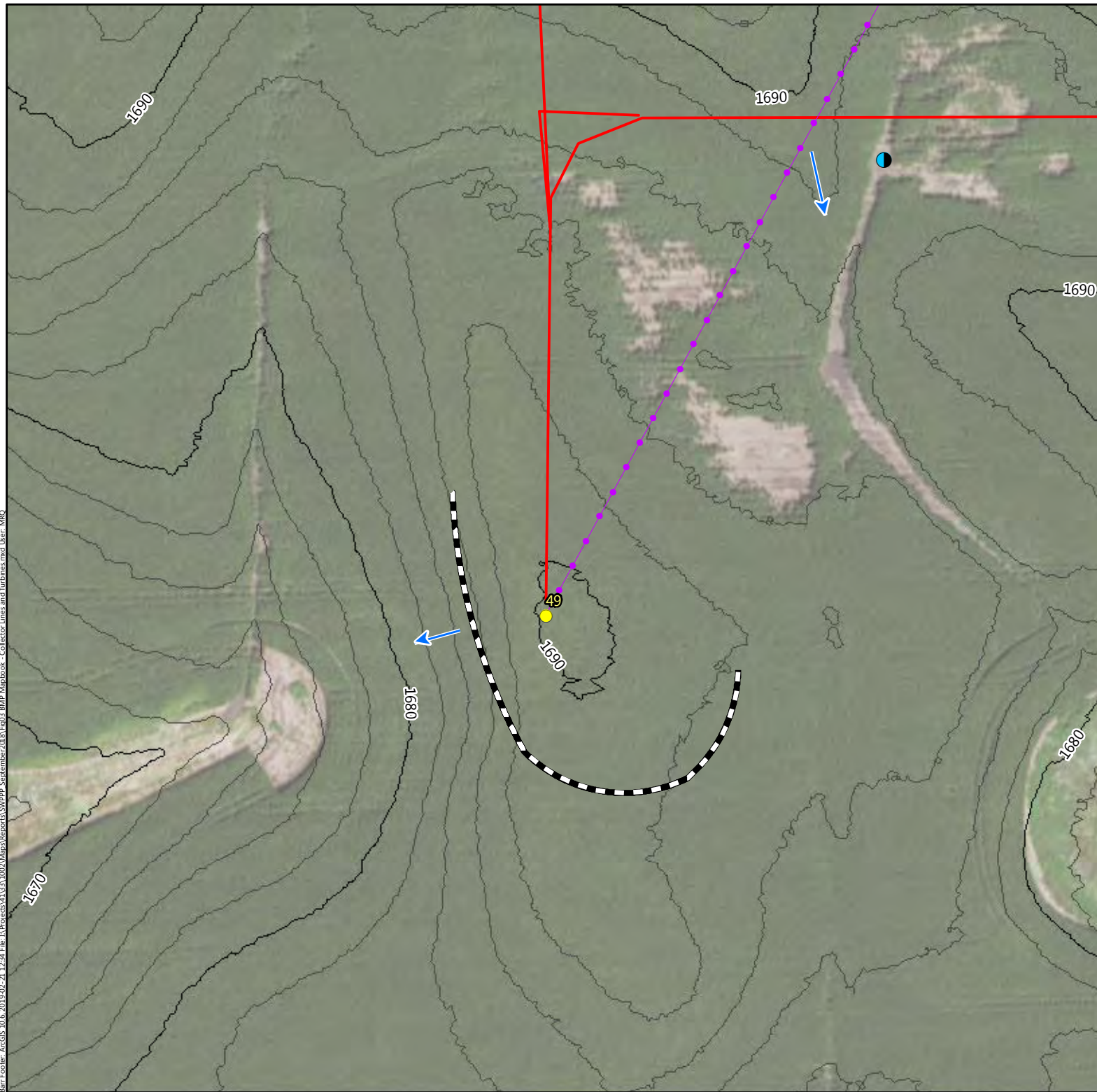
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-196

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





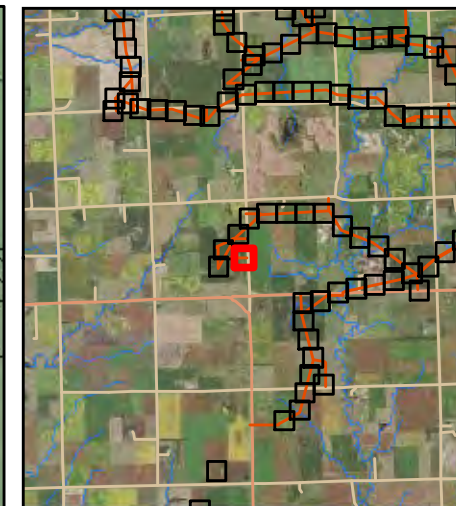
- Turbine Location (4/13/2018)
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-197

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota







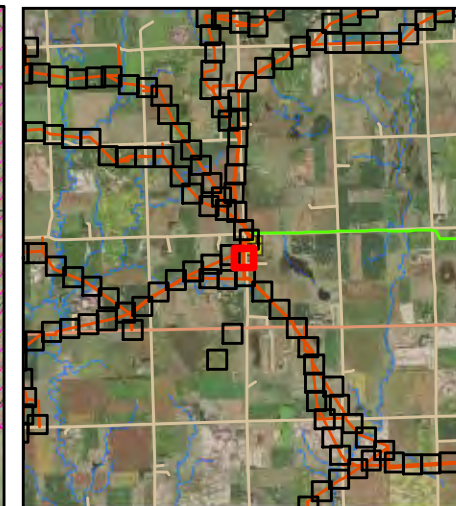
-  Culvert
-  Access Road (1/18/2019)



Figure 3-198

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





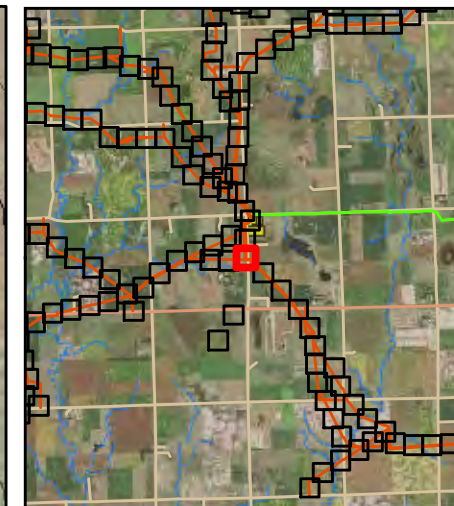
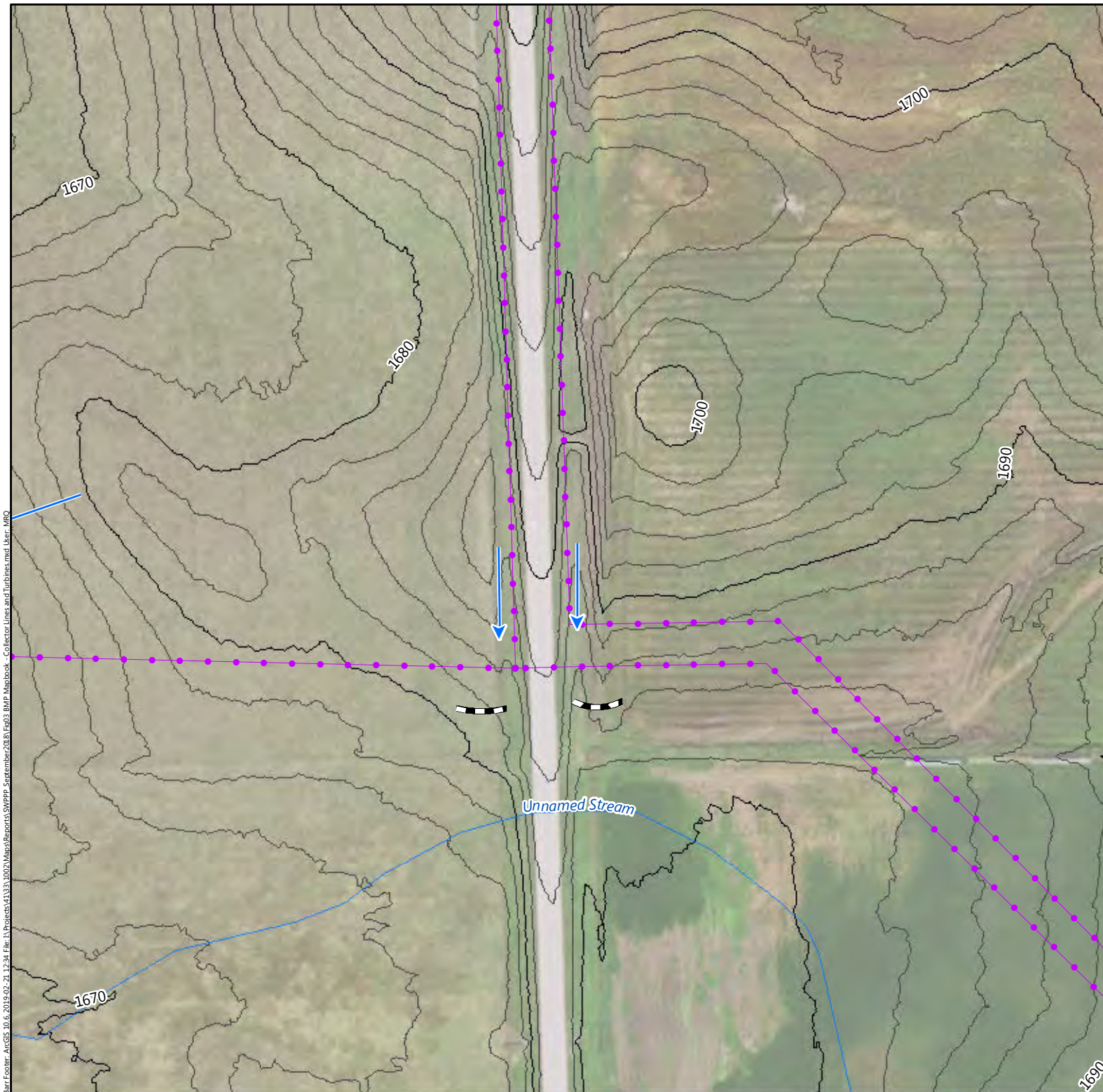
- Collector Lines (1/18/2019)
- ➡ Flow Direction
- ▨ Laydown Yard



Figure 3-199

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





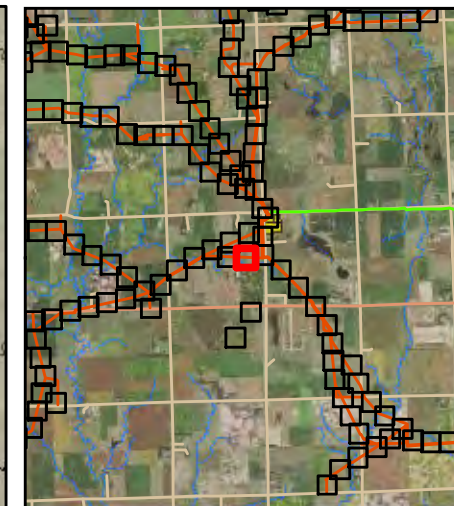
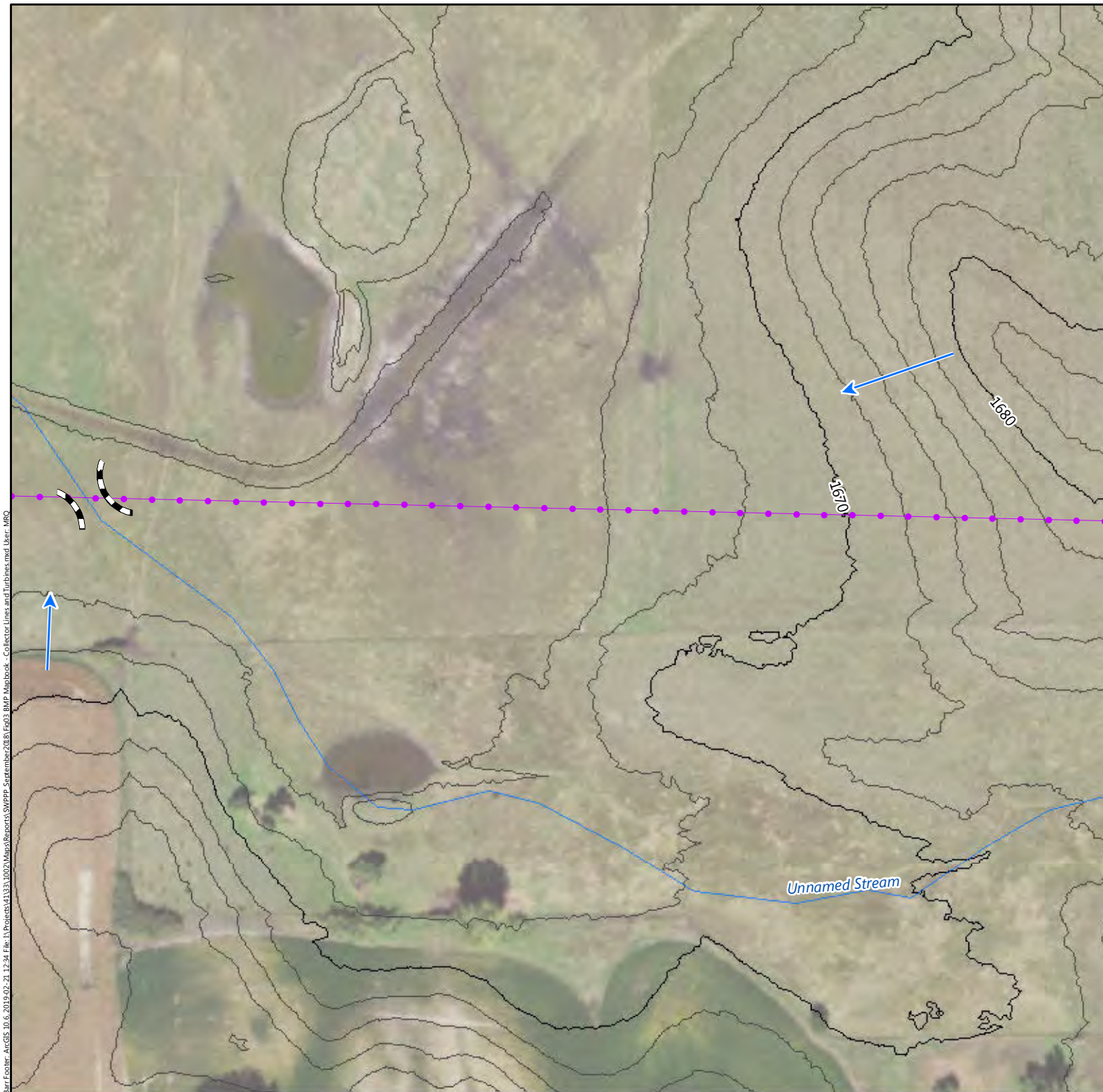
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen Berm



Figure 3-200

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





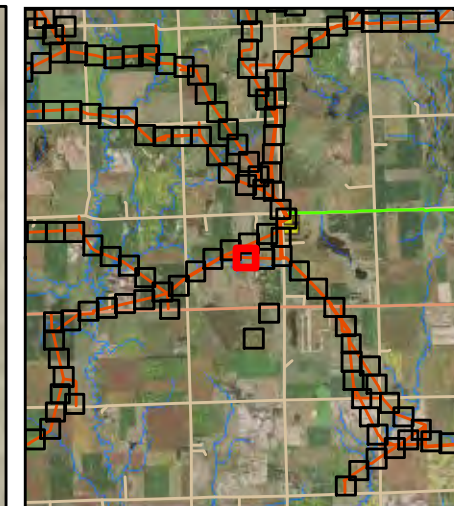
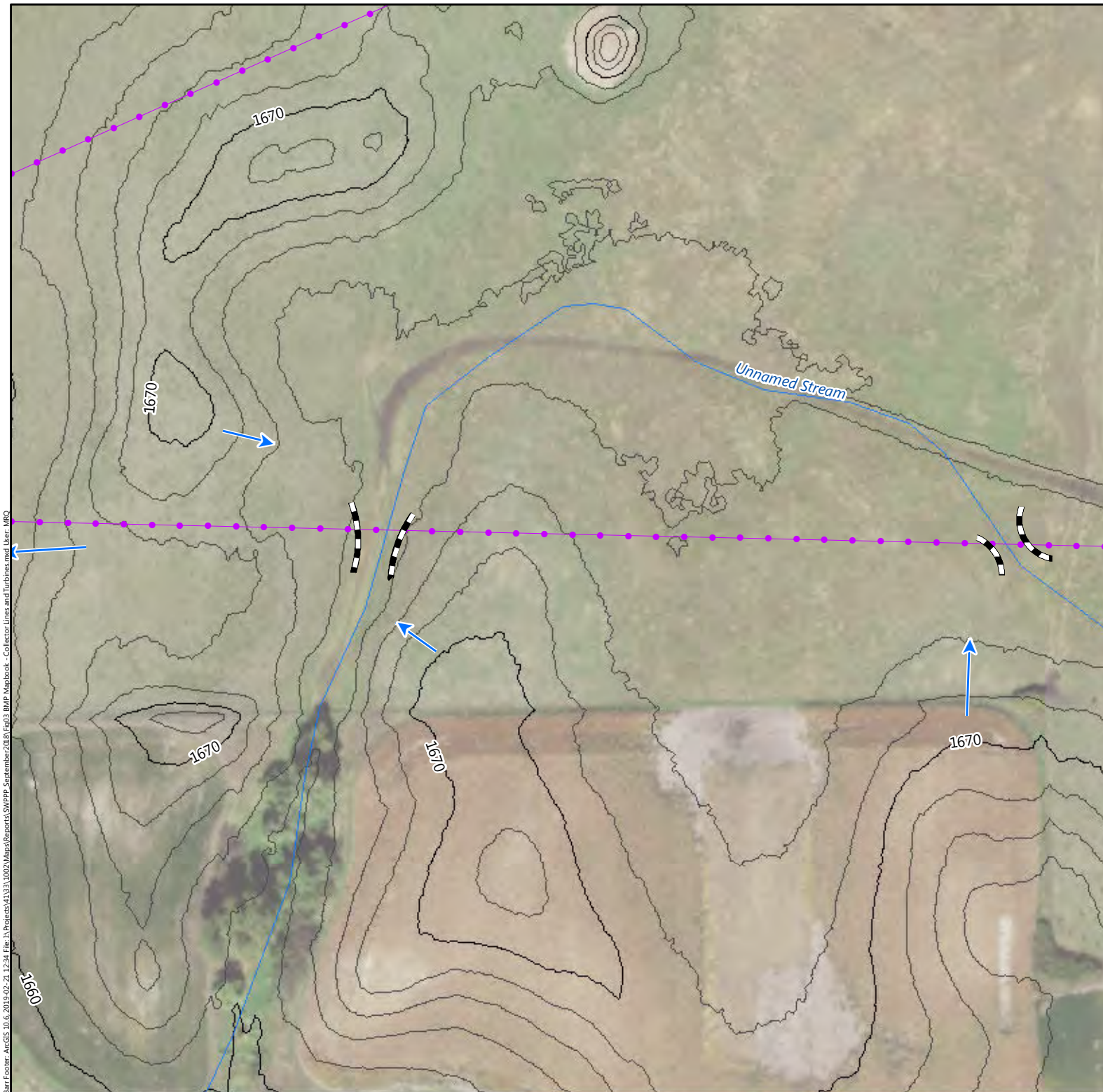
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-201

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen
- Berm

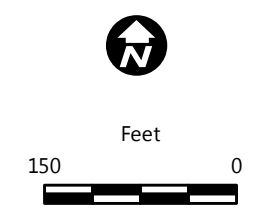
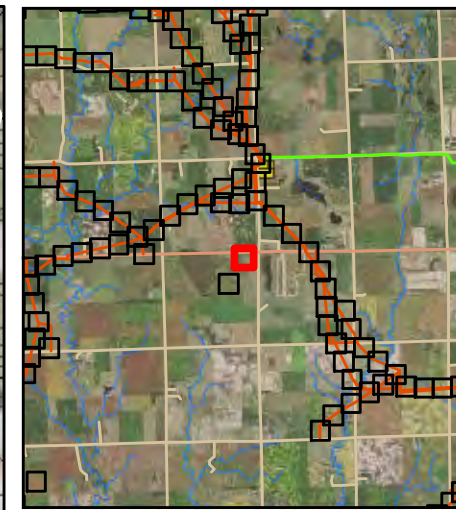


Figure 3-202

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- ⊗ Gate
- Culvert
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

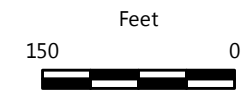
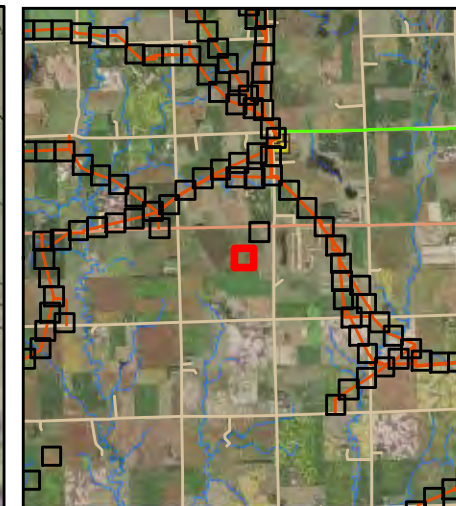
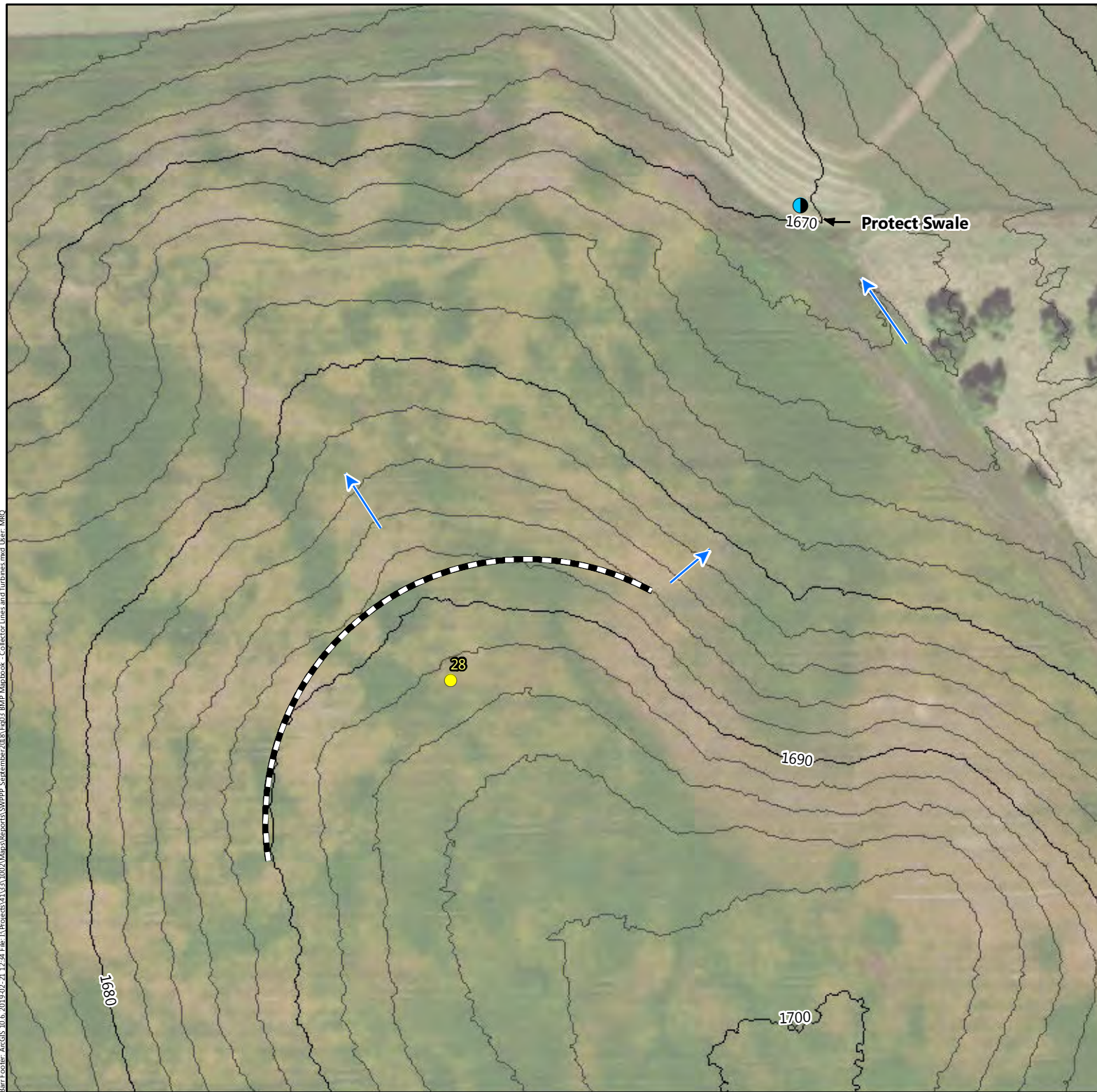


Figure 3-203

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





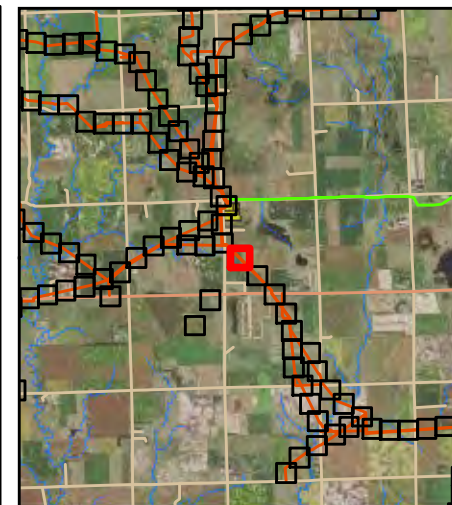
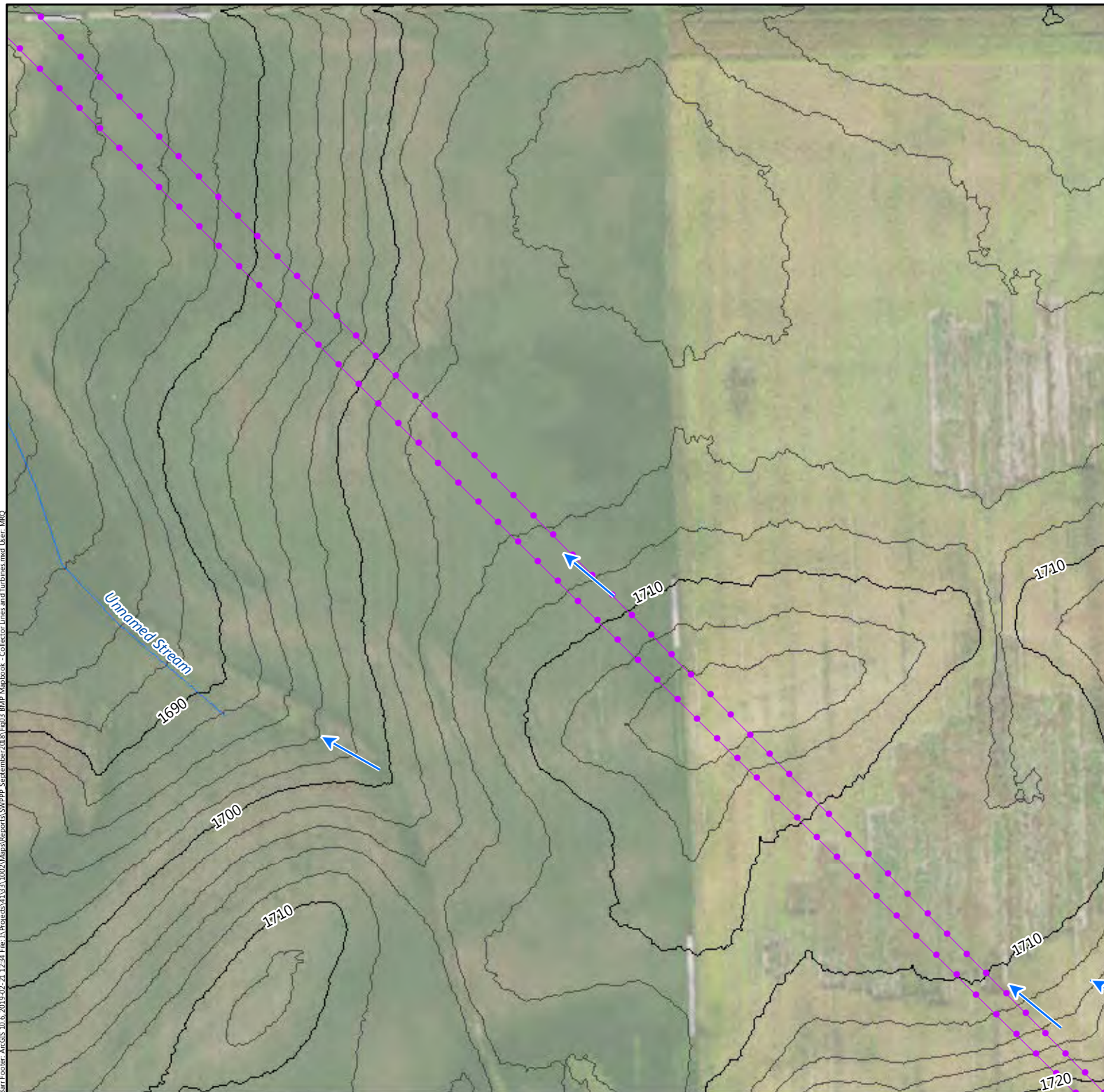
- Turbine Location (4/13/2018)
- Culvert
- Flow Direction
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-204

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





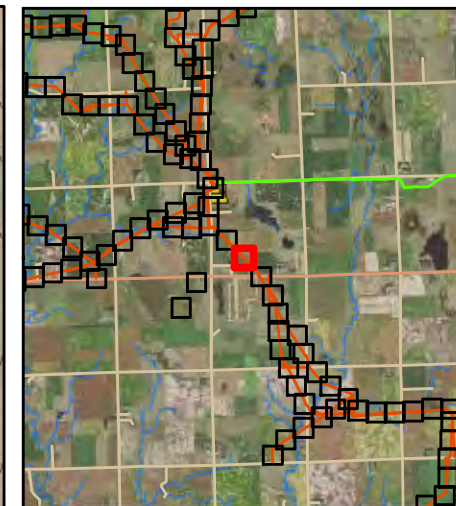
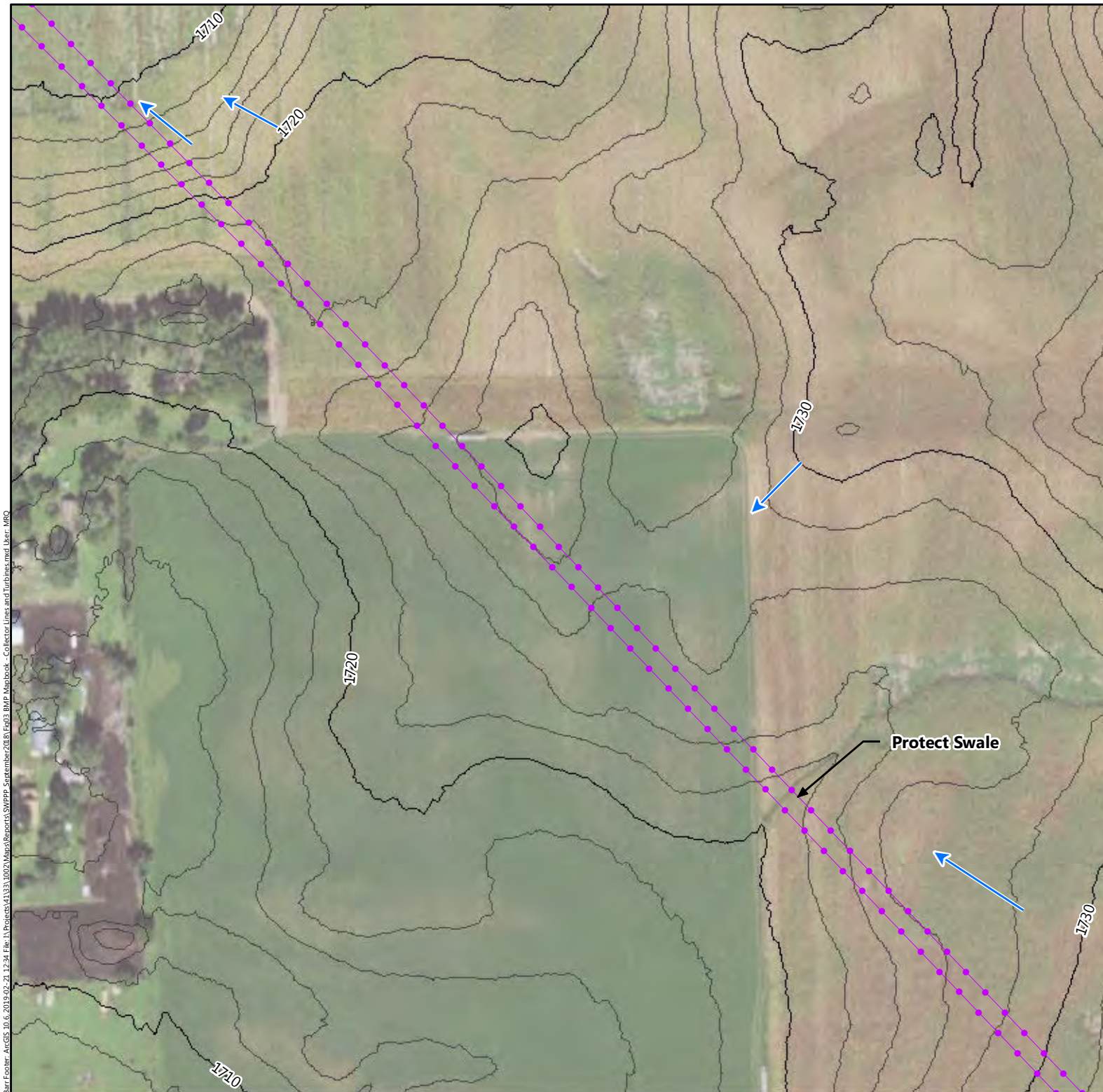
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



Figure 3-205

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





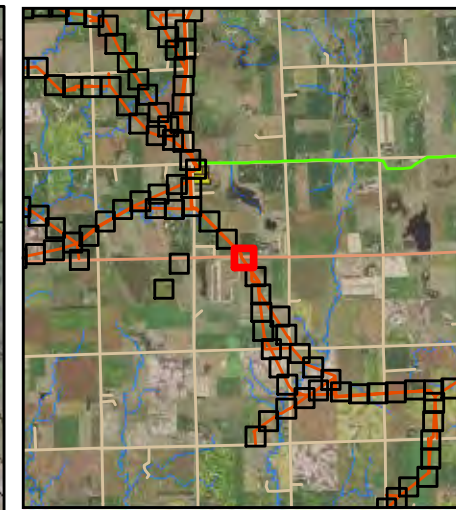
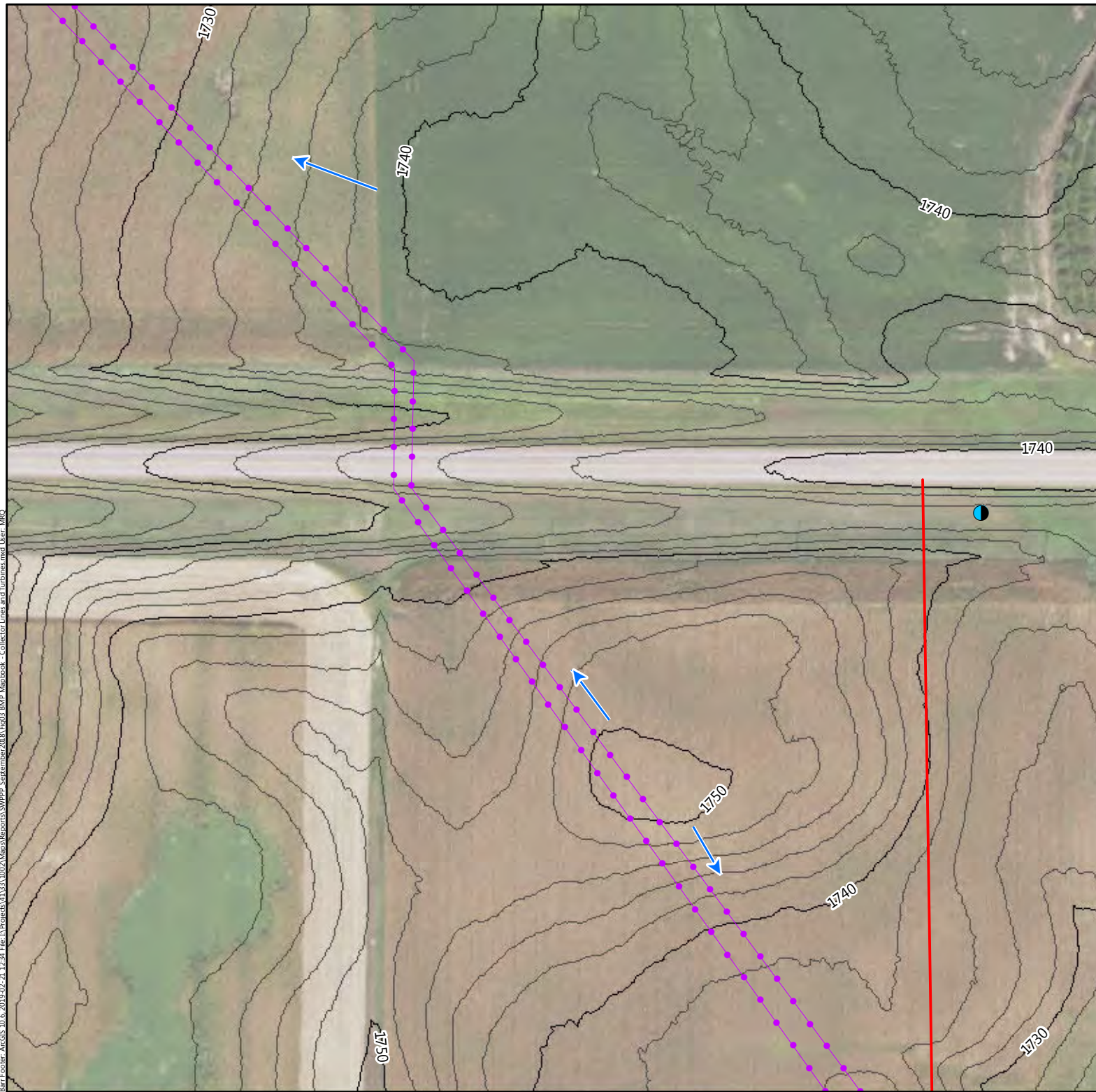
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-206

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- ⊗ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction



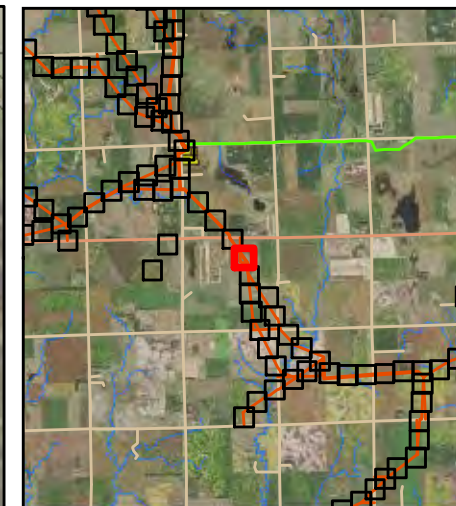
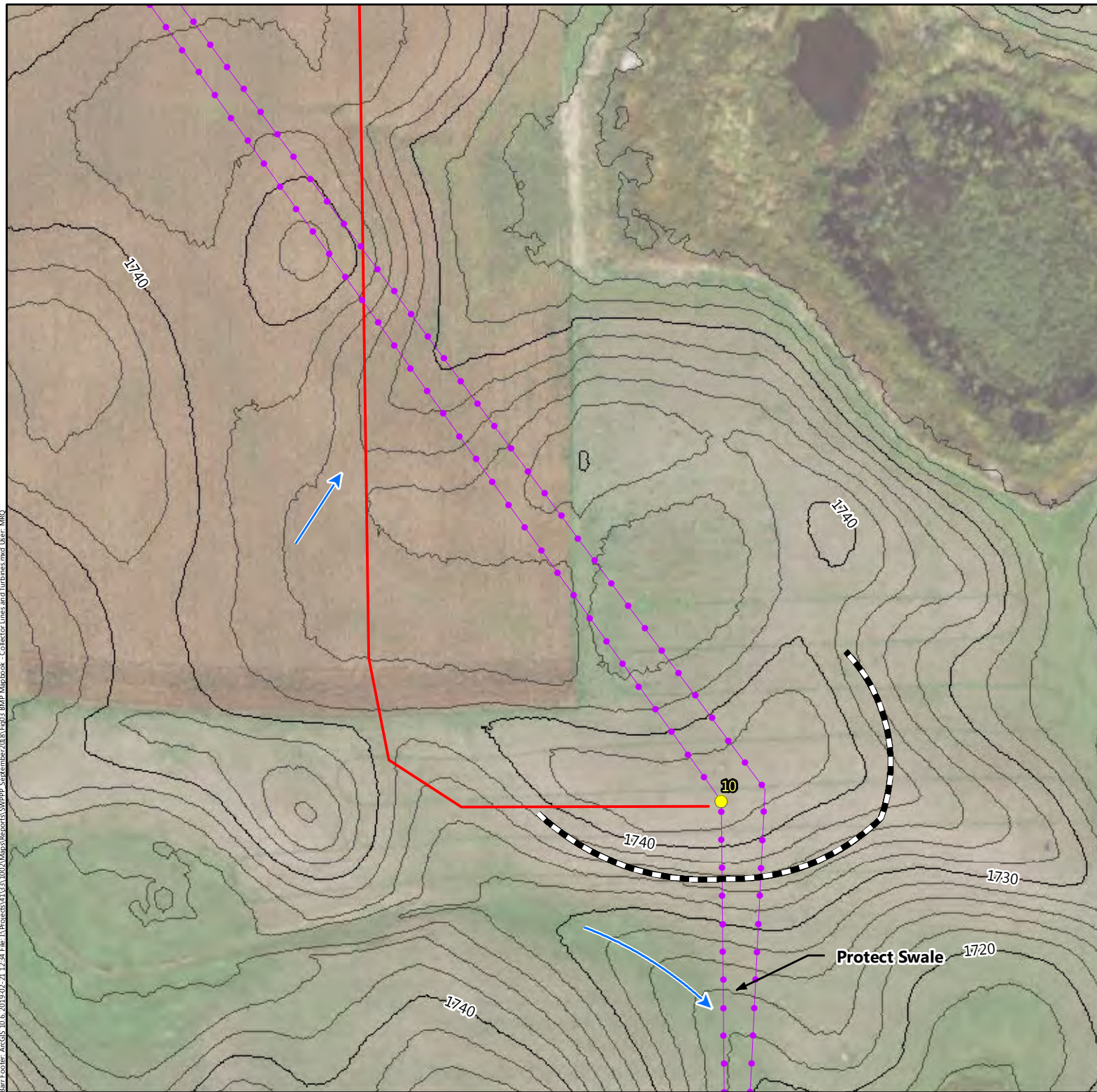
Feet



Figure 3-207

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- - - ● - - - Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

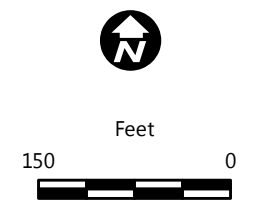
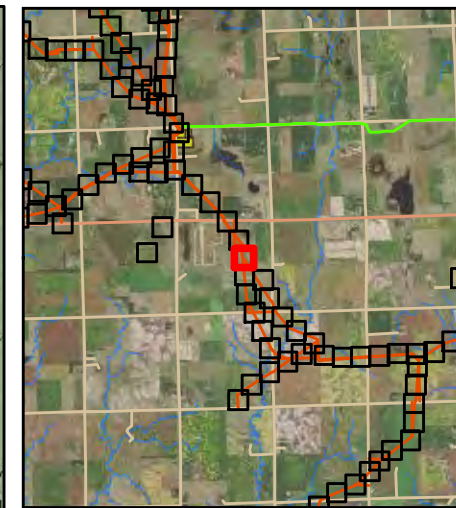
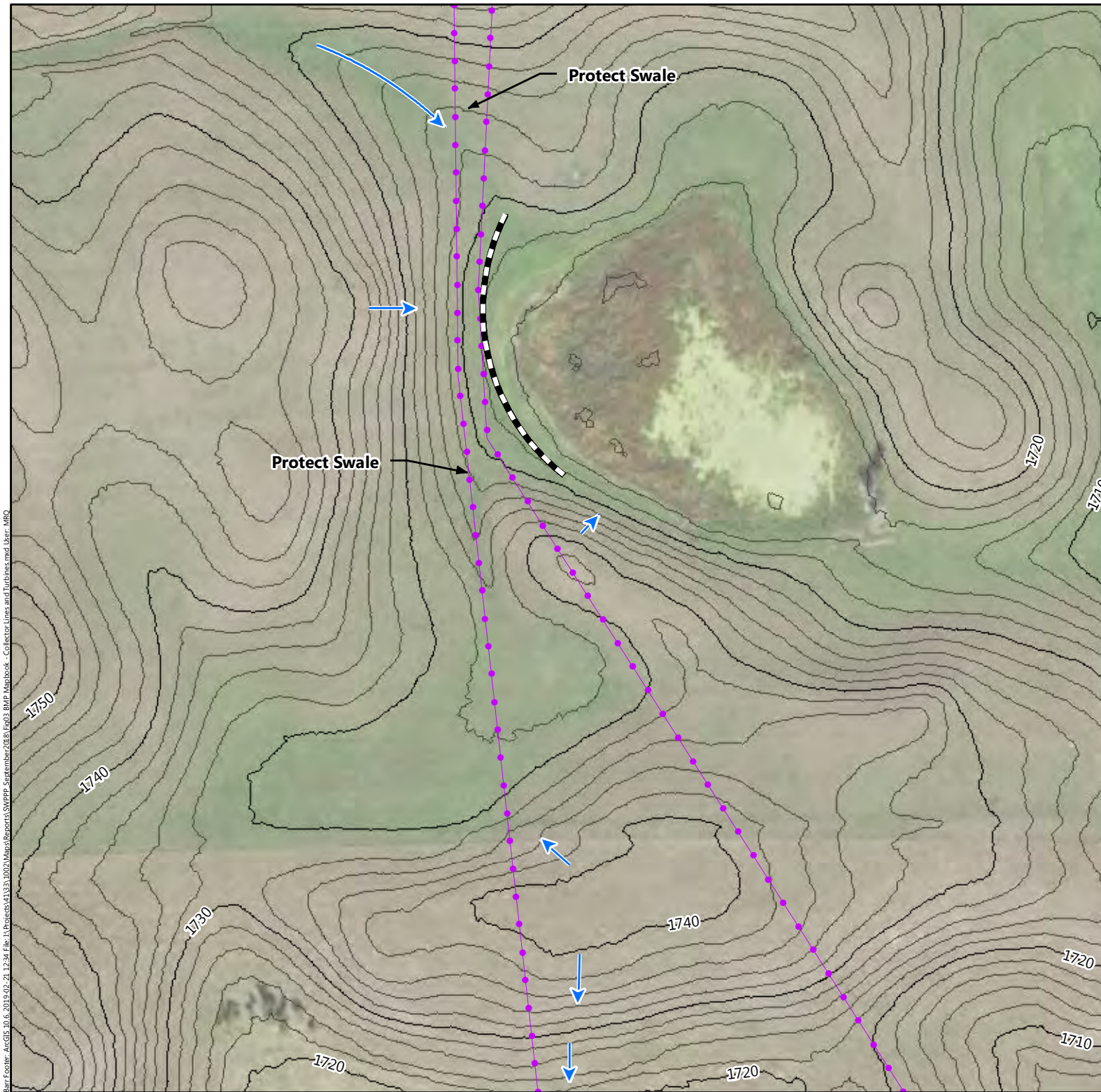


Figure 3-208

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





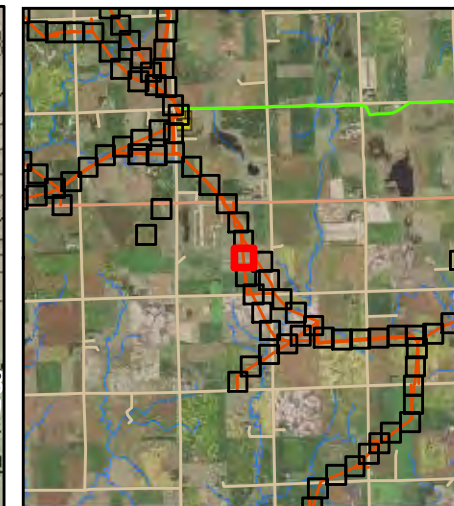
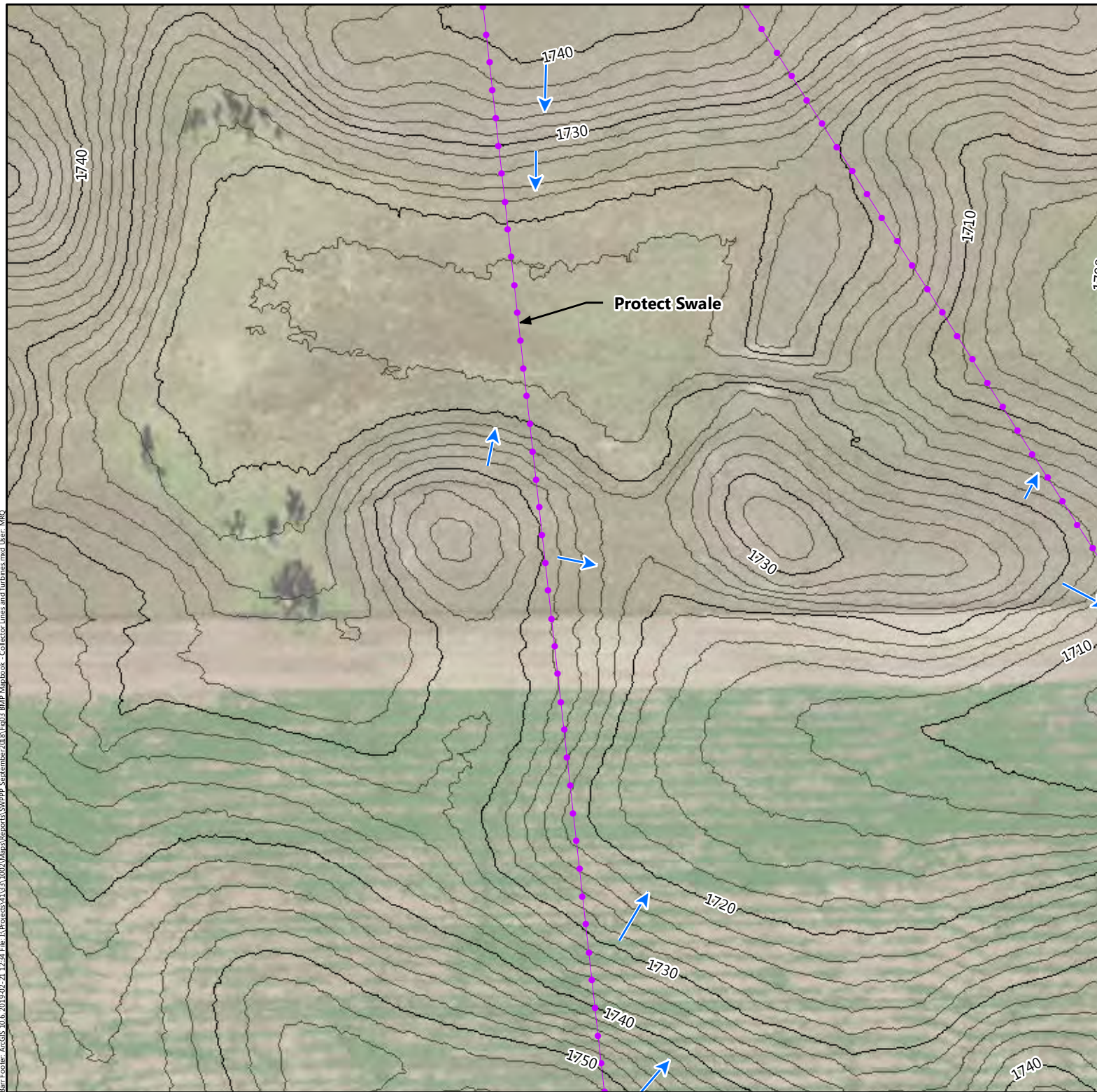
- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-209

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





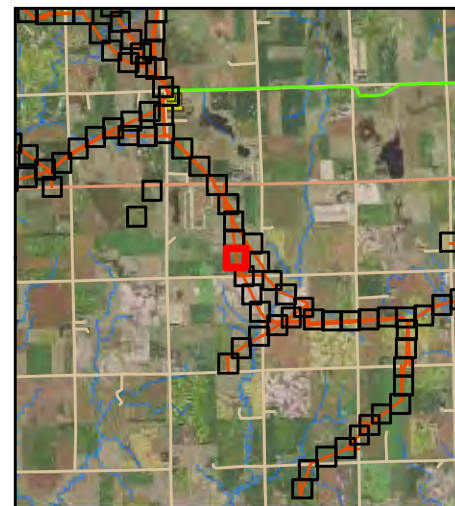
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-210

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➡ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

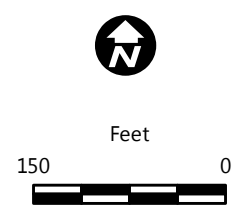
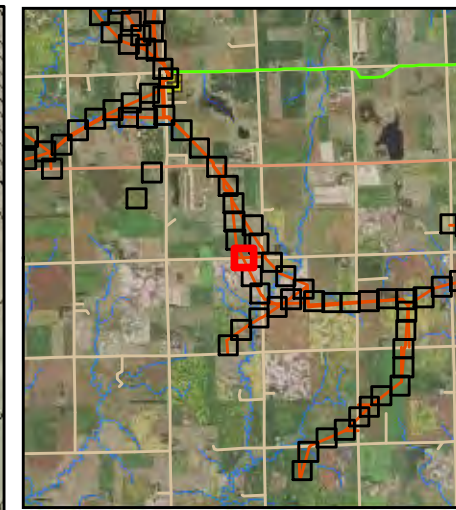
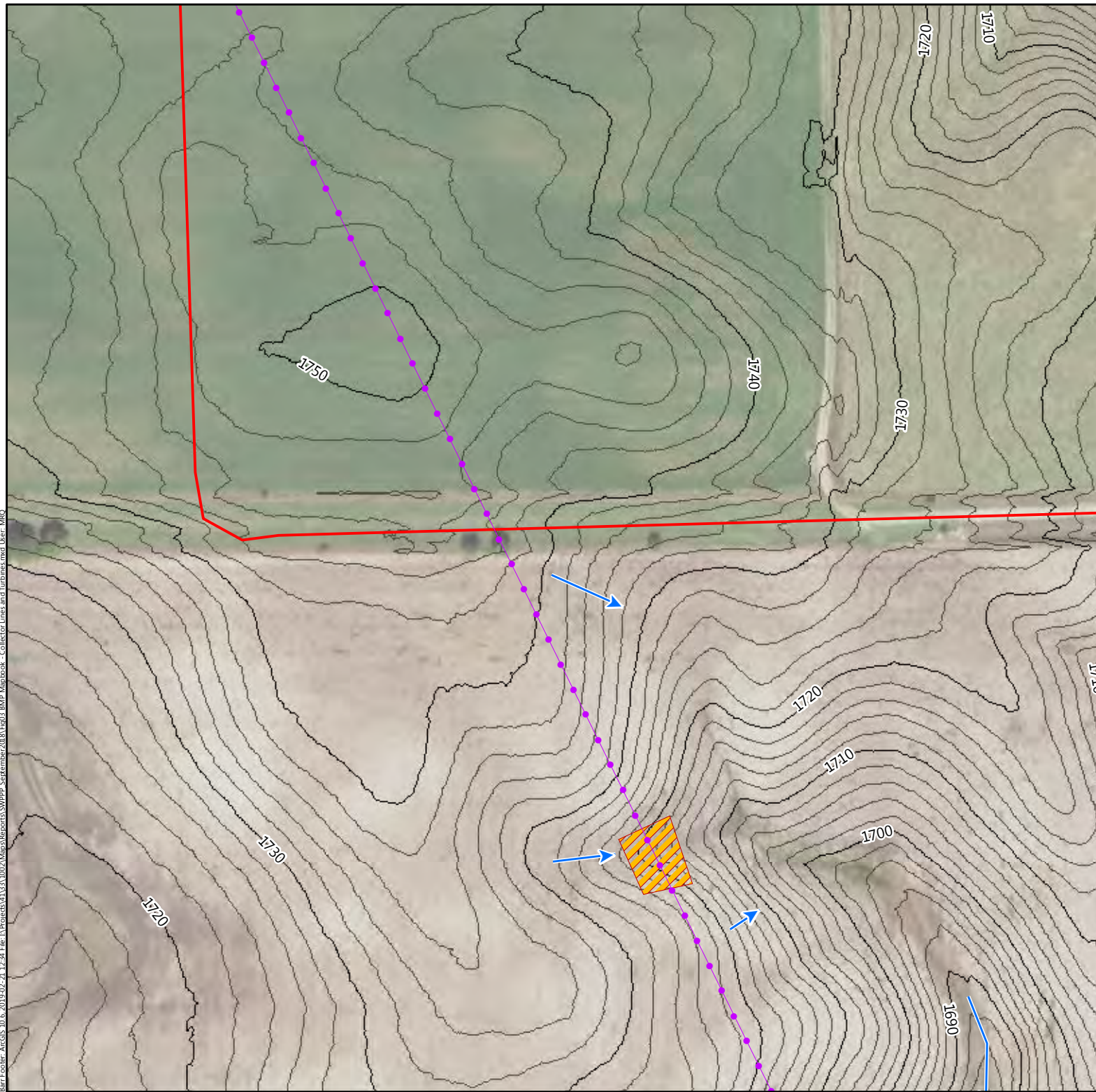


Figure 3-211

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction
- ▨ Erosion Control Blanket BMP



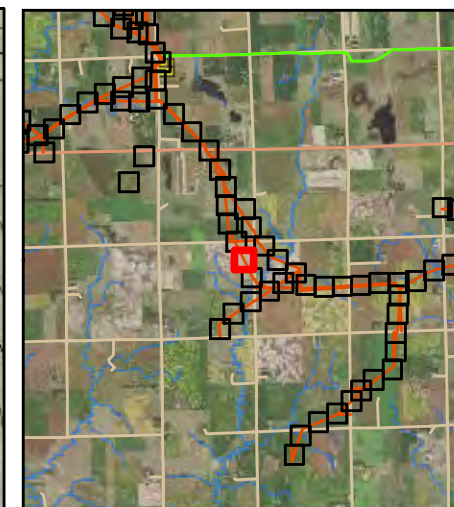
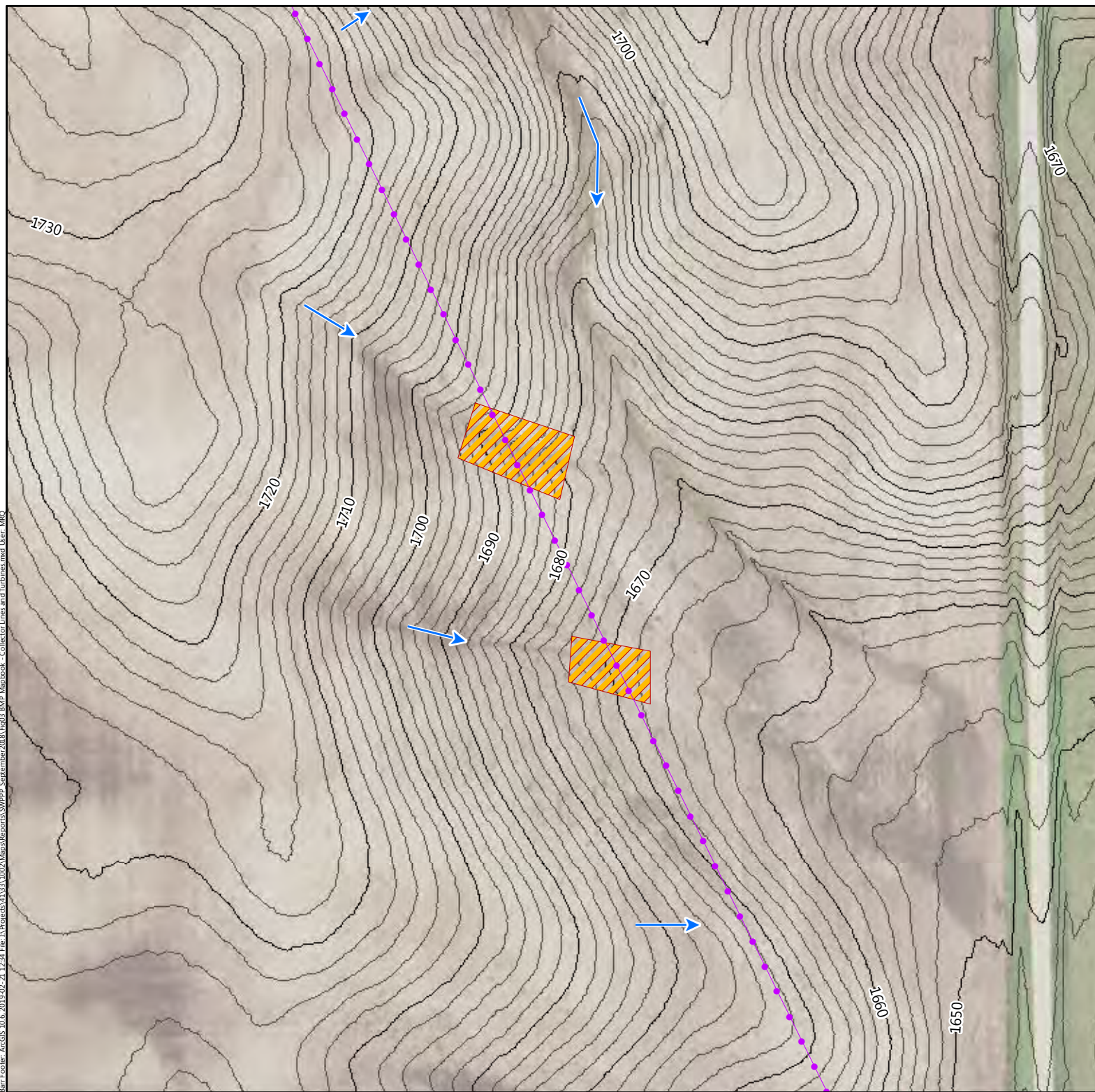
Feet



Figure 3-212

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





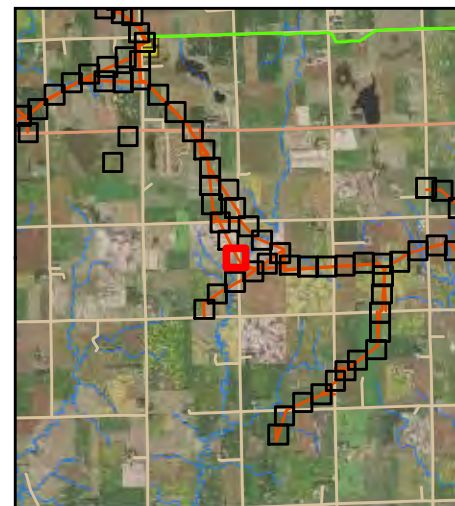
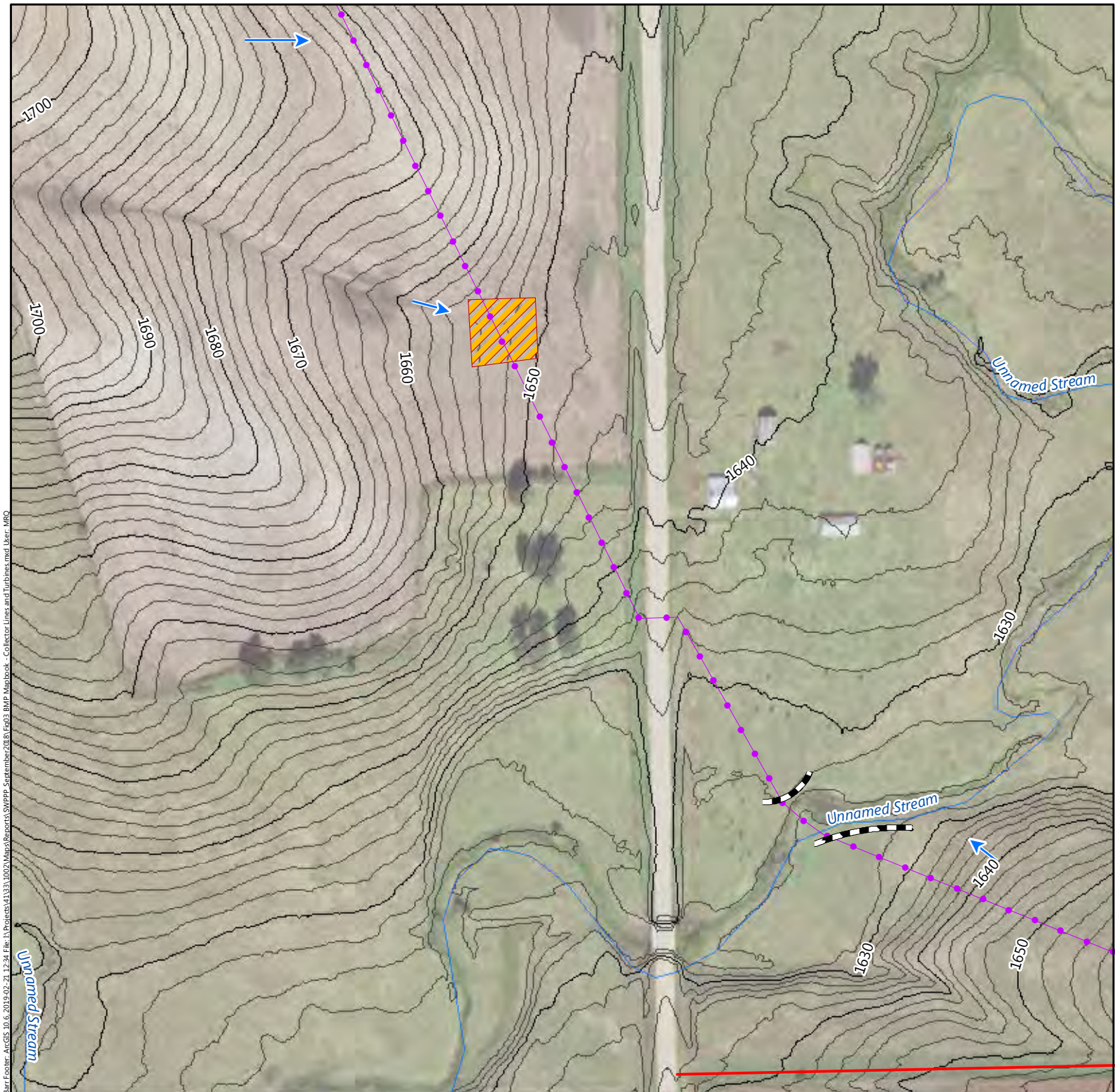
- Collector Lines (1/18/2019)
- Flow Direction
- Erosion Control Blanket BMP



Figure 3-213

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





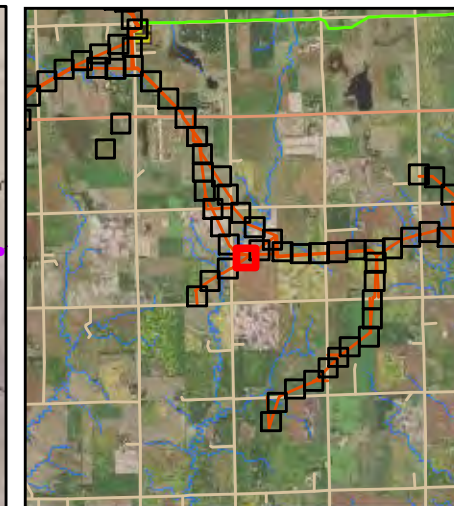
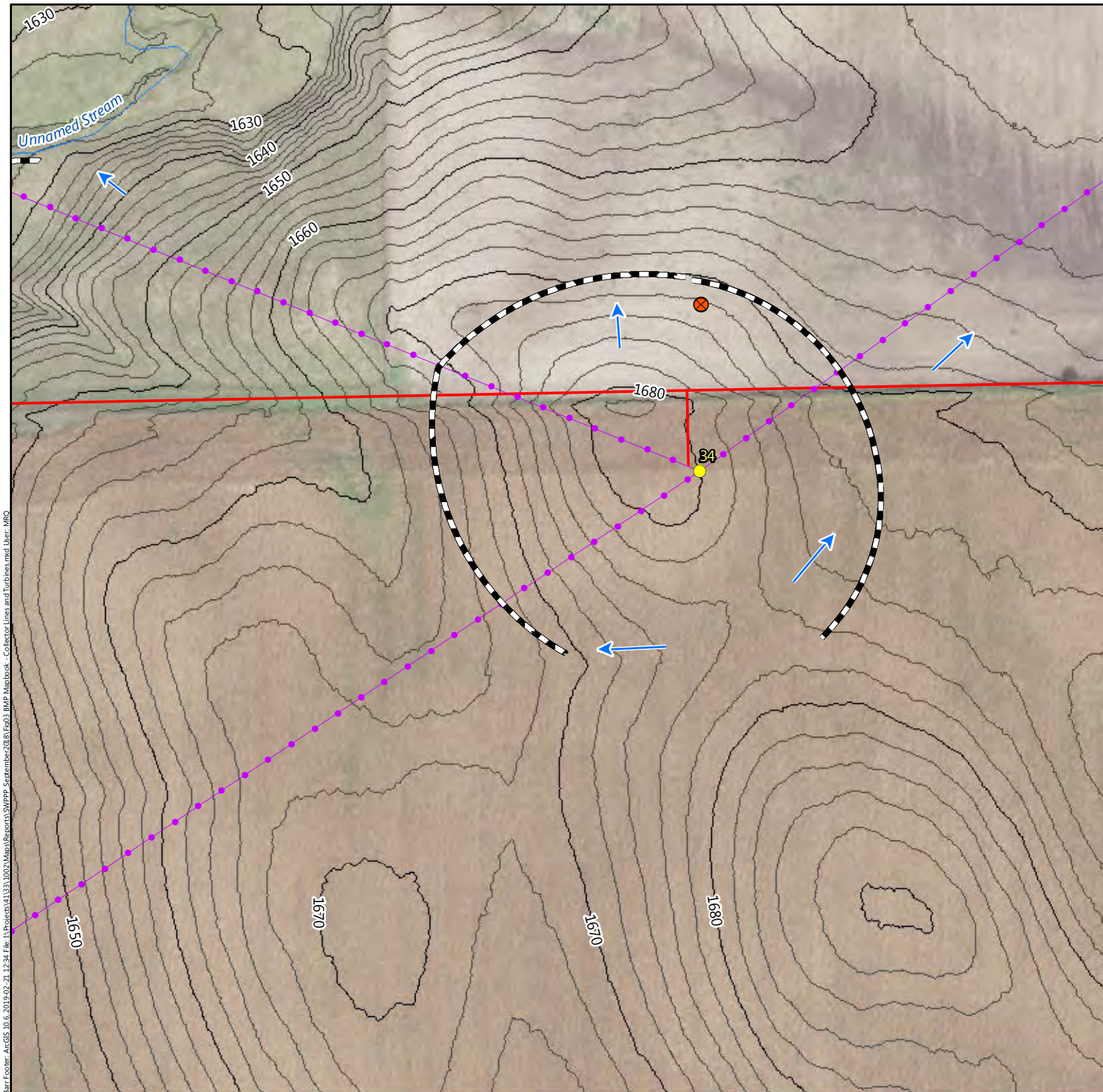
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm
- Erosion Control Blanket BMP



Figure 3-214

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





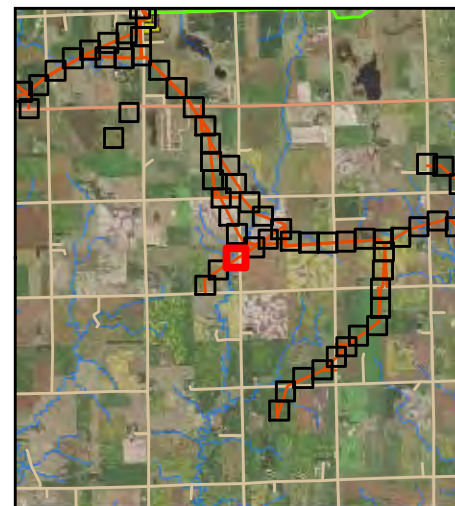
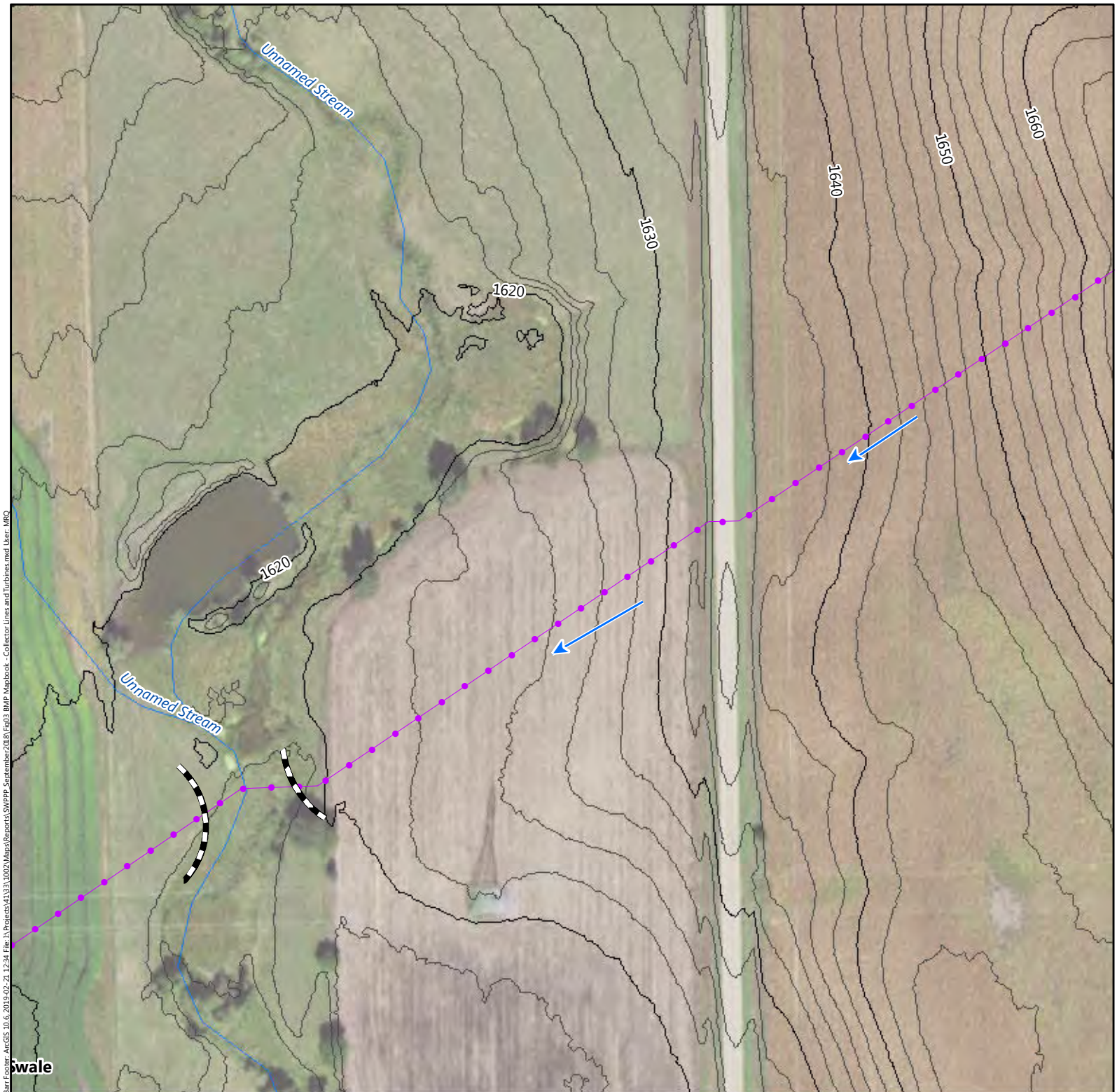
- Turbine Location (4/13/2018)
- ✕ Gate
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-215

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

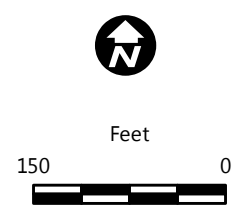
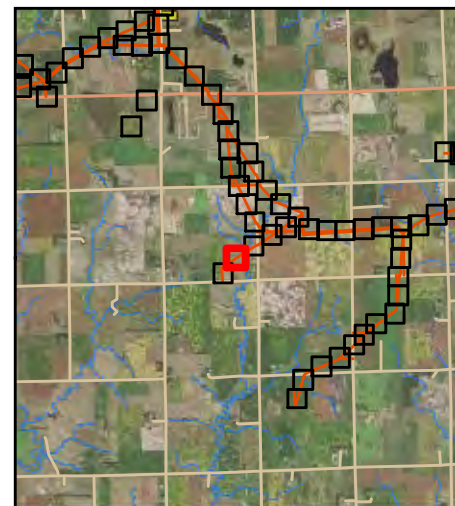


Figure 3-216

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm

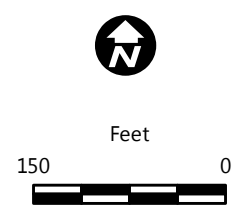
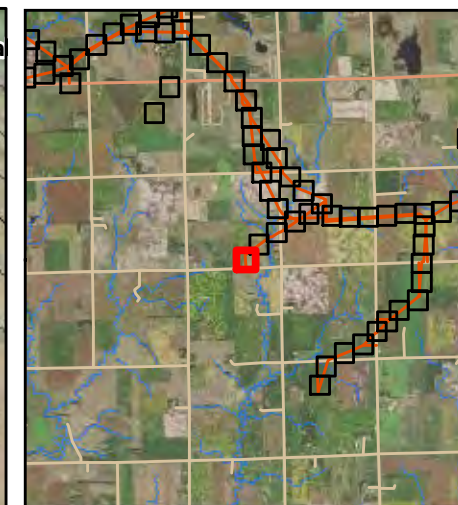
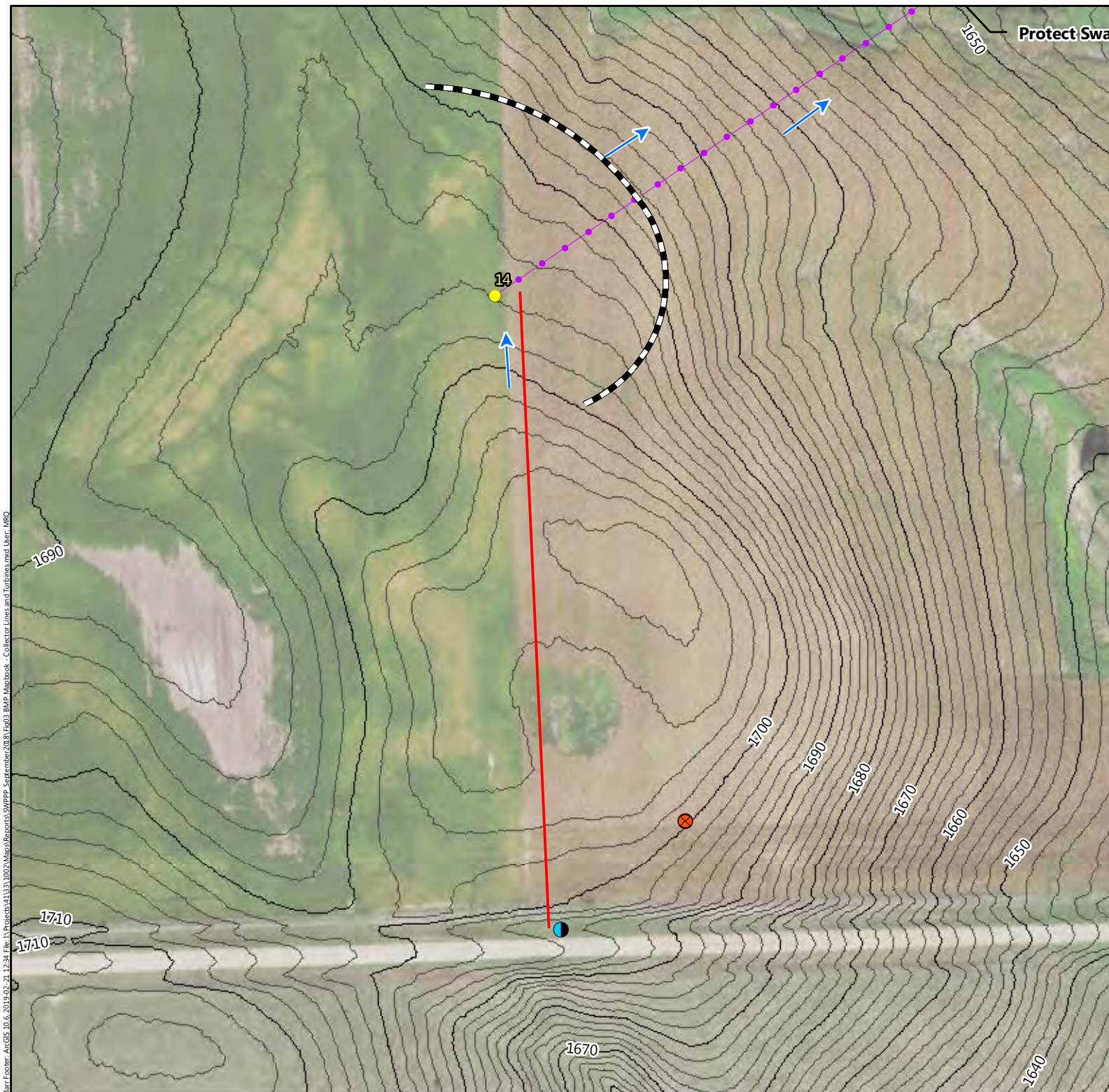









Figure 3-217

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





-  Turbine Location (4/13/2018)
-  Gate
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Feet

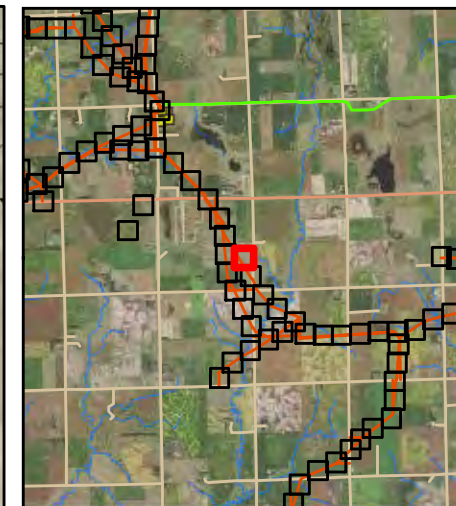
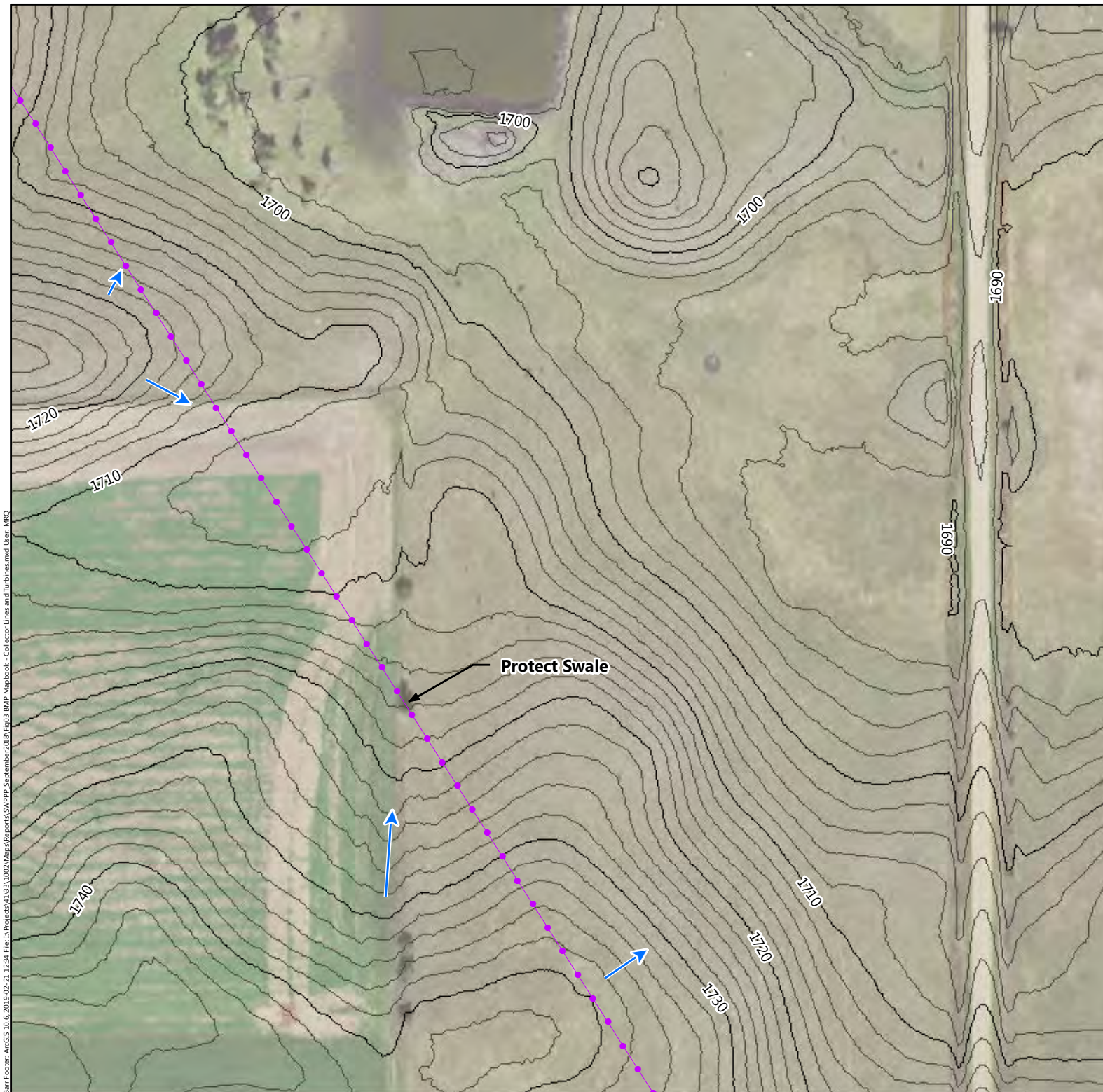


Figure 3-218

## EROSION CONTROL PLAN

Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





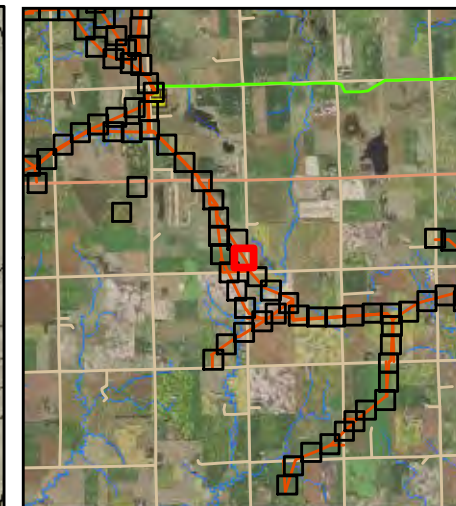
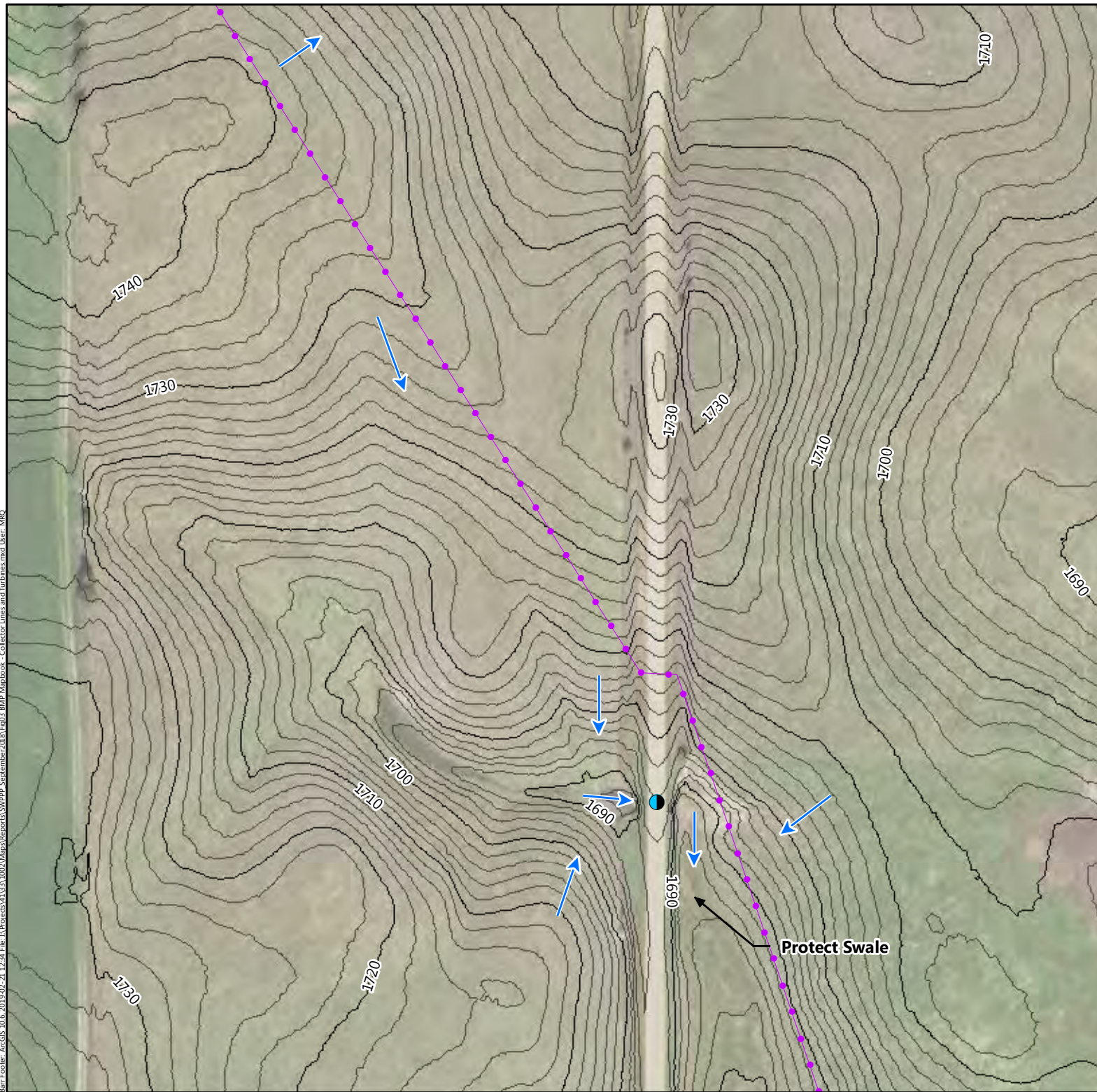
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-219

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota








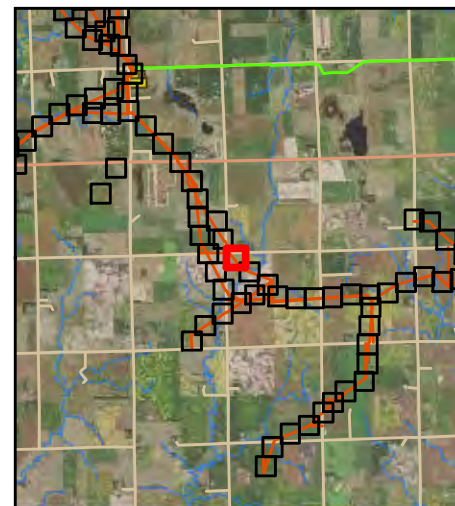
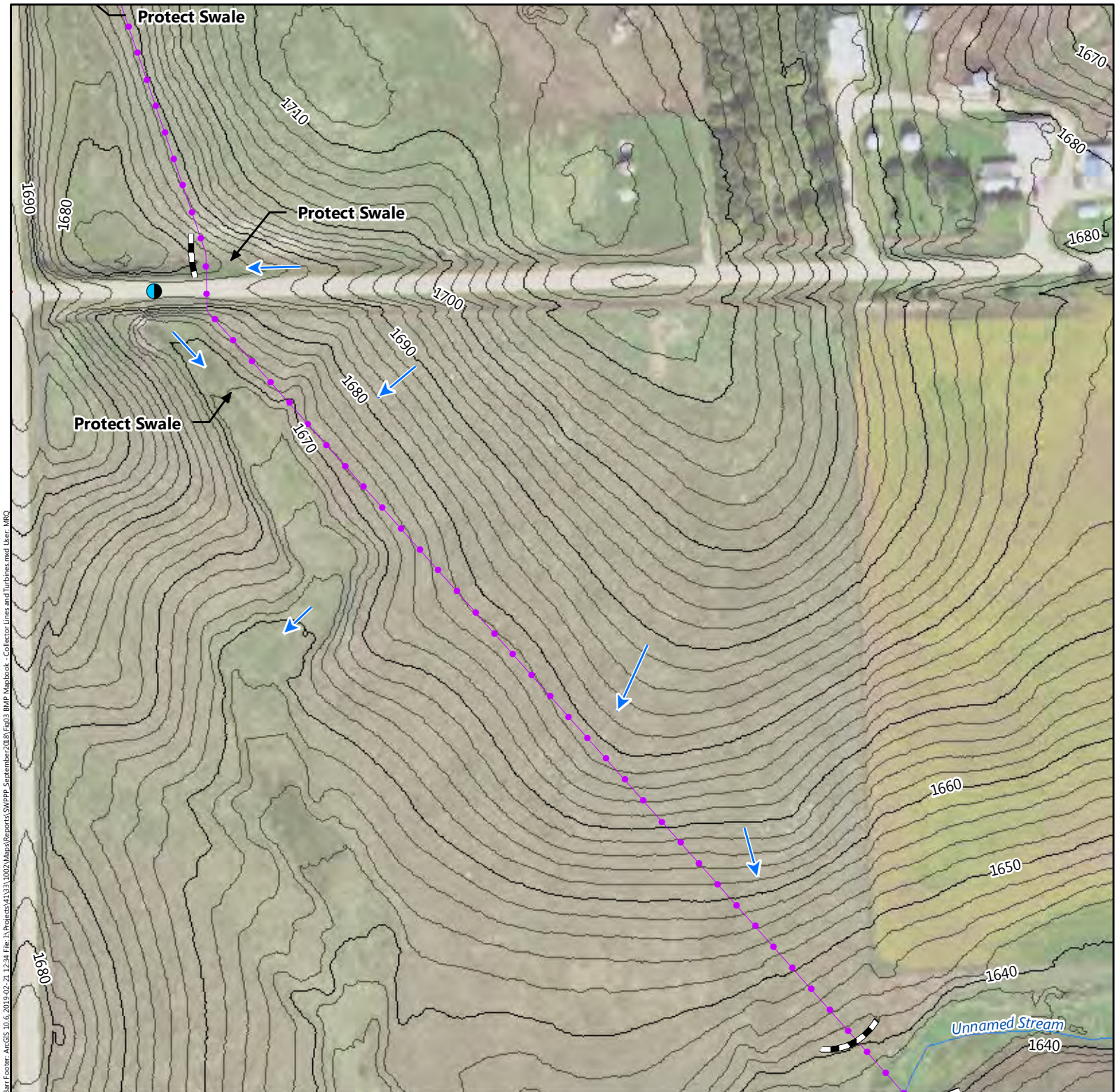
-  Culvert
-  Collector Lines (1/18/2019)
-  Flow Direction



Figure 3-220

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota











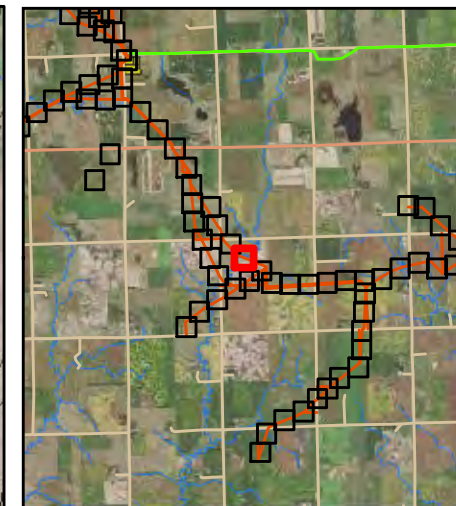
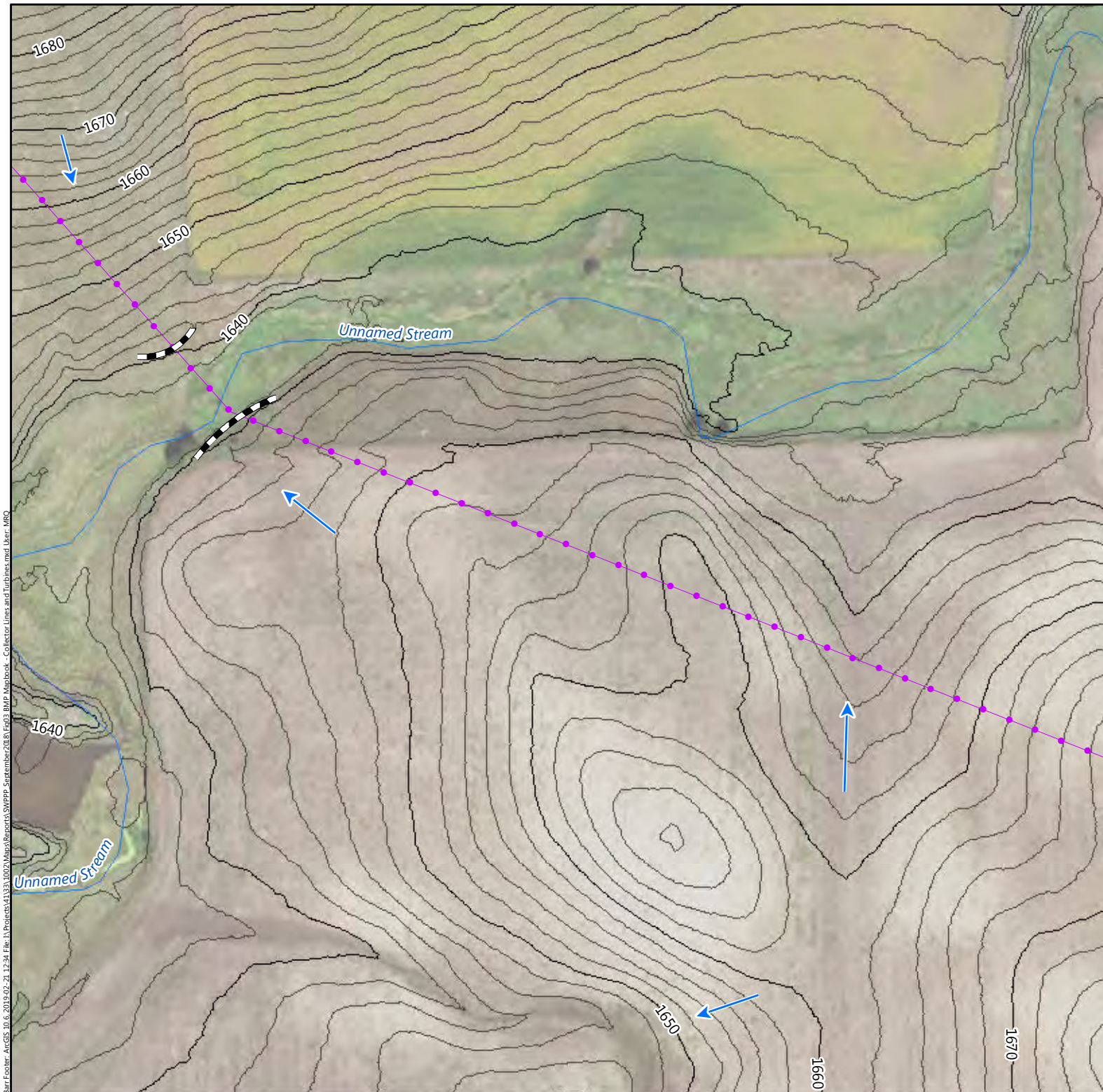
-  Culvert
-  Access Road (1/18/2019)
-  Collector Lines (1/18/2019)
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-221

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





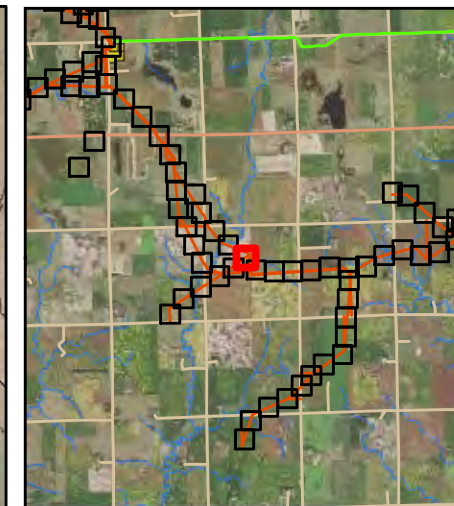
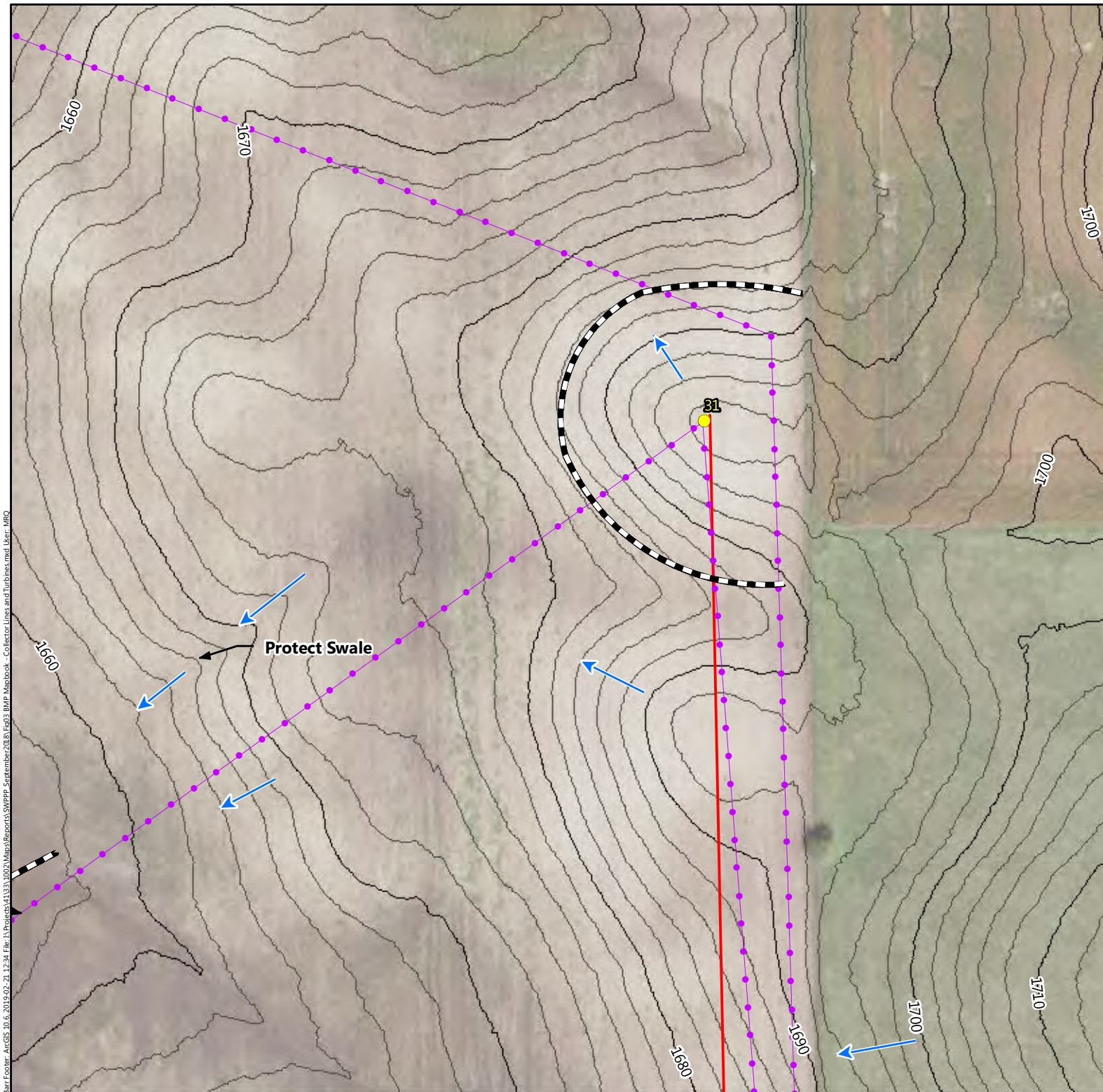
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



Figure 3-222

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





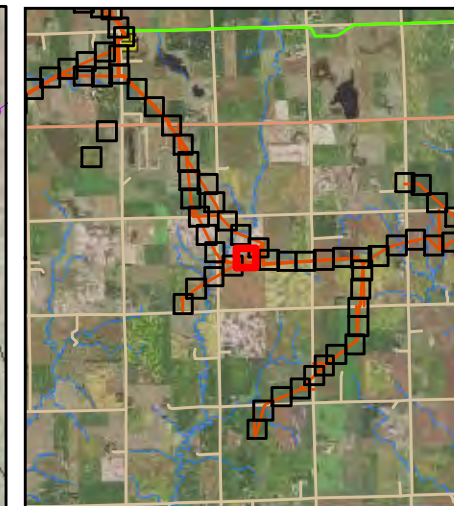
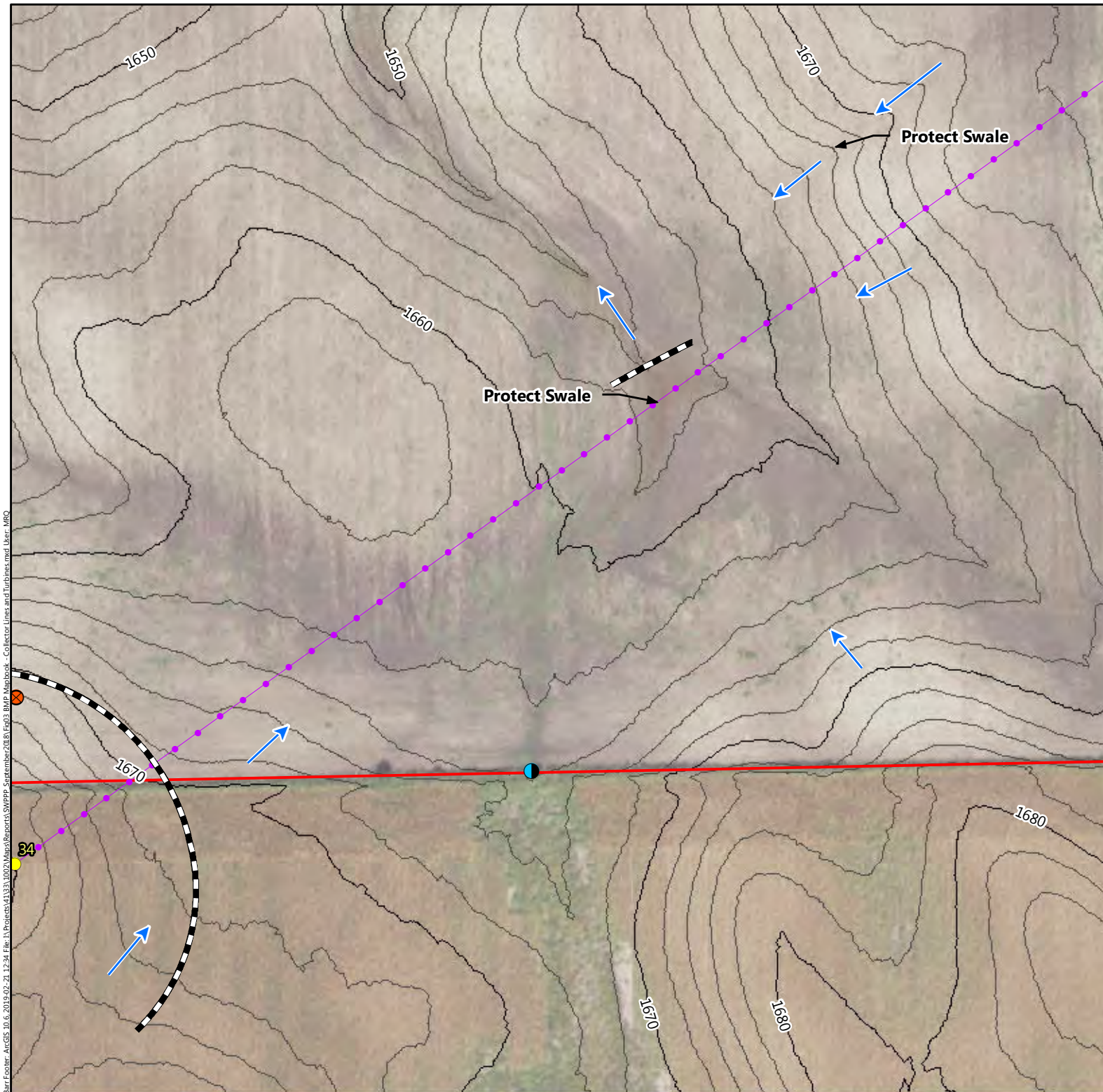
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➡ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-223

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





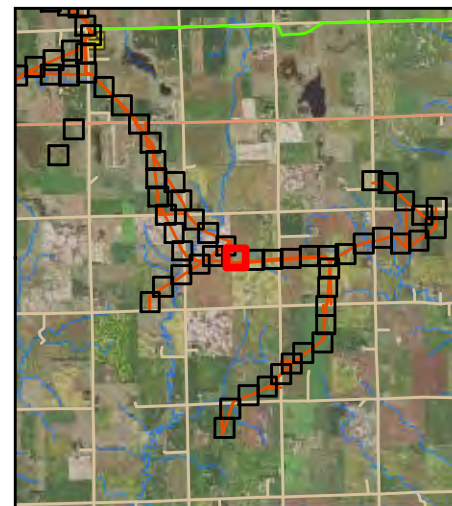
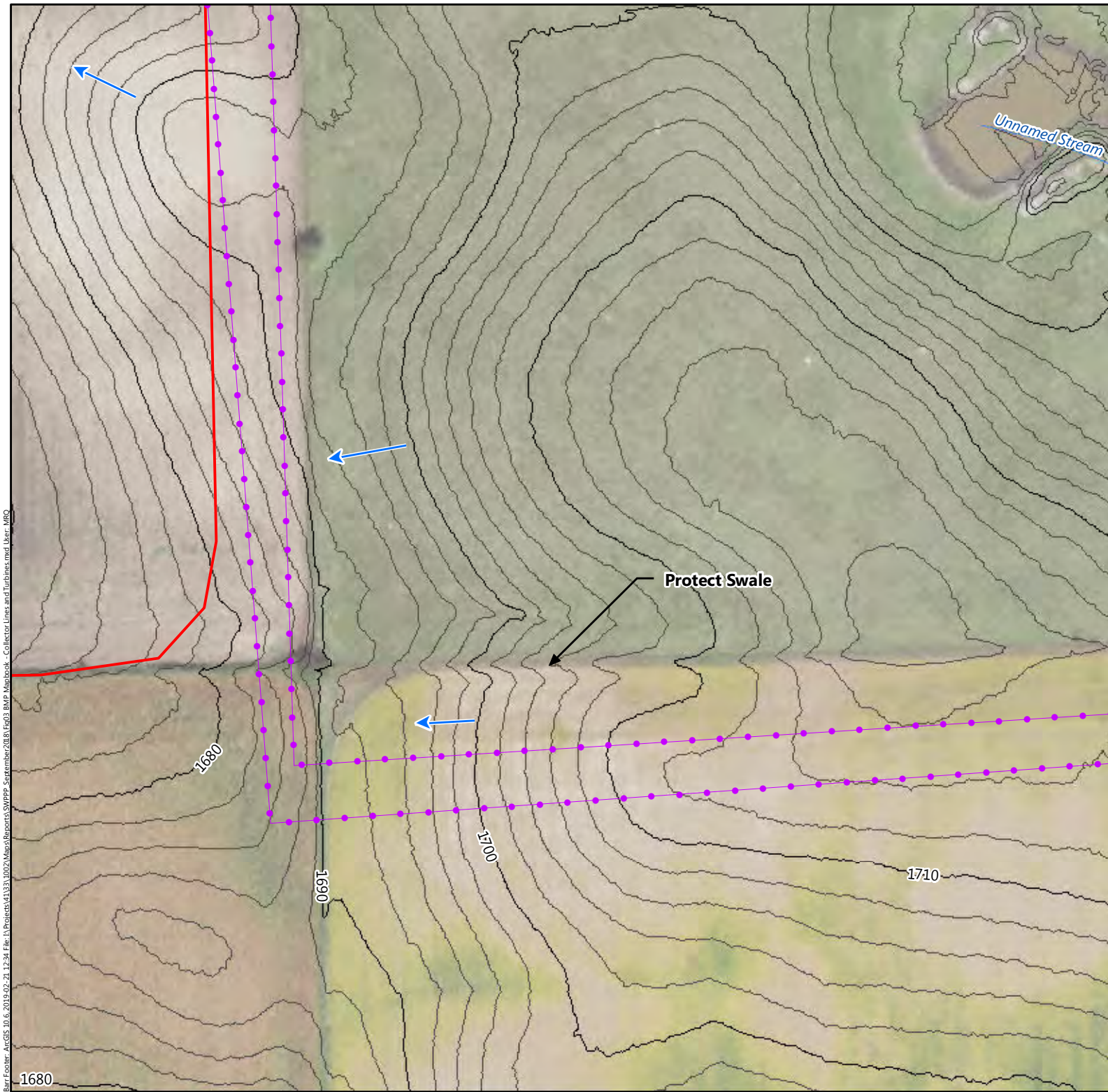
- Turbine Location (4/13/2018)
- ⊗ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- — — Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-224

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- ➔ Flow Direction



Feet

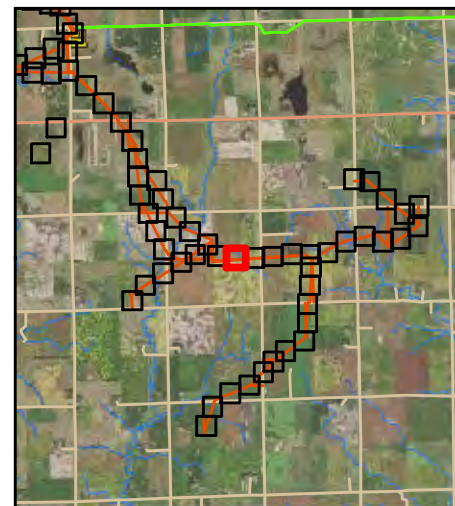
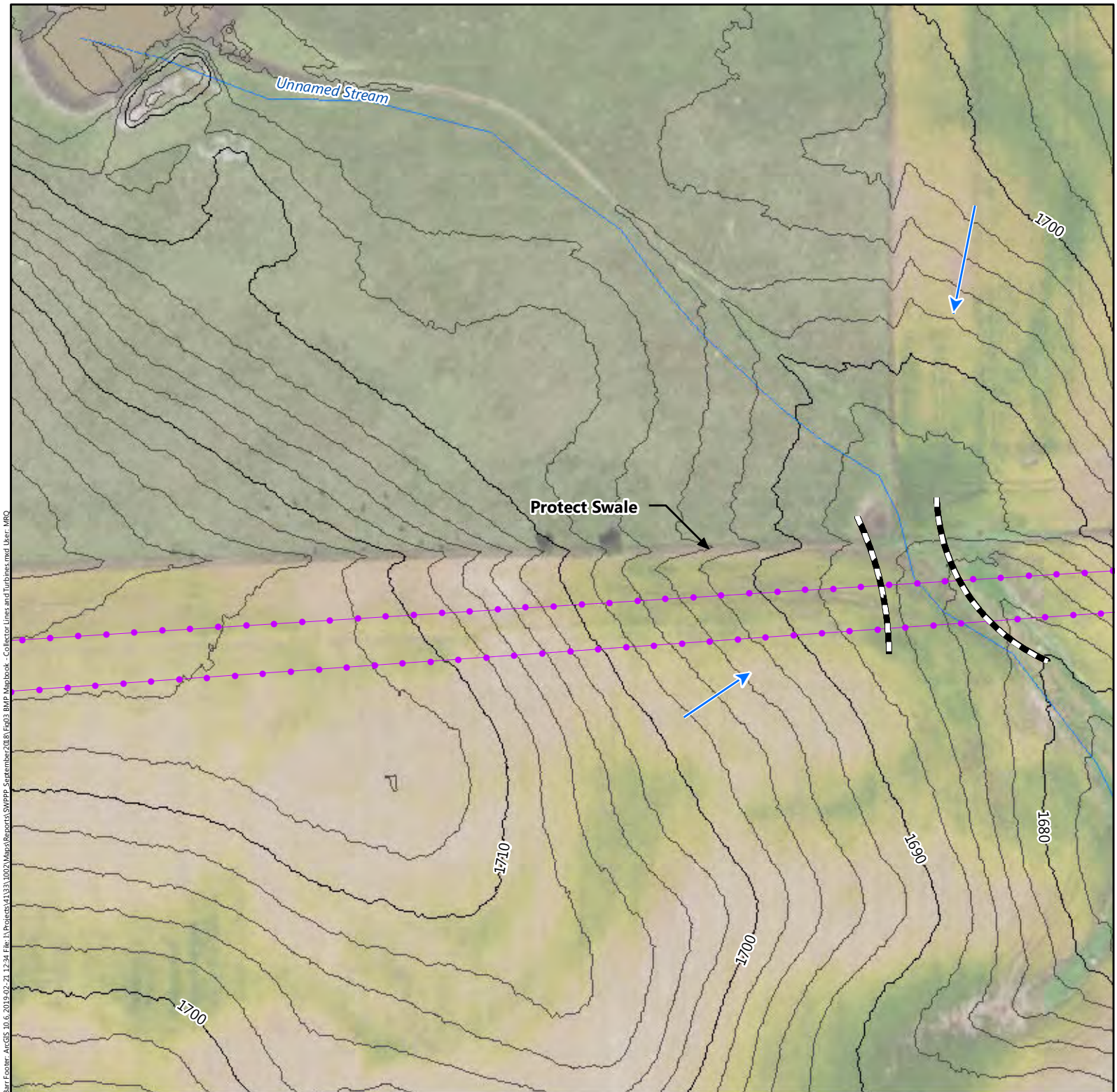


Figure 3-225

### EROSION CONTROL PLAN

Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- ➔ Flow Direction
- Sediment Log, Silt Fence, Diversion Ditch, or Earthen Berm

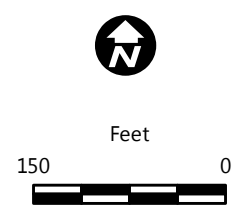
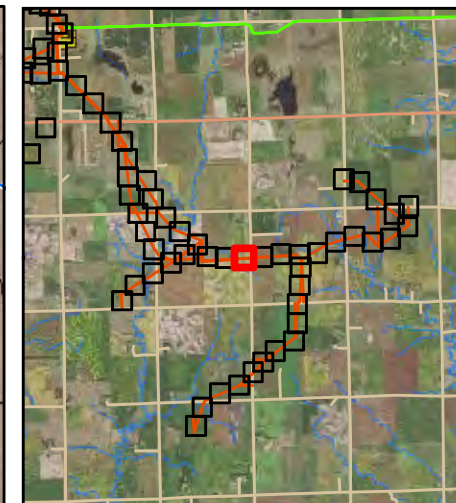
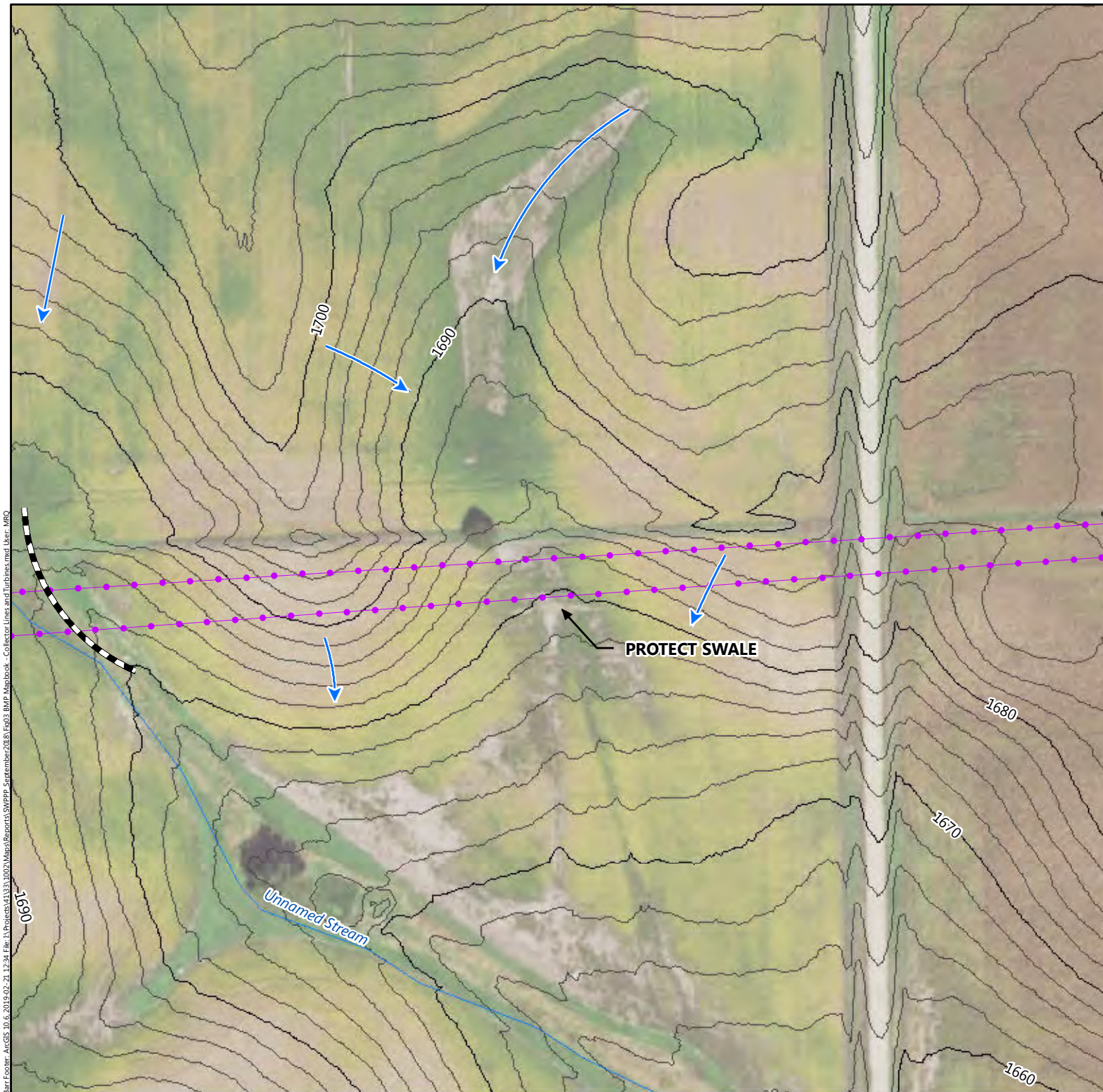


Figure 3-226

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





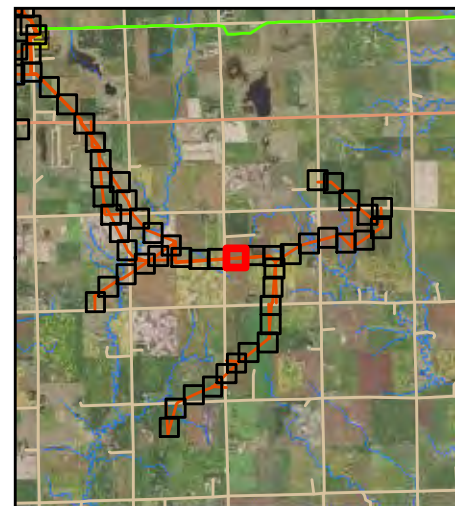
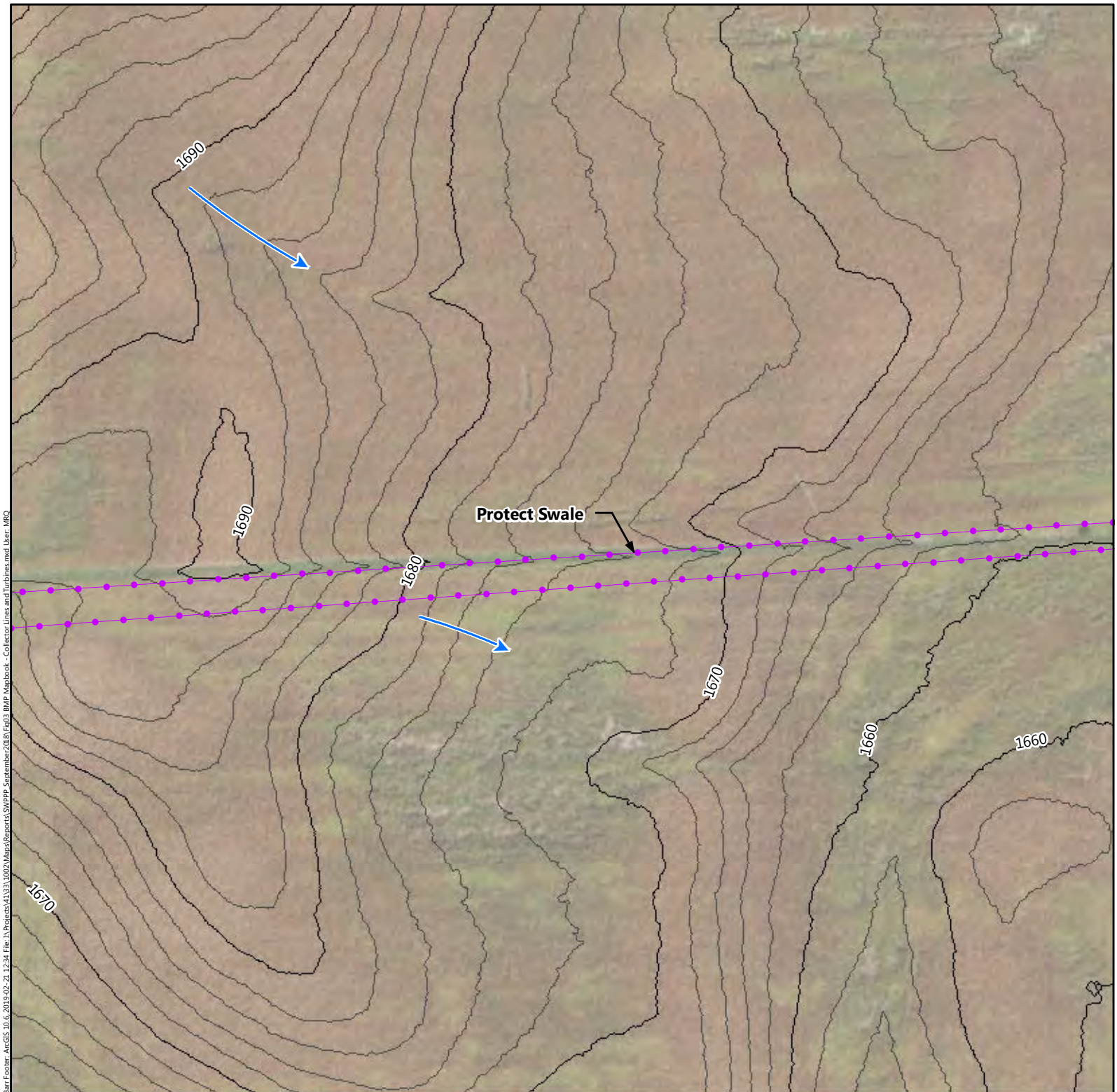
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



Figure 3-227

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction

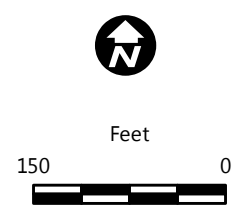
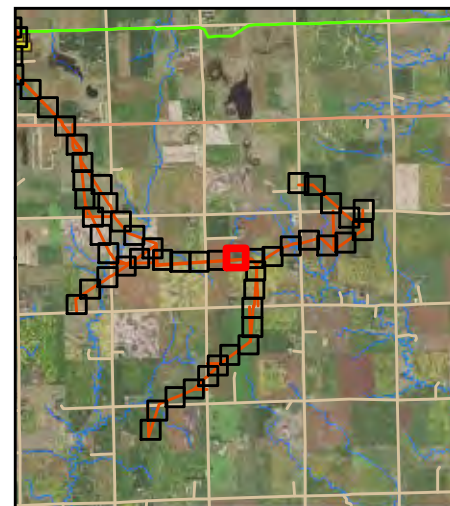


Figure 3-228

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





Collector Lines (1/18/2019)



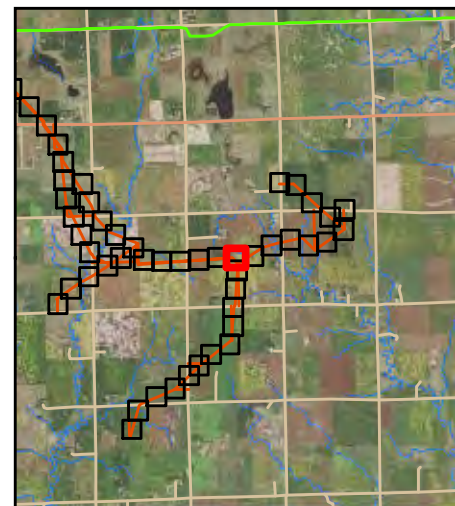
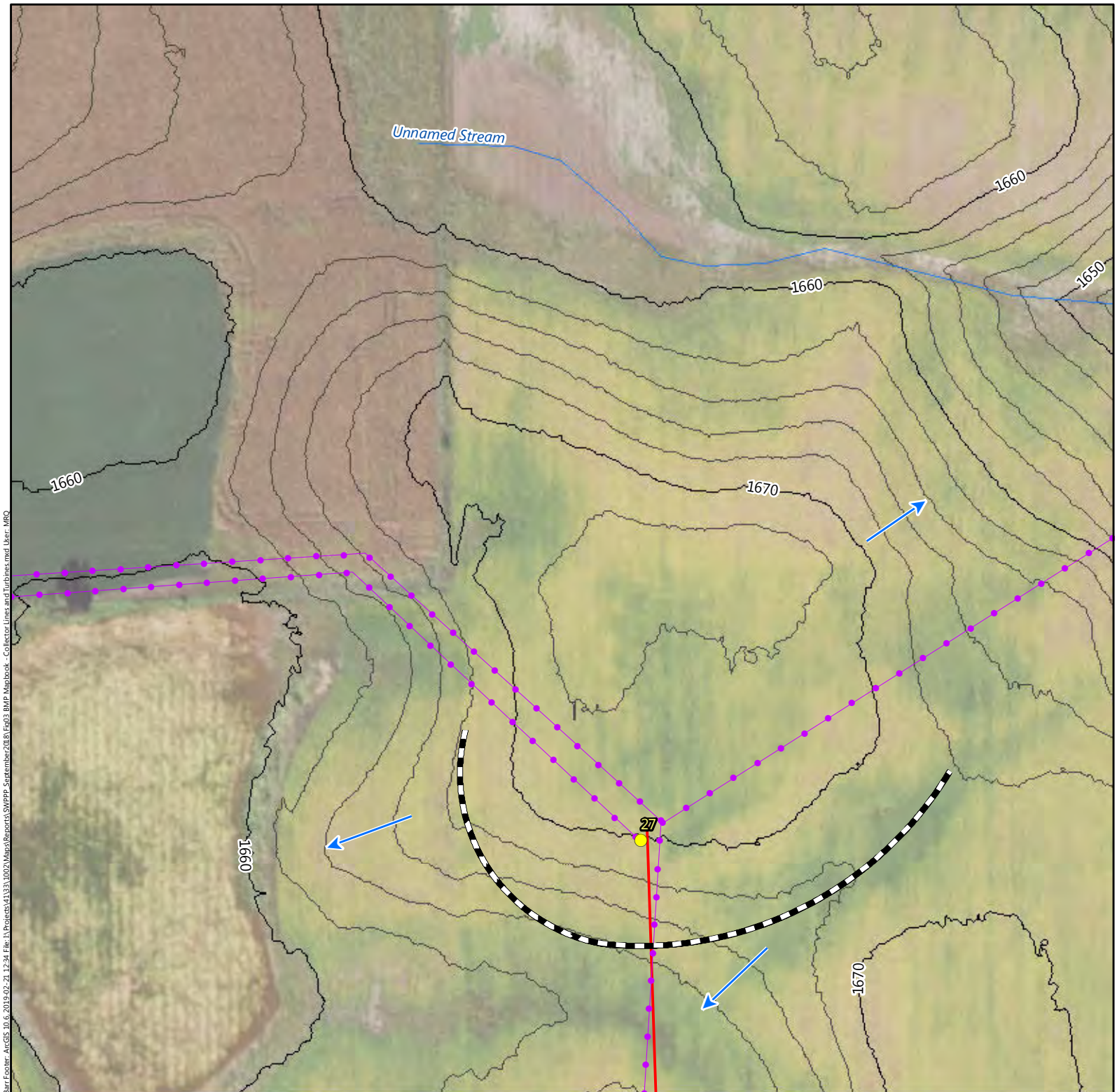
Feet



Figure 3-229

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





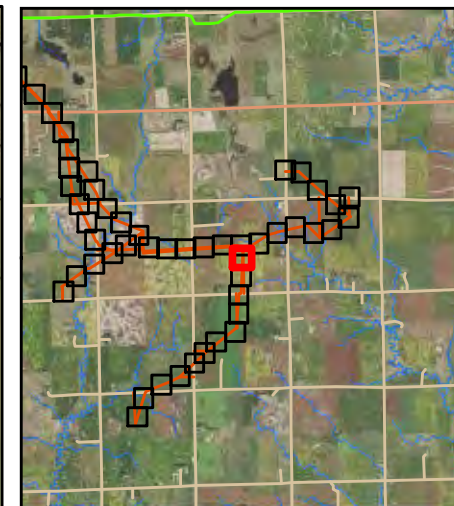
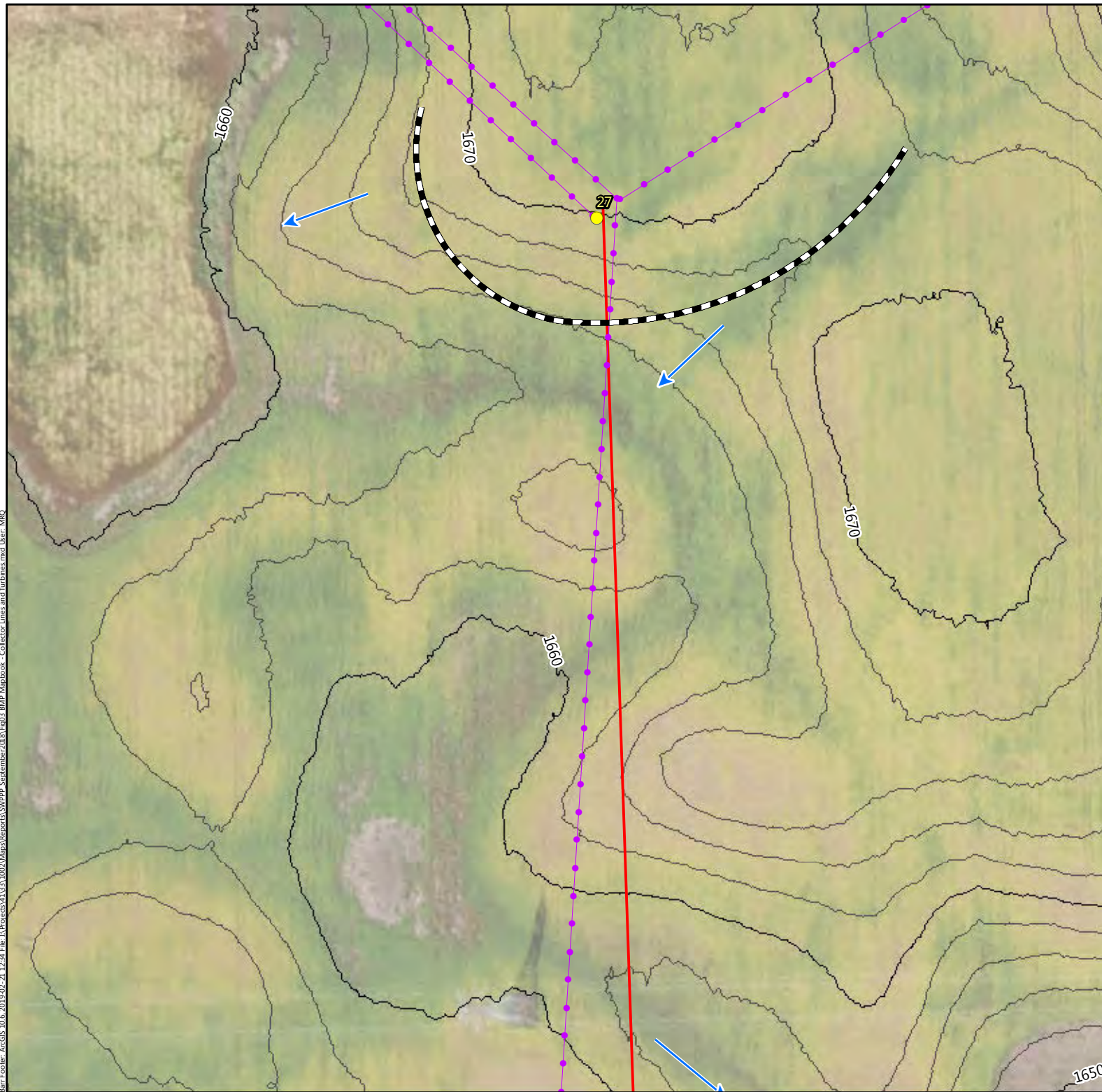
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Log, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-230

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





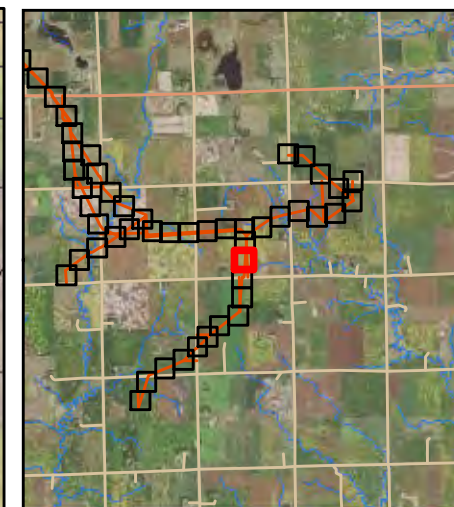
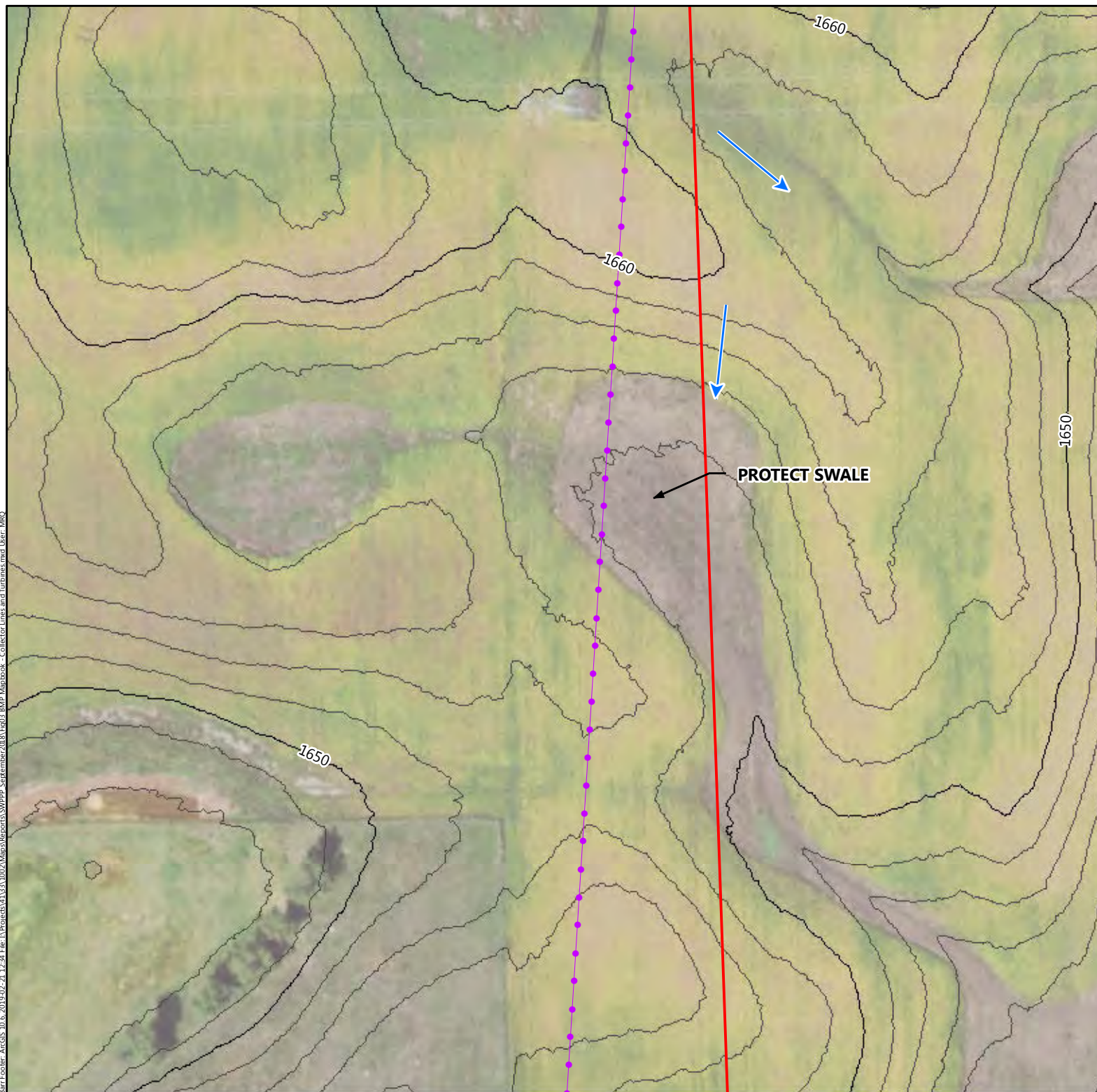
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-231

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





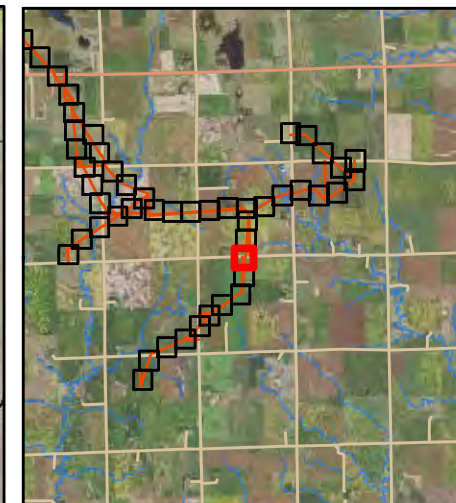
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-232

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





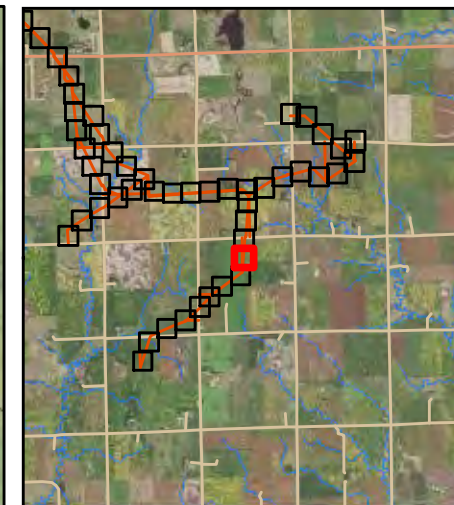
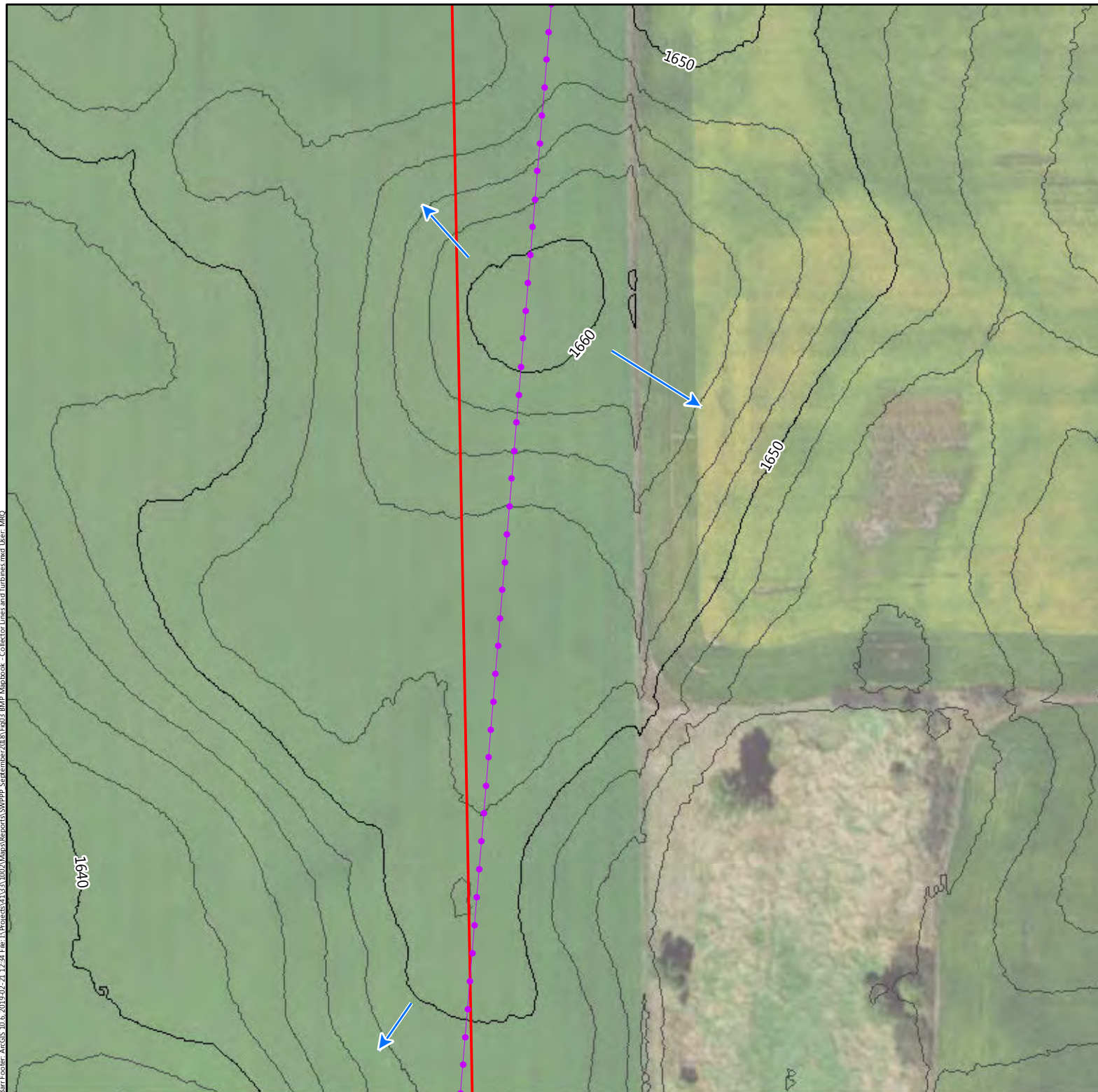
- ⊗ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction



Figure 3-233

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





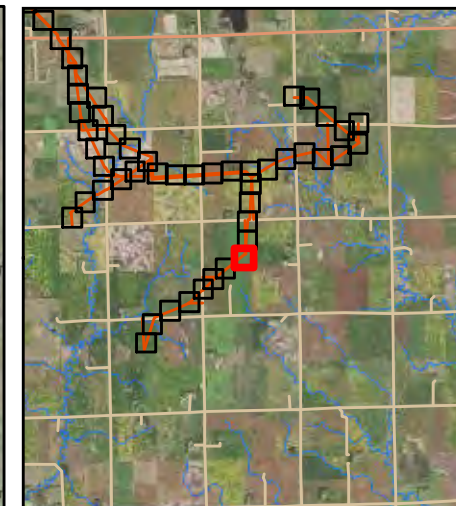
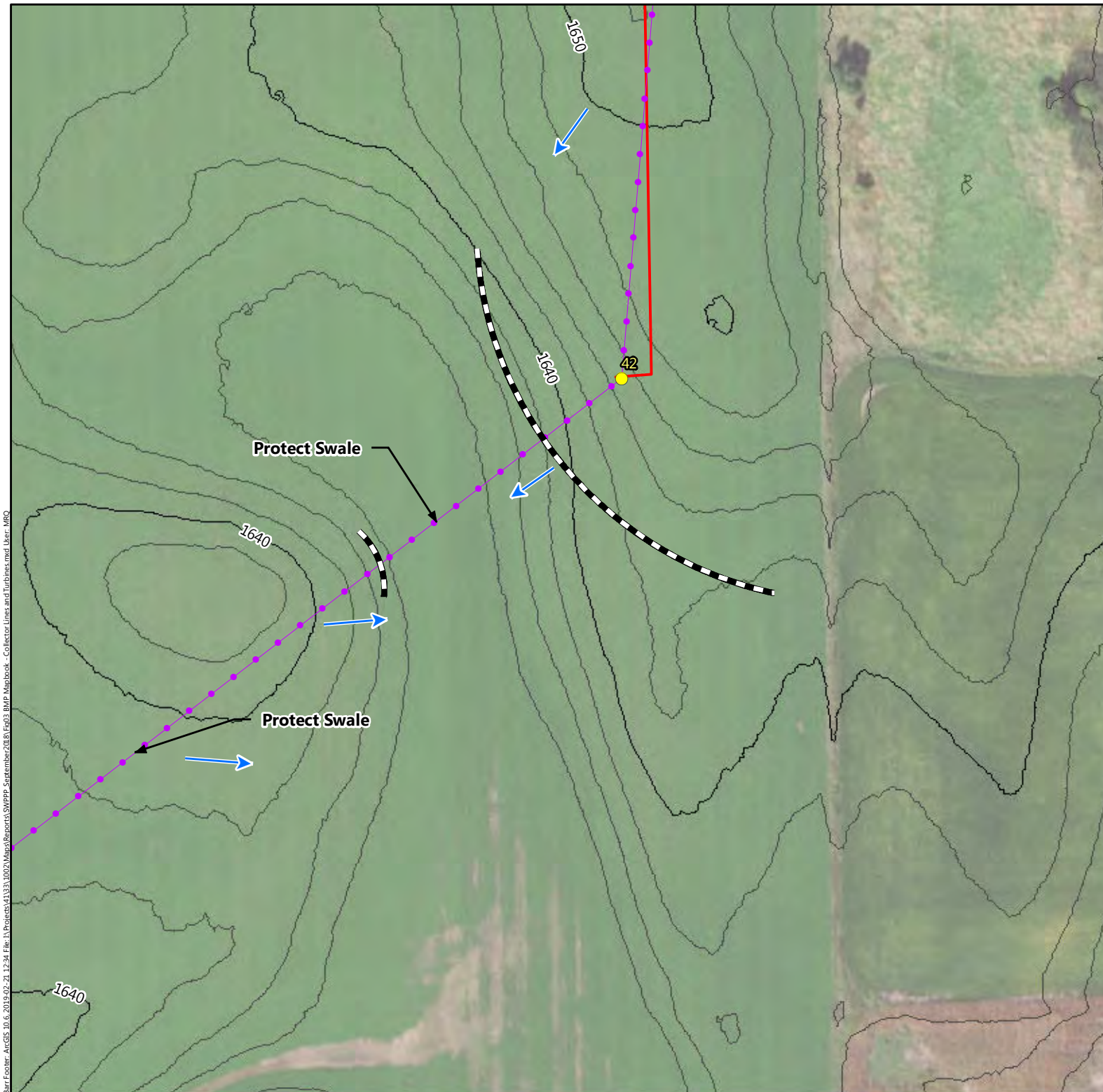
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Flow Direction



Figure 3-234

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





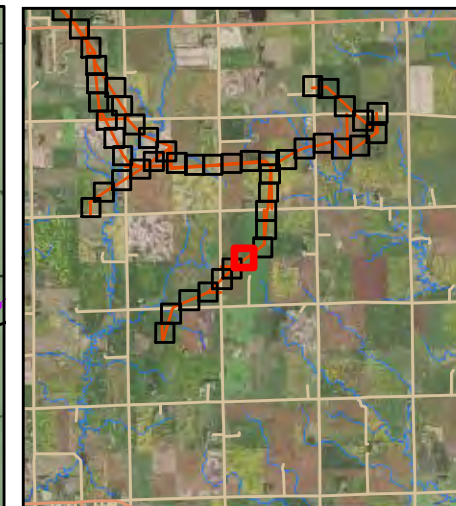
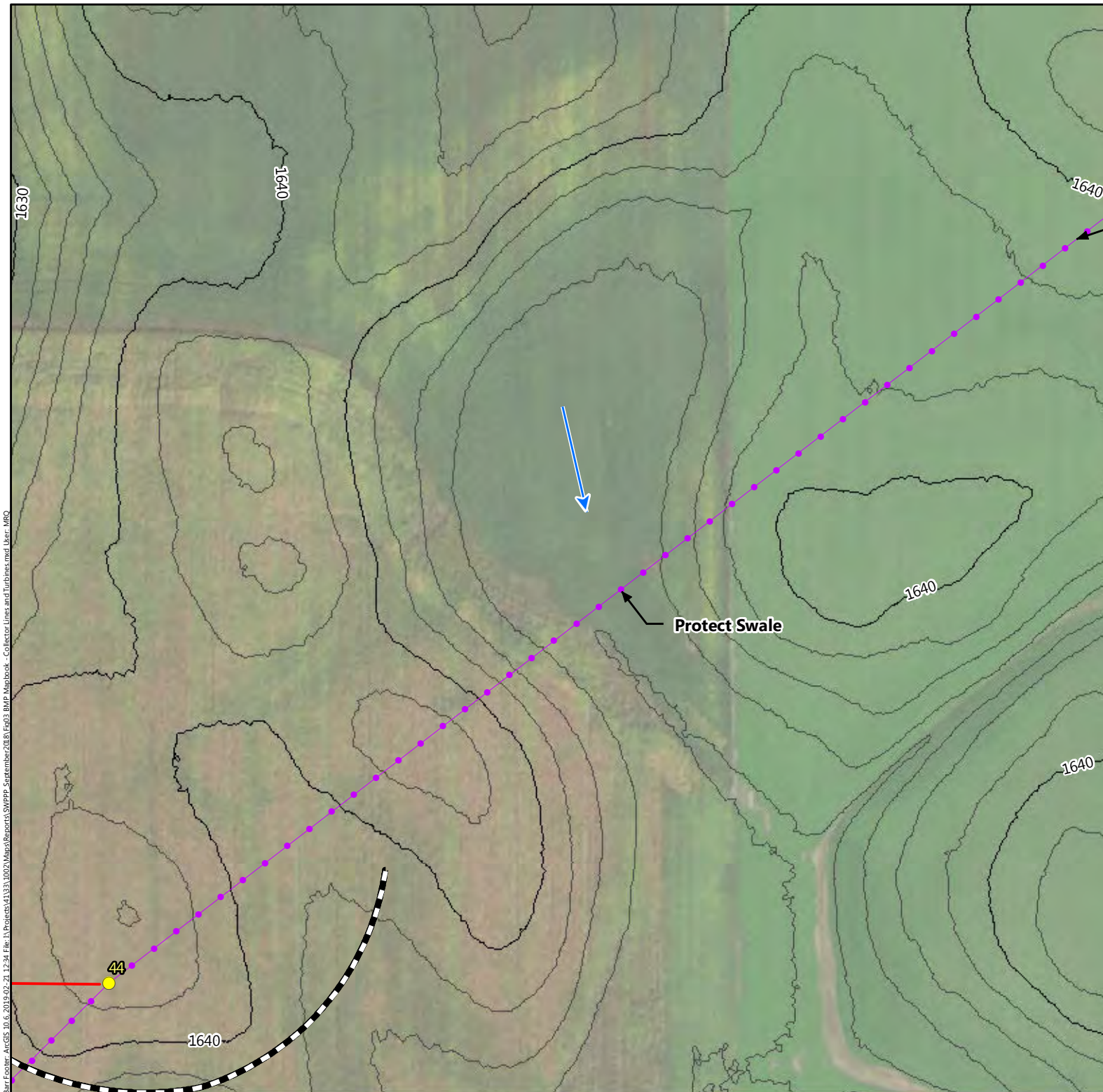
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- - - Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-235

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





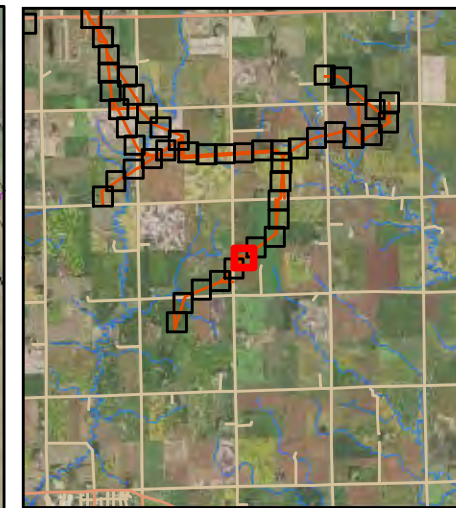
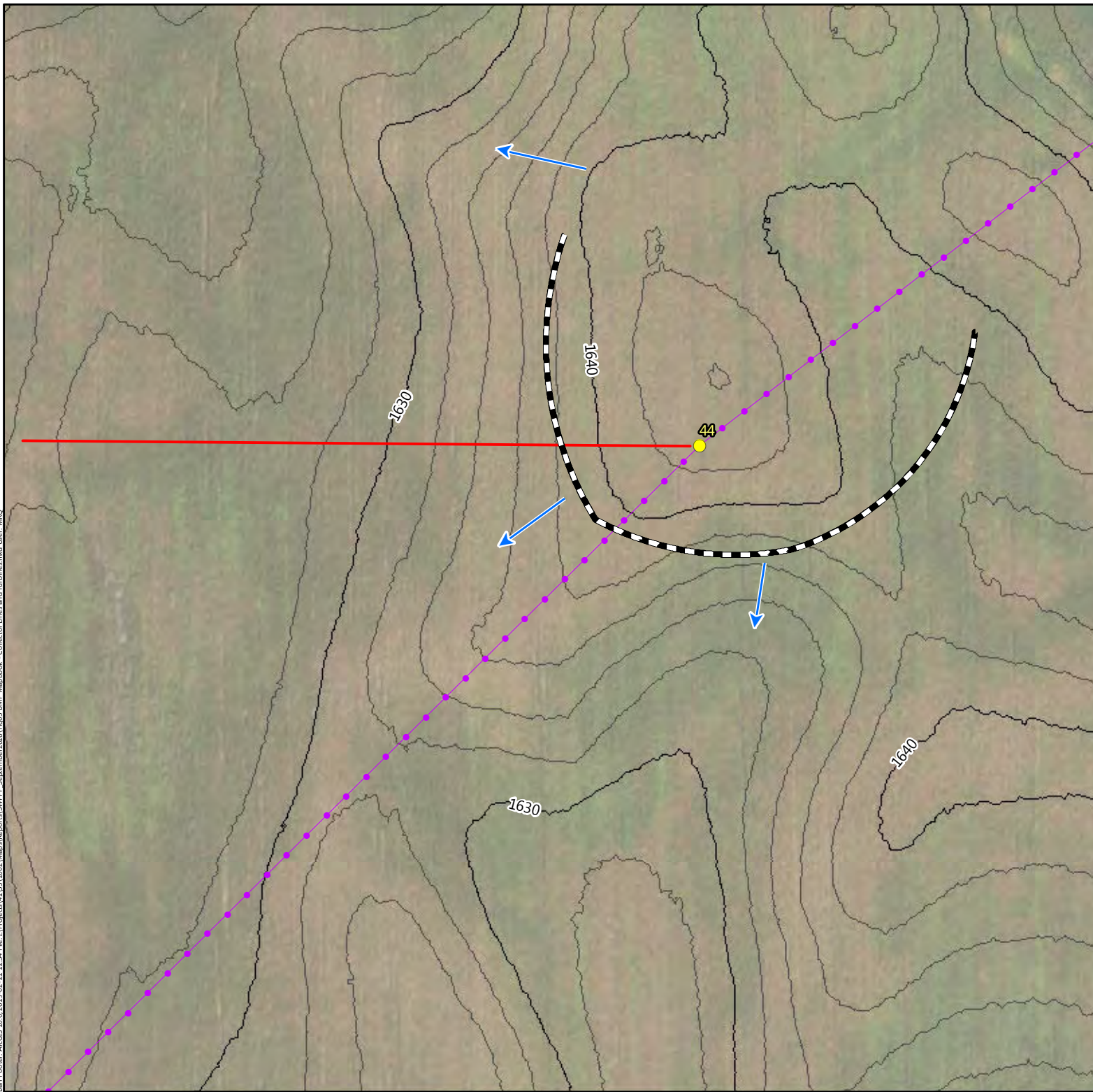
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-236

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm



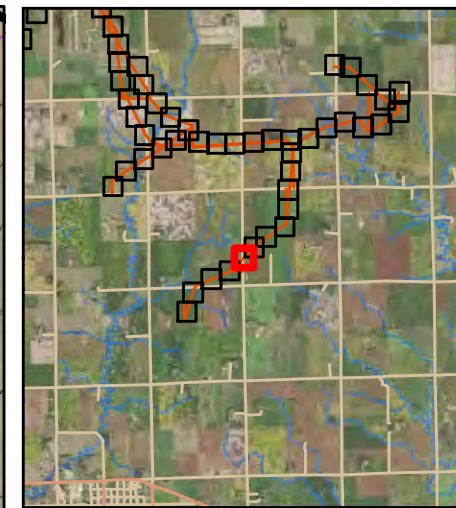
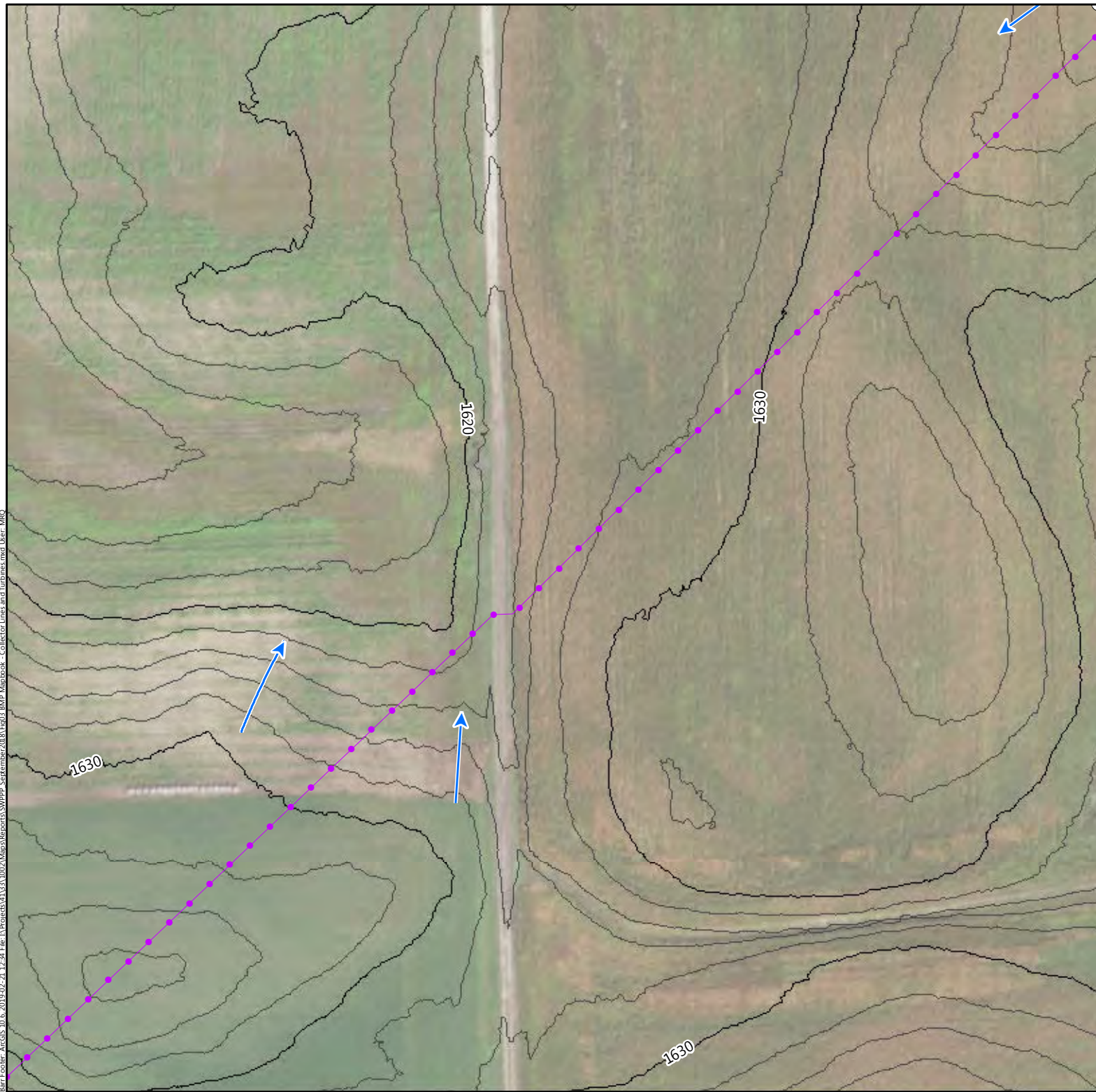
Feet



Figure 3-237

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

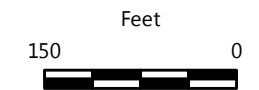
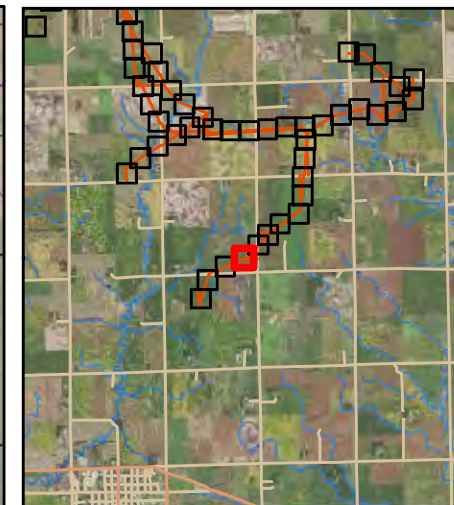
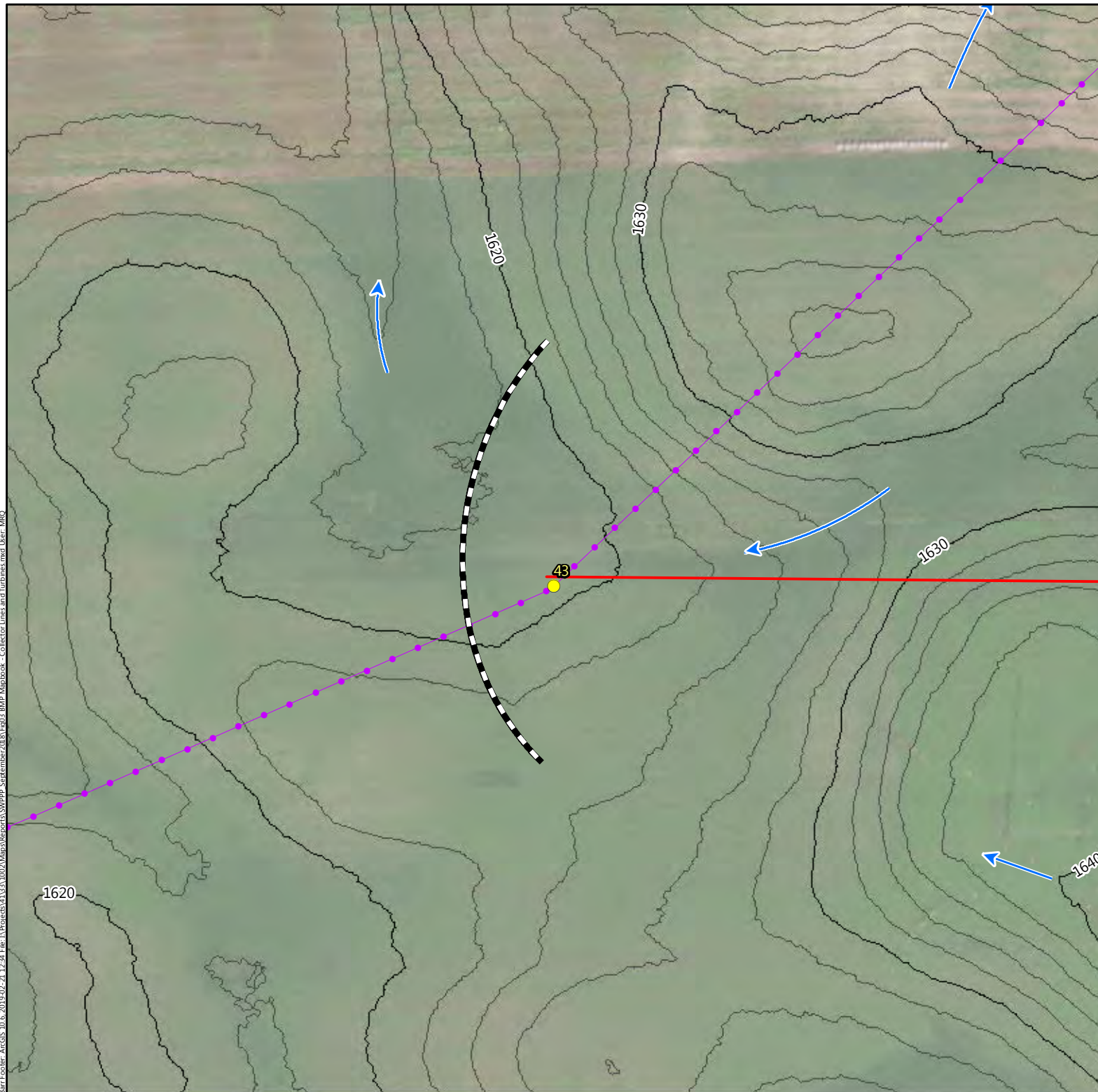


Figure 3-238

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





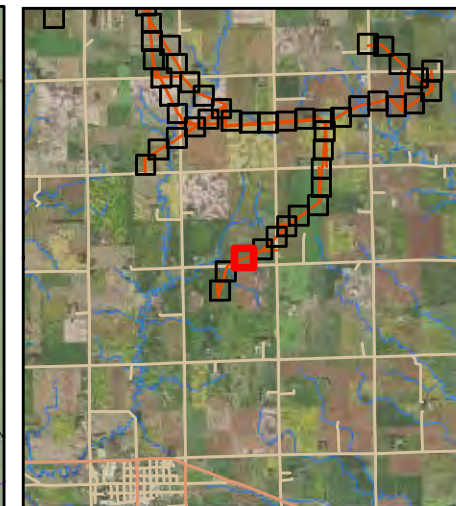
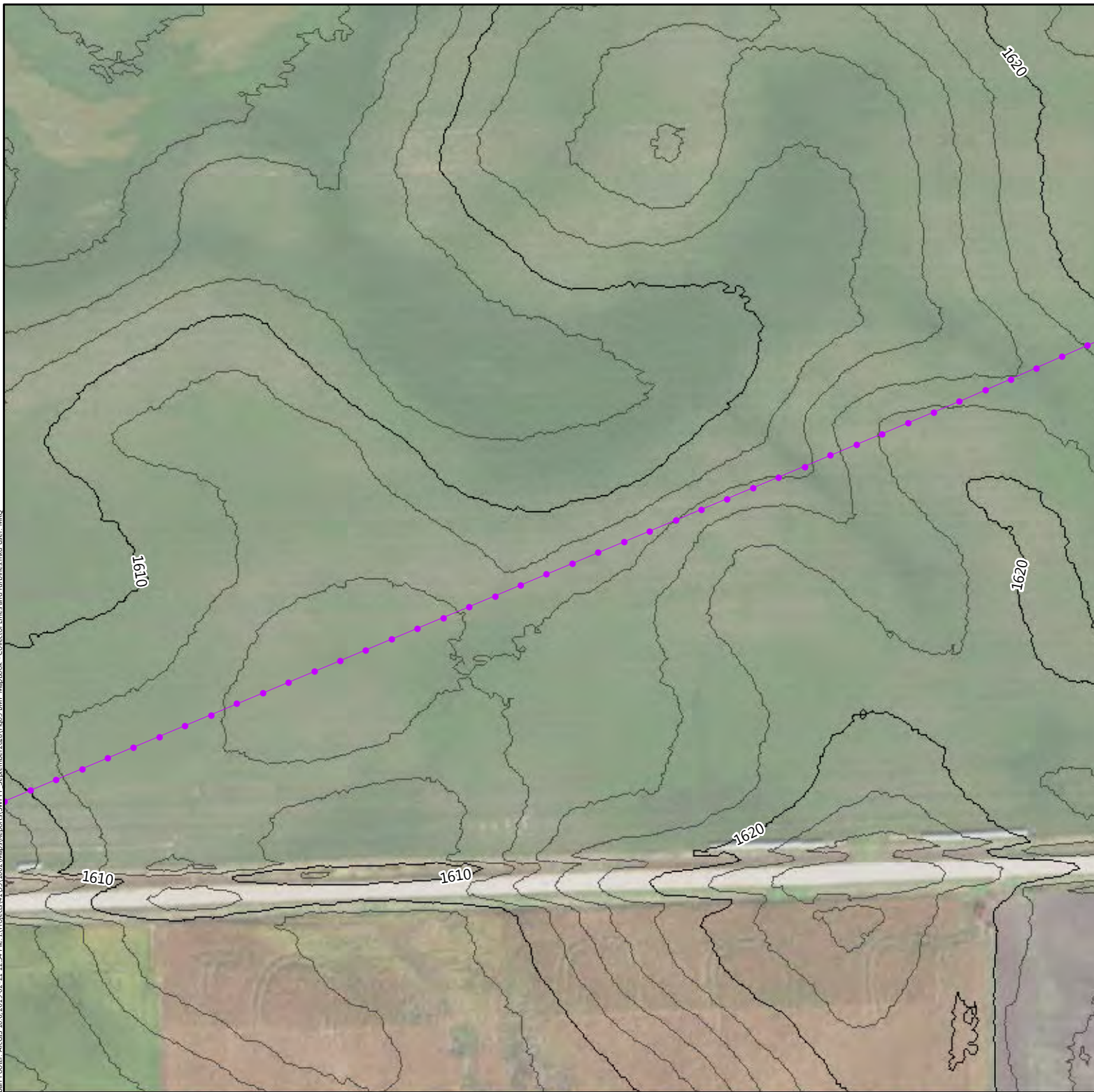
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➡ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-239

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





Collector Lines (1/18/2019)

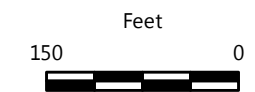
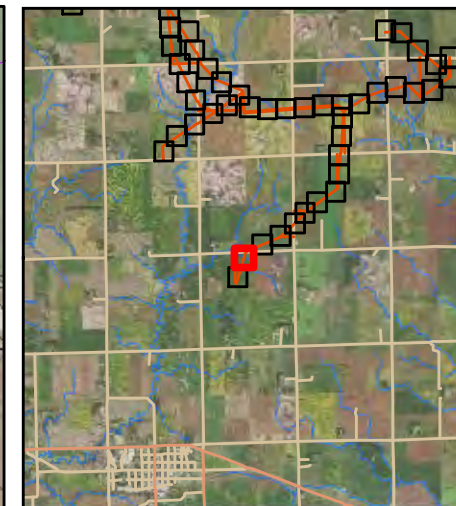
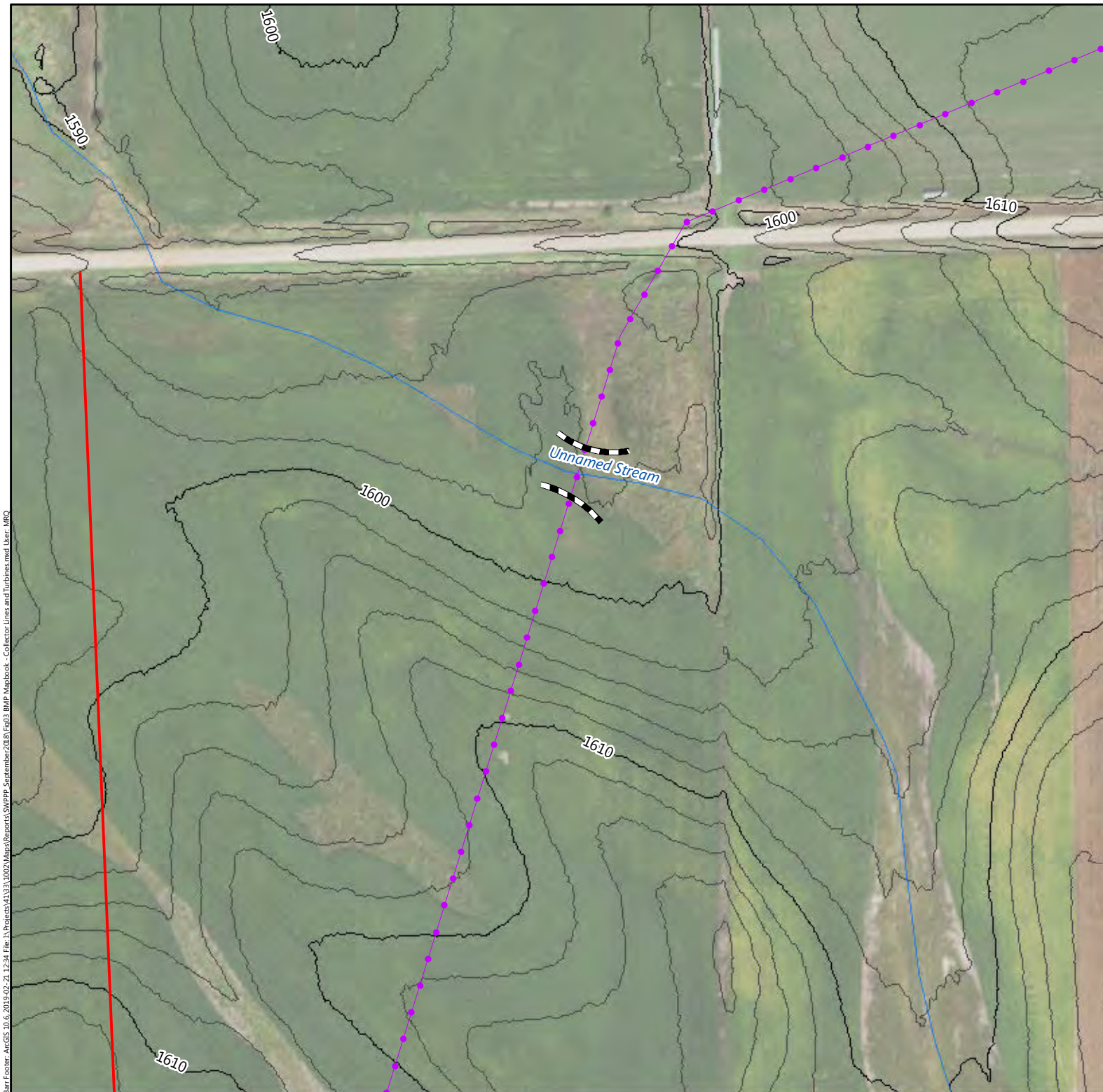


Figure 3-240

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





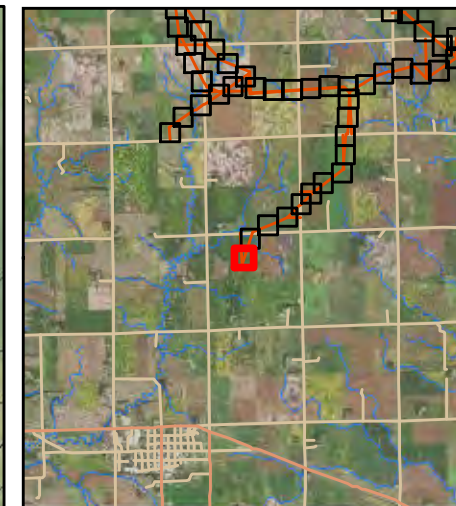
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm



Figure 3-241

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





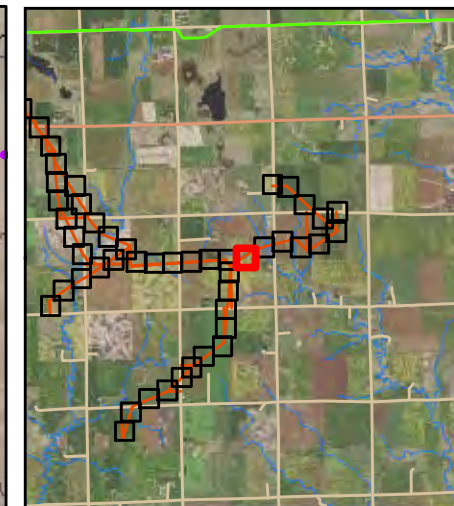
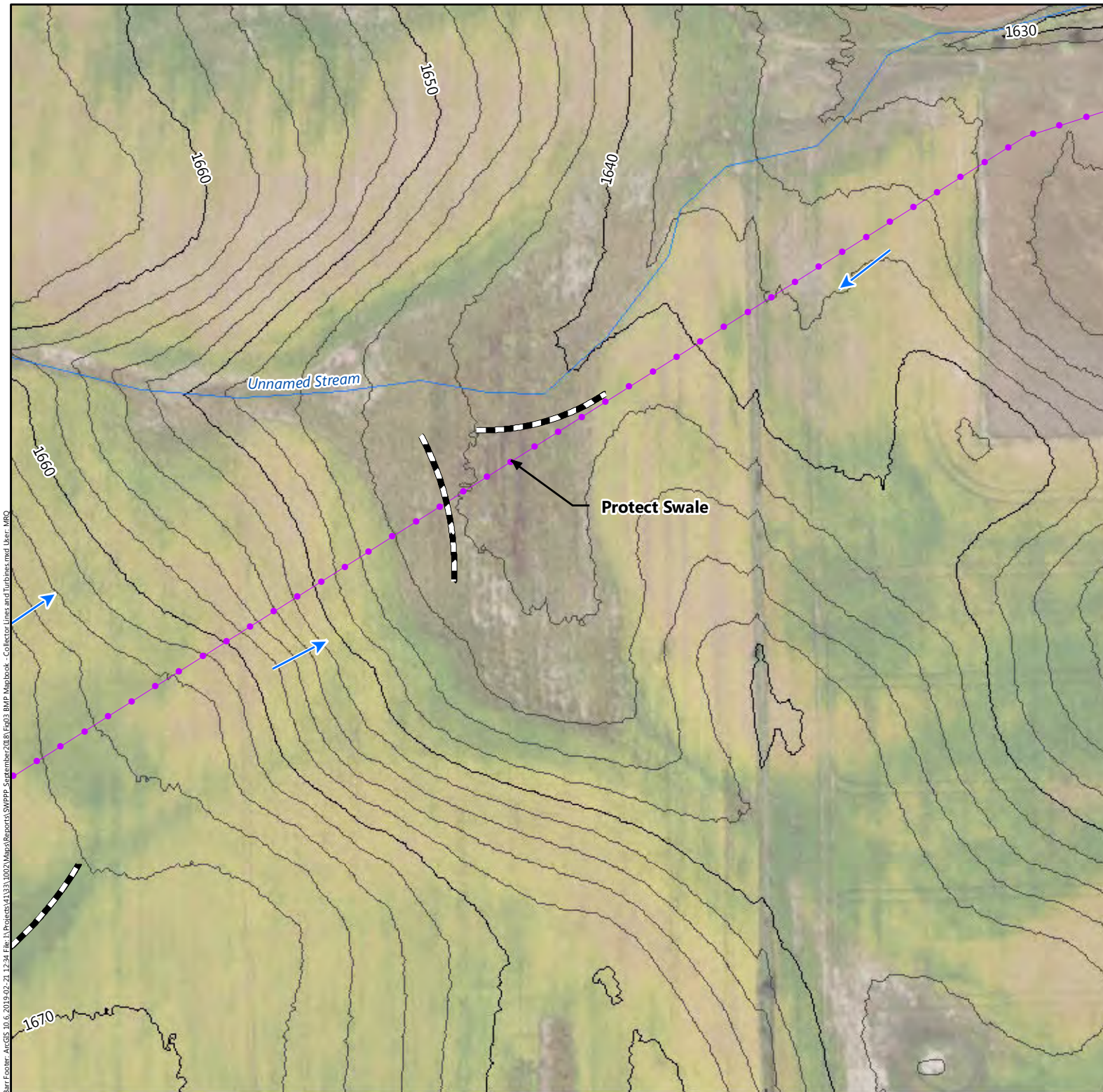
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-242

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





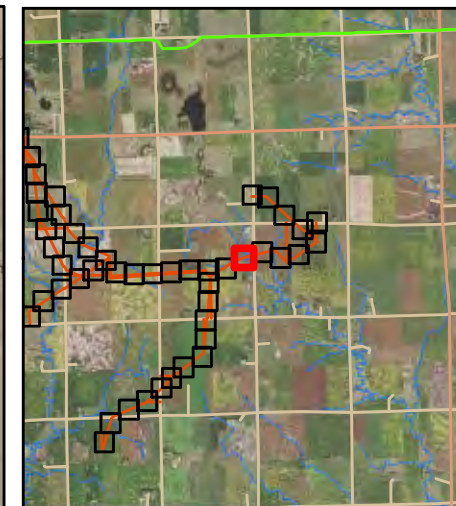
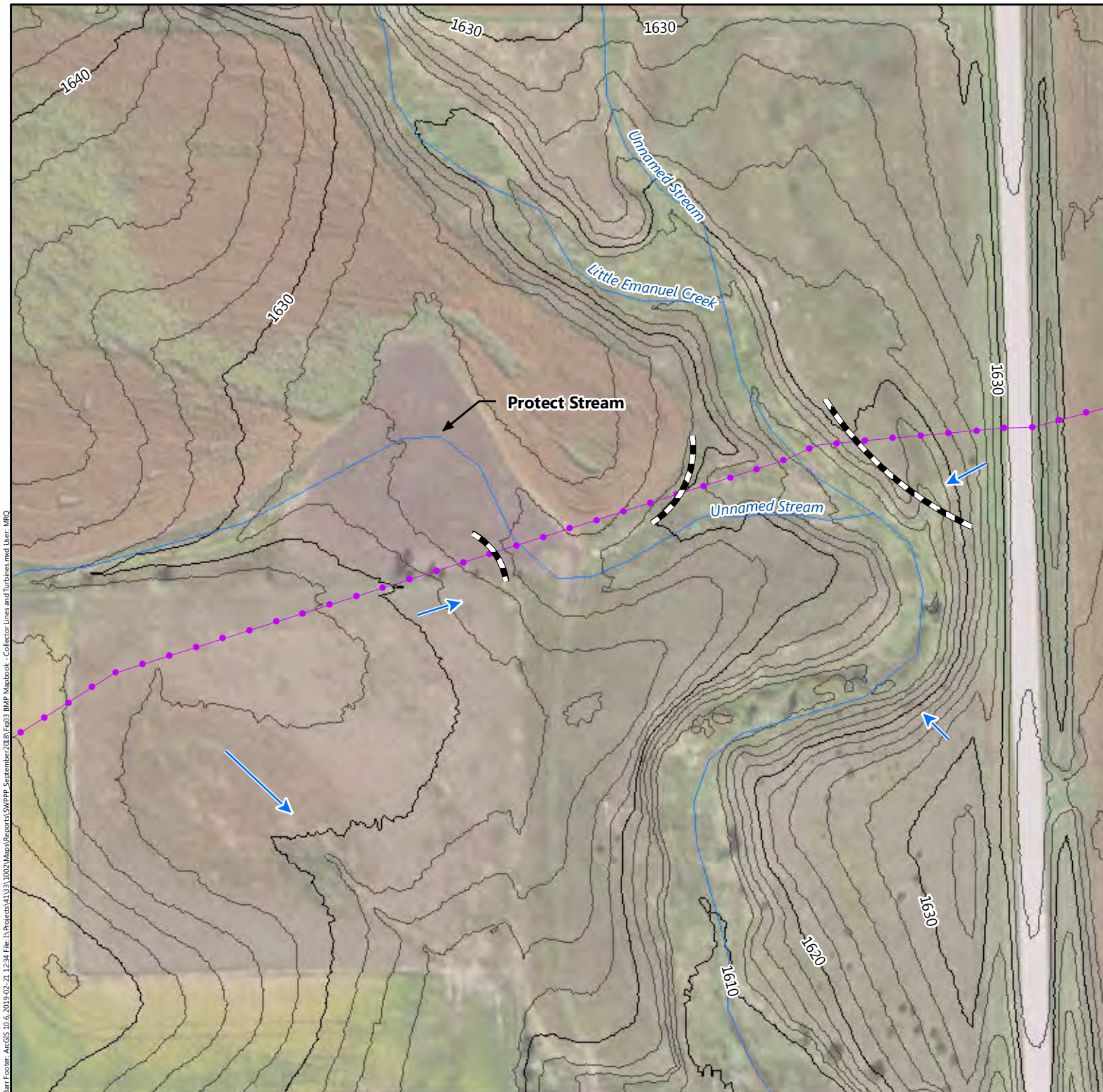
- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm




Figure 3-243

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
 Diversion Ditch, or Earthen  
 Berm



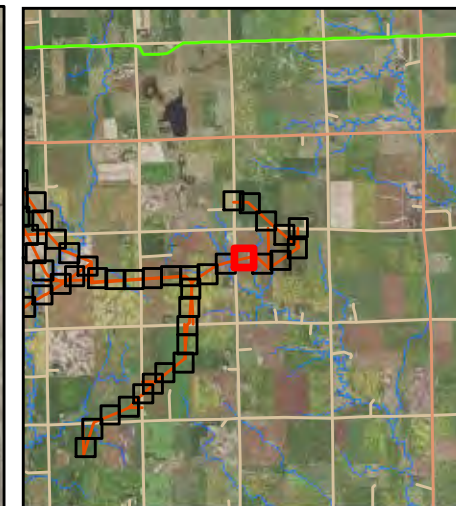
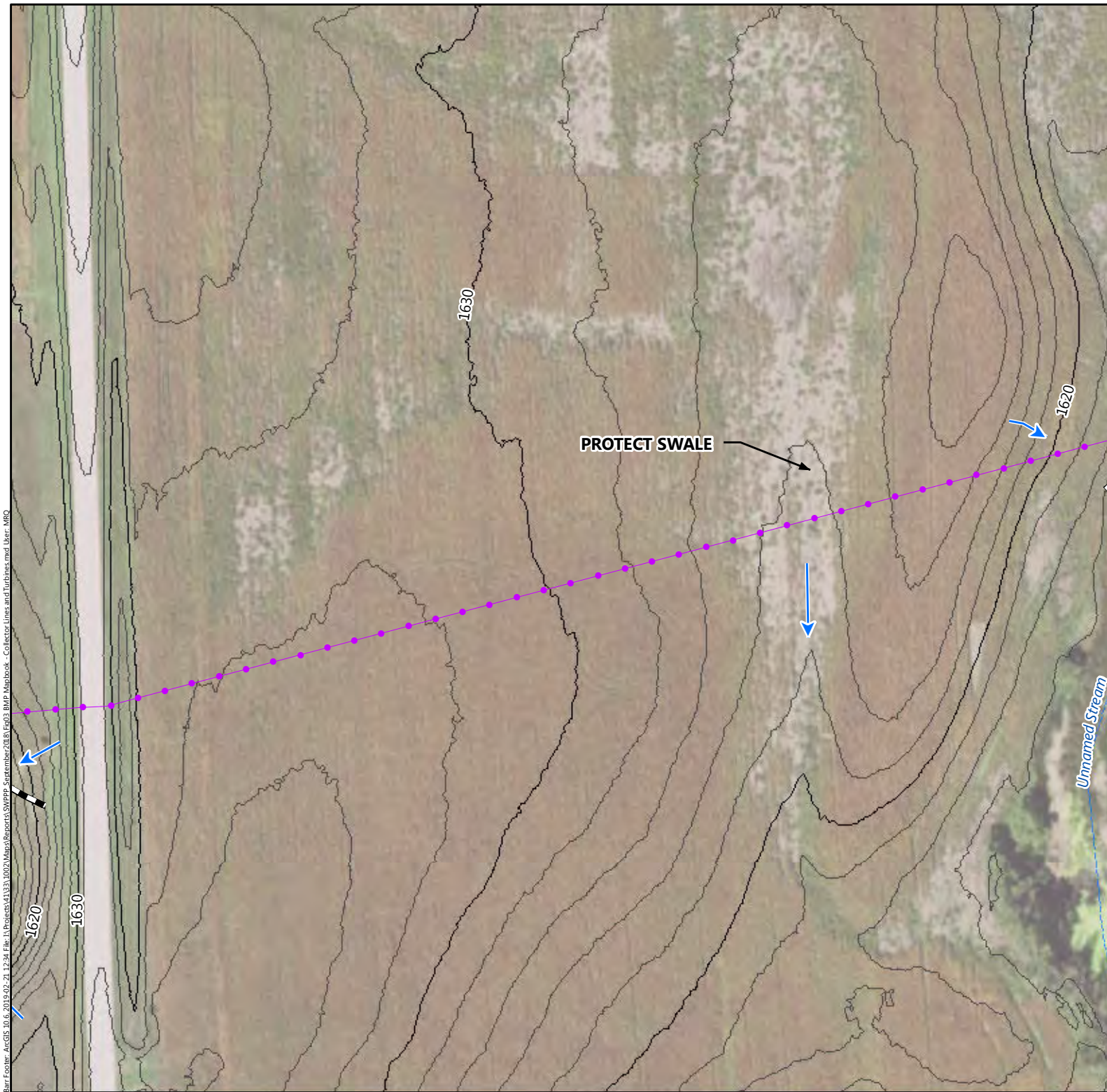
Feet



Figure 3-244

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
— Diversion Ditch, or Earthen  
Berm



Feet



Figure 3-245

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota



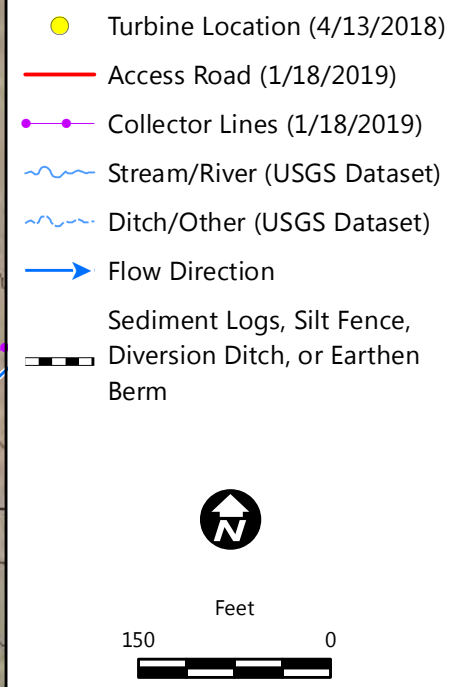
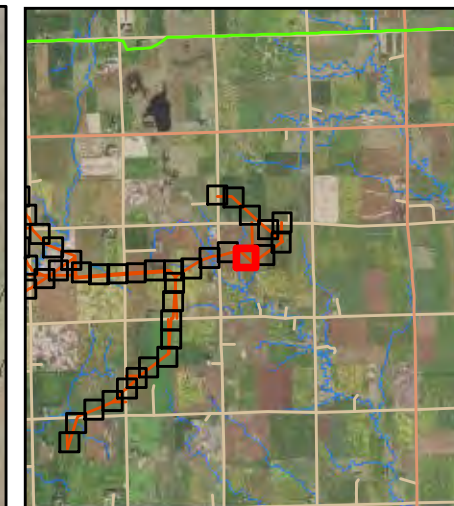
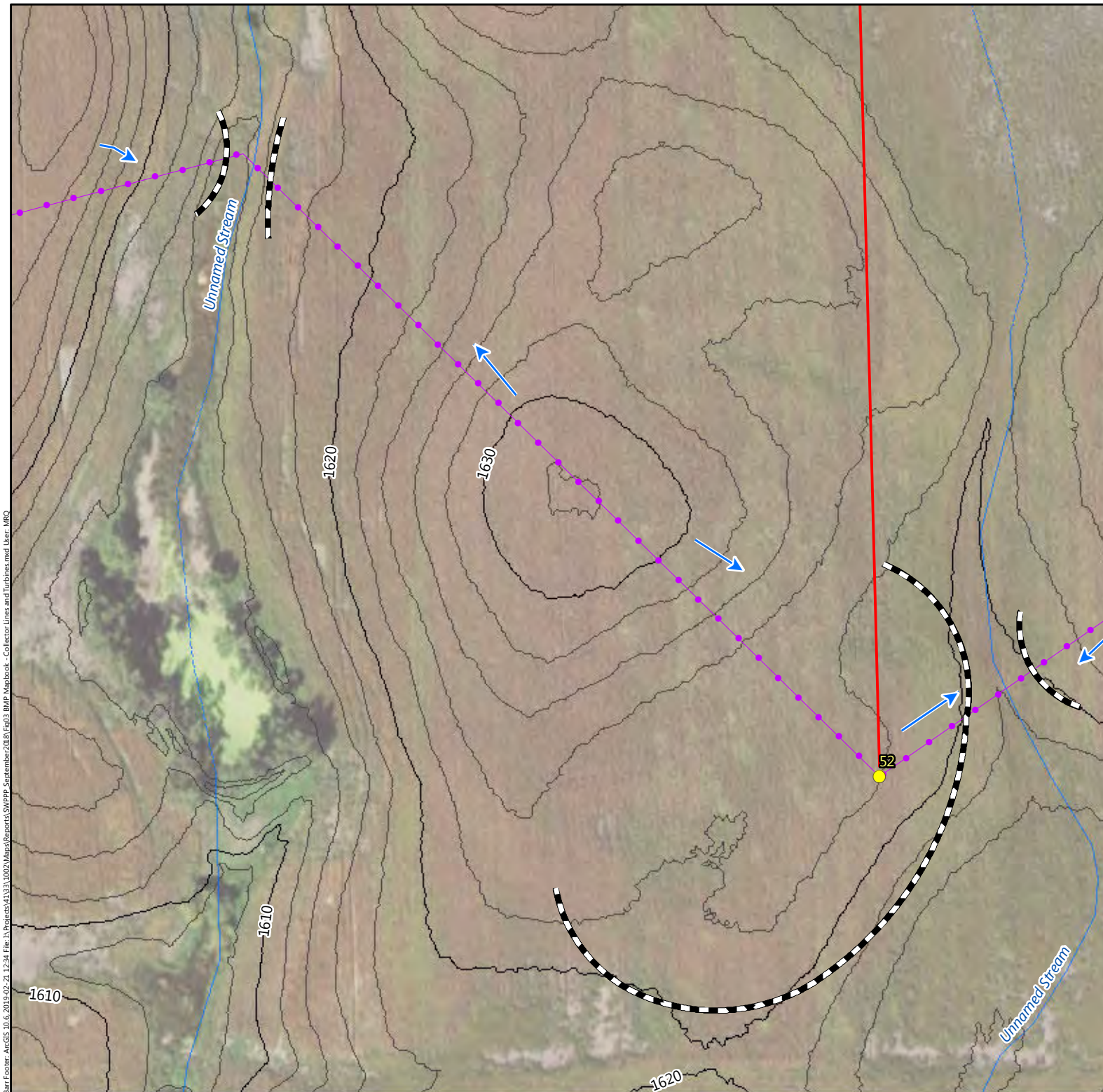
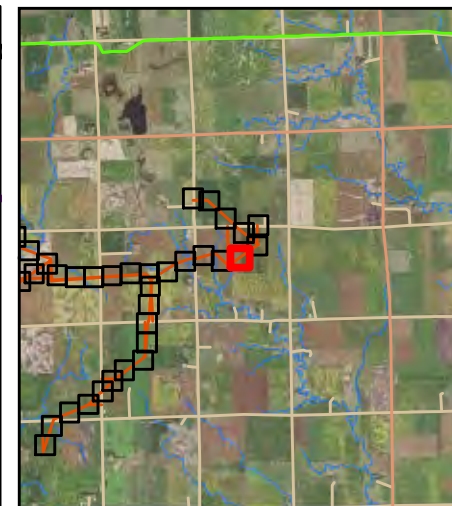
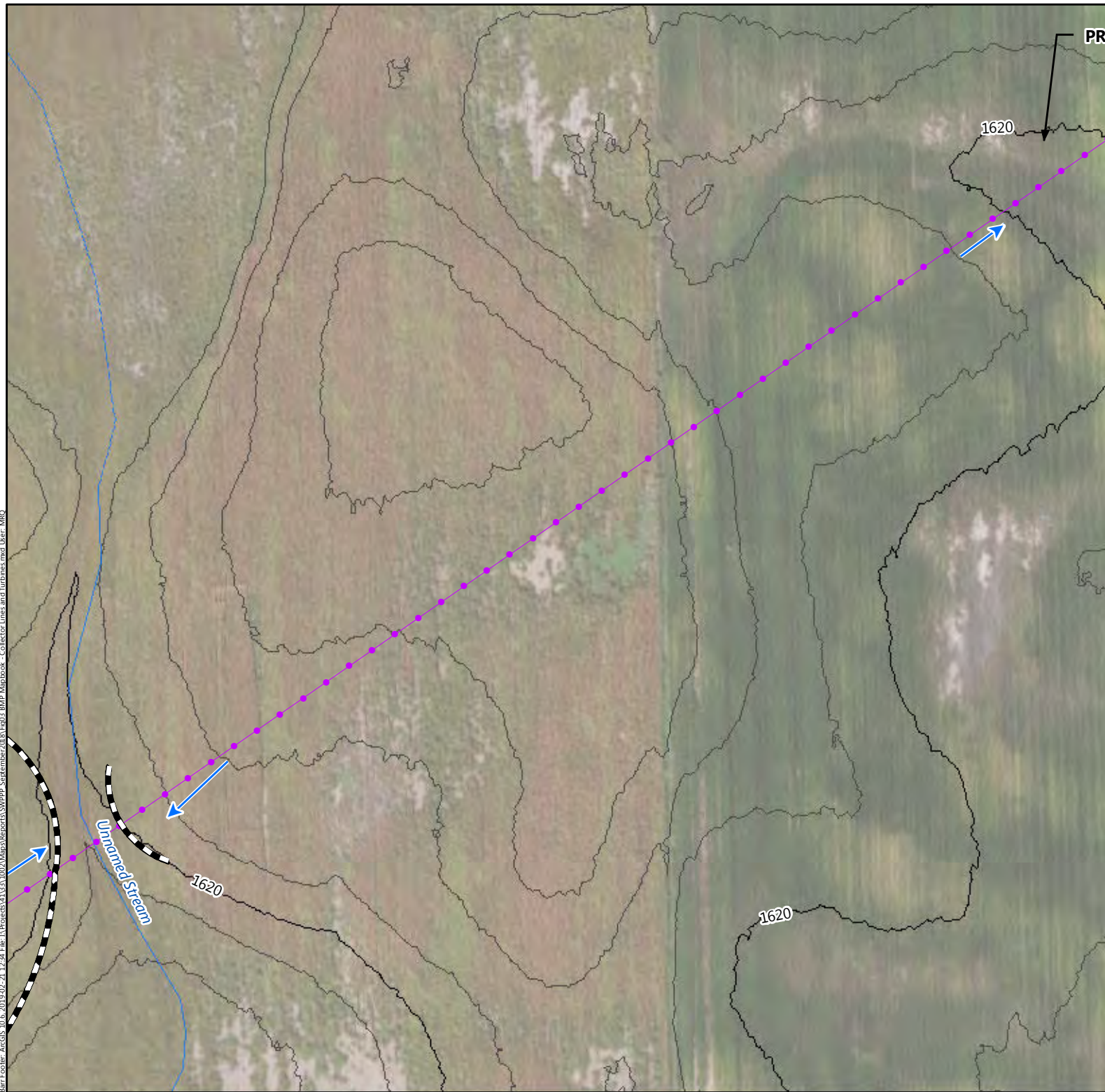


Figure 3-246

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Collector Lines (1/18/2019)
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen  
Berm



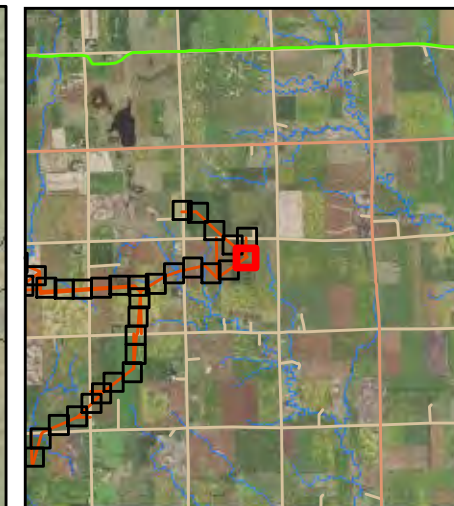
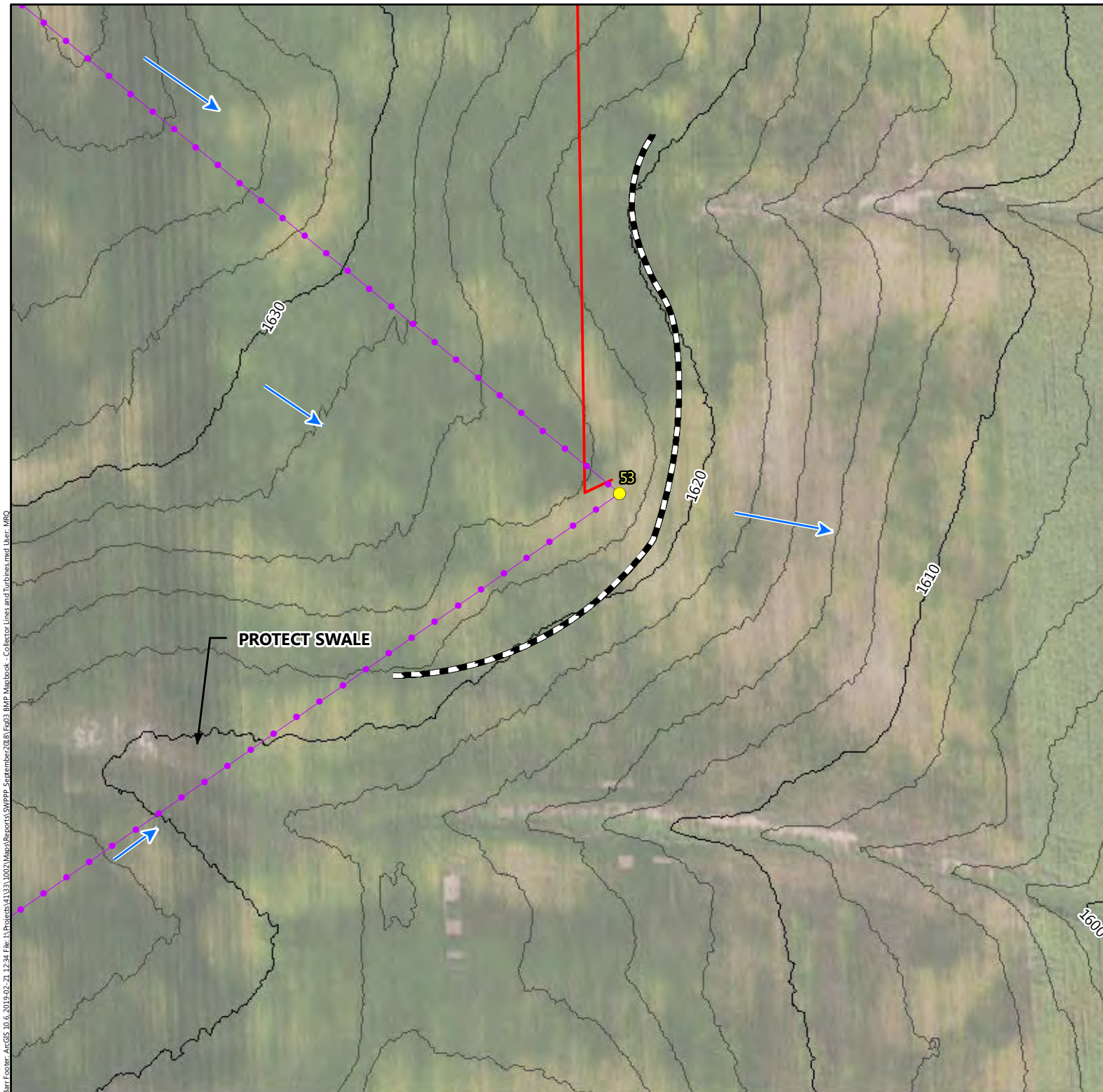
Feet



Figure 3-247

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





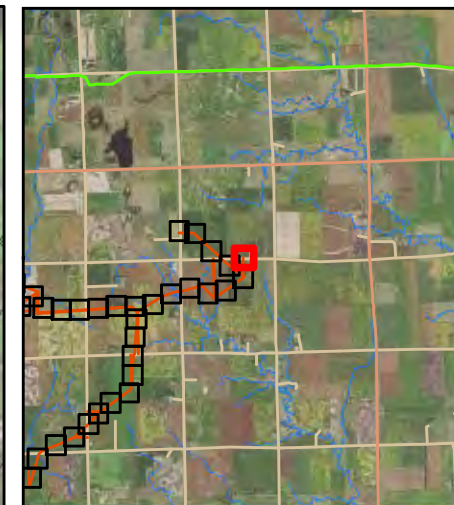
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 3-248

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





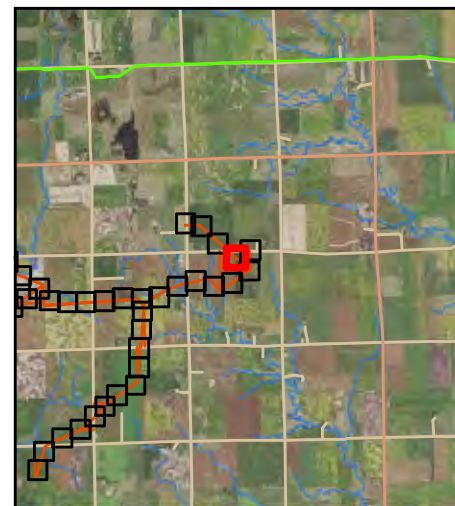
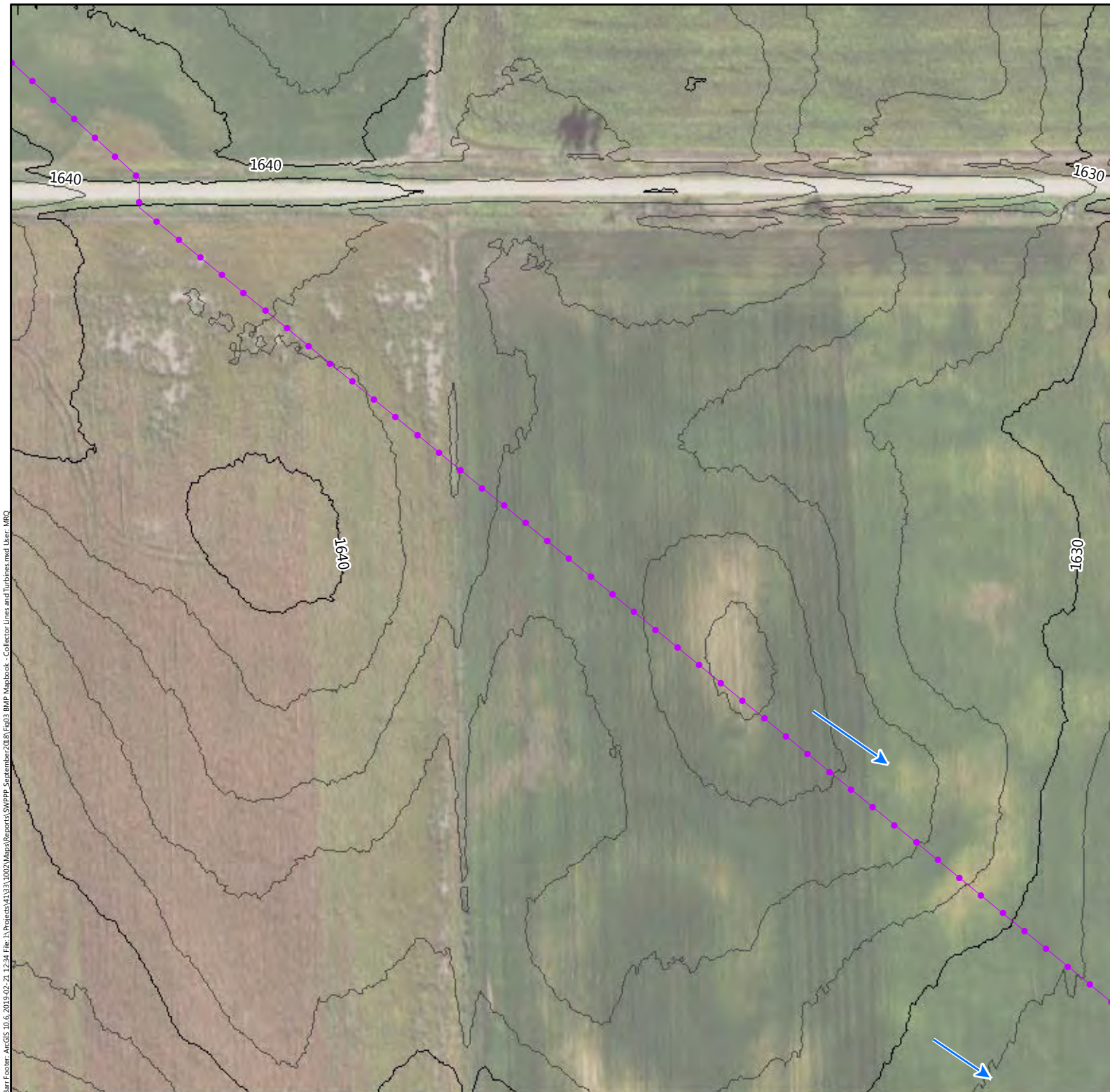
- ⊗ Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction



Figure 3-249

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota








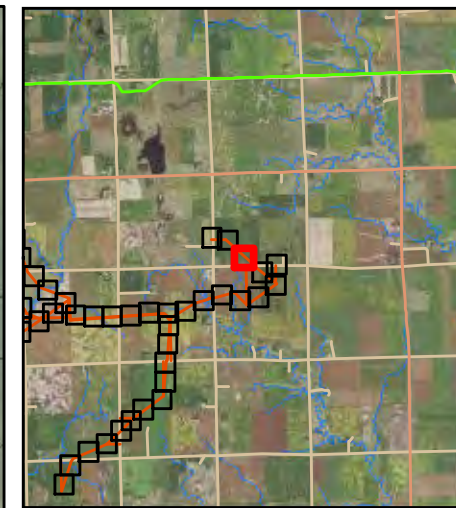
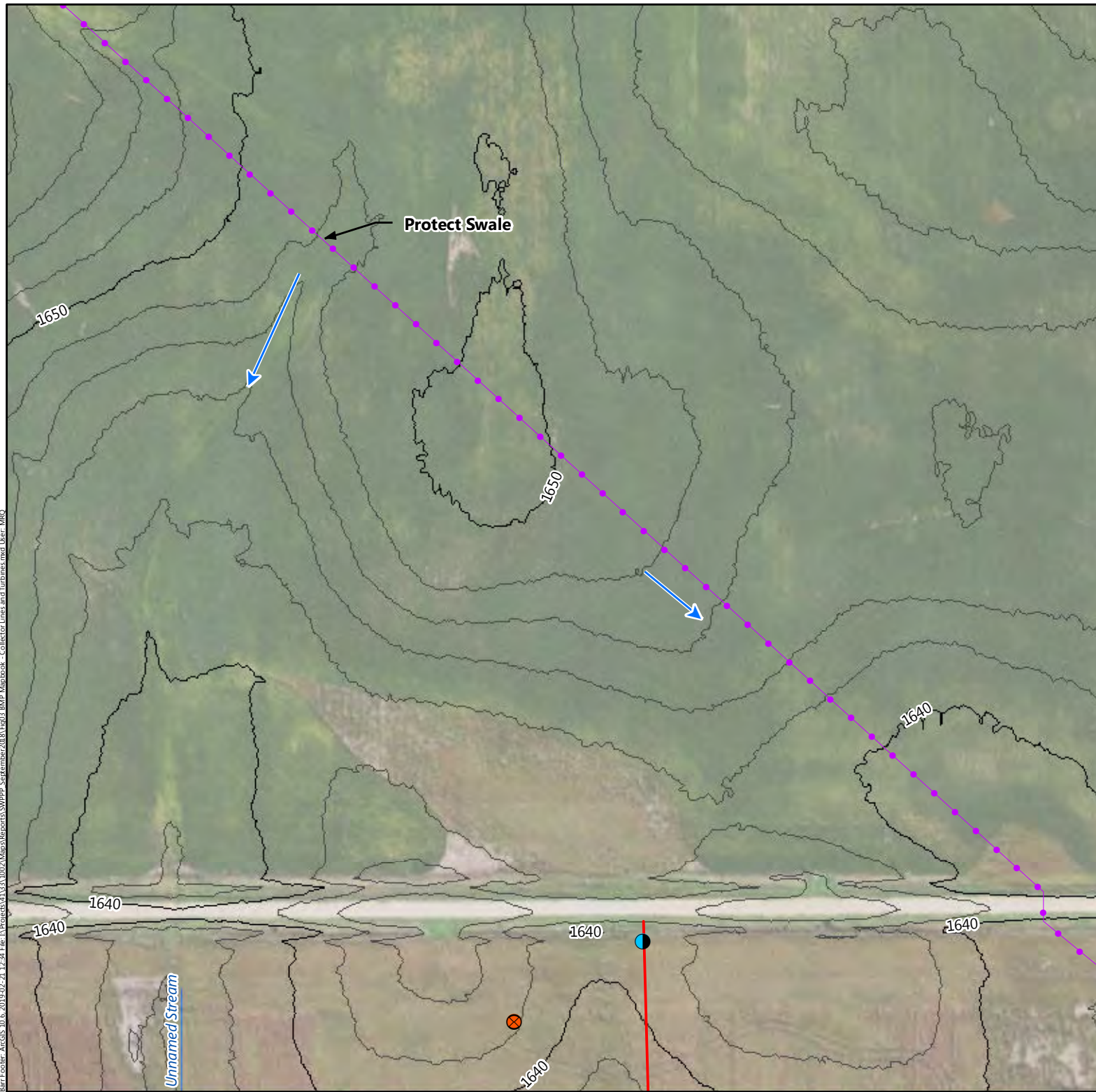
-  Gate
-  Collector Lines (1/18/2019)
-  Flow Direction



Figure 3-250

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Gate
- Culvert
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- Stream/River (USGS Dataset)
- Flow Direction



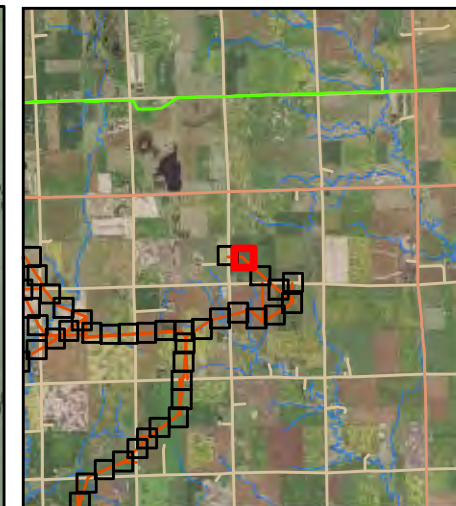
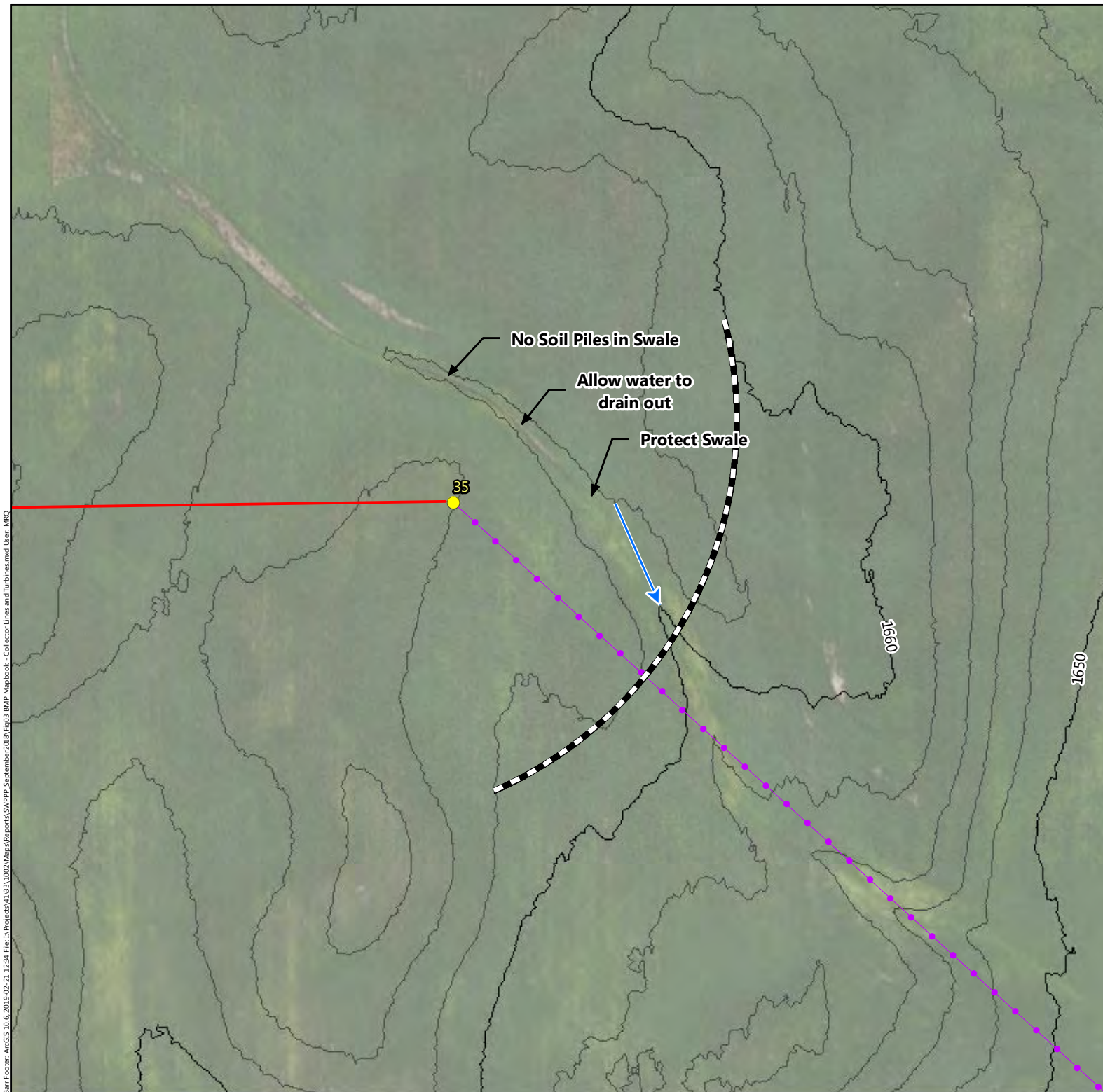
Feet



Figure 3-251

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





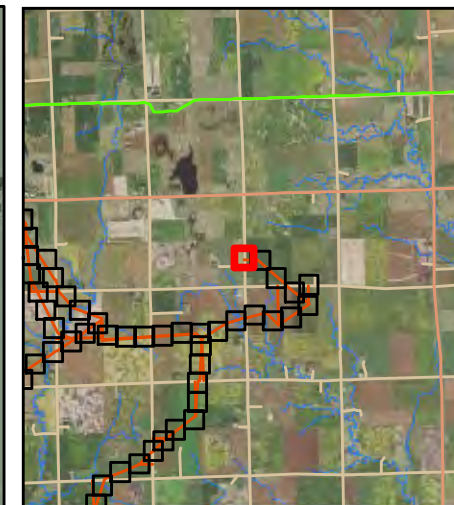
- Turbine Location (4/13/2018)
- Access Road (1/18/2019)
- Collector Lines (1/18/2019)
- ➔ Flow Direction
- Sediment Logs, Silt Fence,  
Diversion Ditch, or Earthen Berm



Figure 3-252

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota







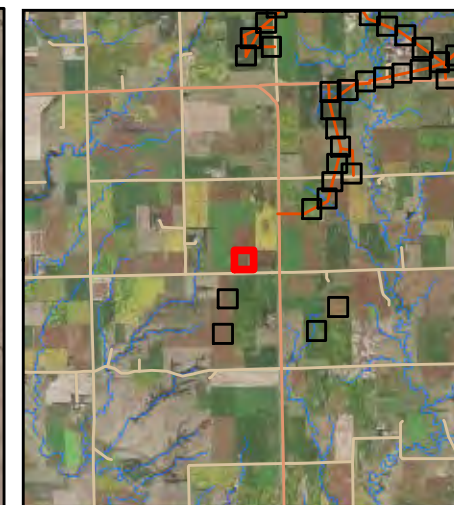
-  Culvert
-  Access Road (1/18/2019)



Figure 3-253

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





● Turbine Location (4/13/2018)

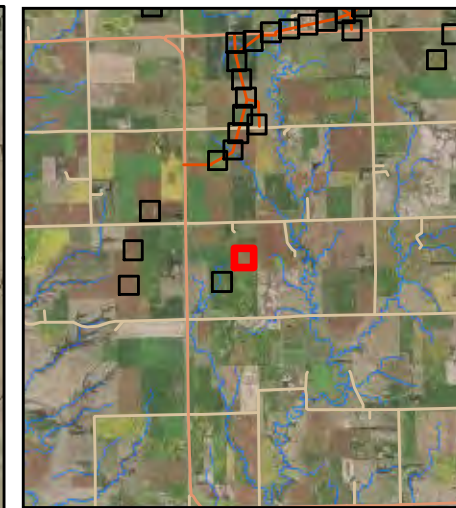
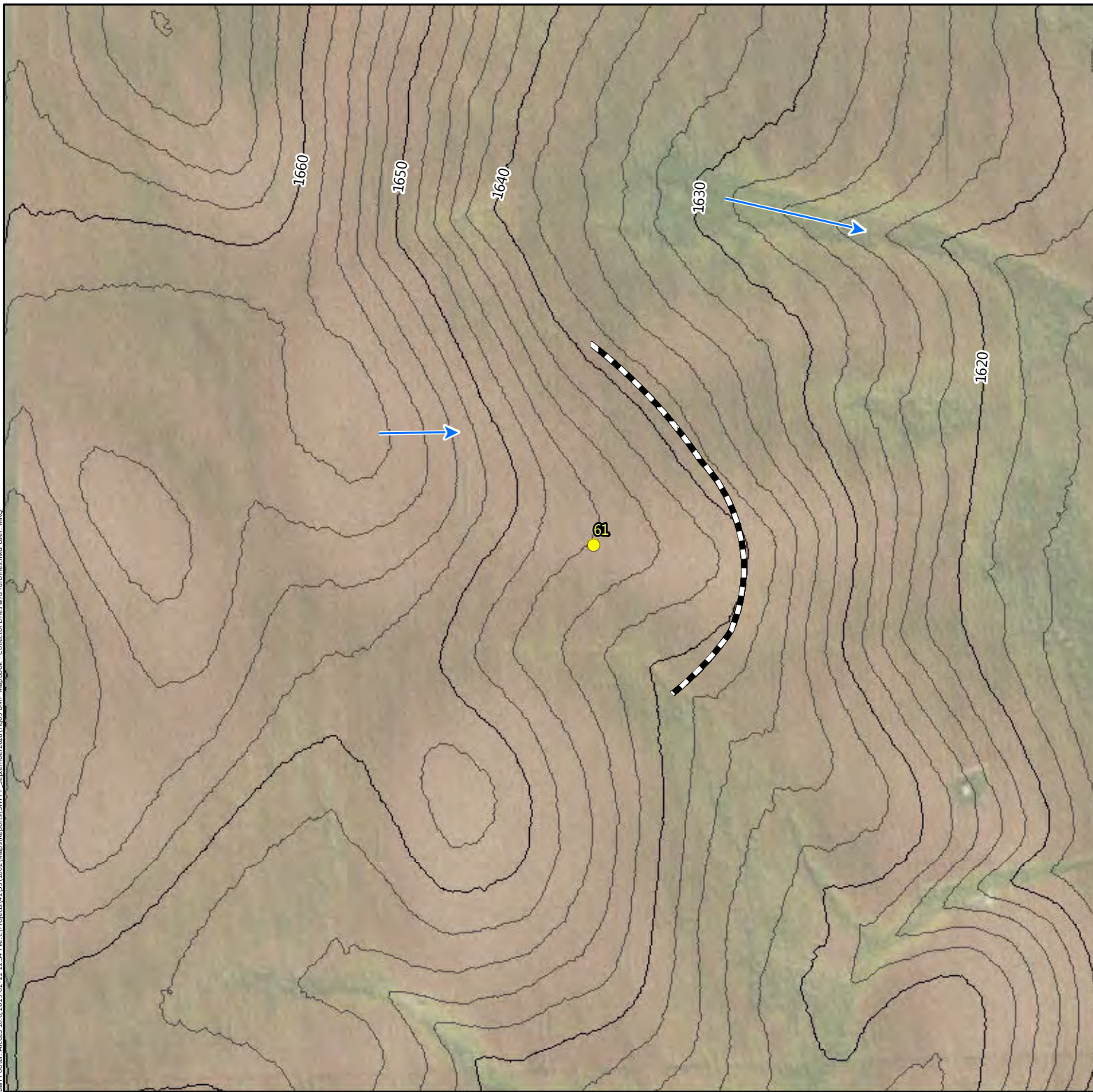


Feet  
150 0

Figure 3-254

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Turbine Location (4/13/2018)
- Flow Direction
- Sediment Logs, Silt Fence,  
Diversiion Ditch, or Earthen  
Berm

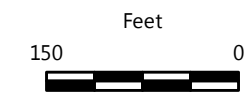
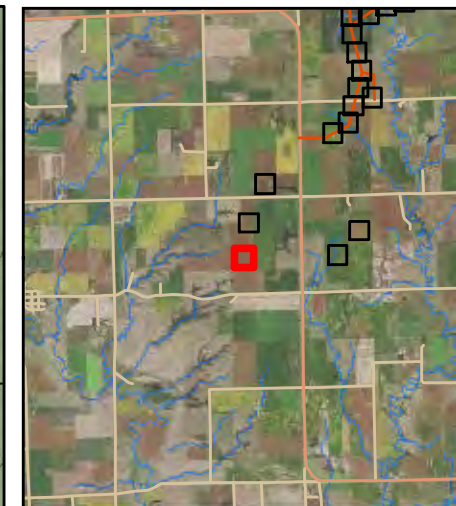
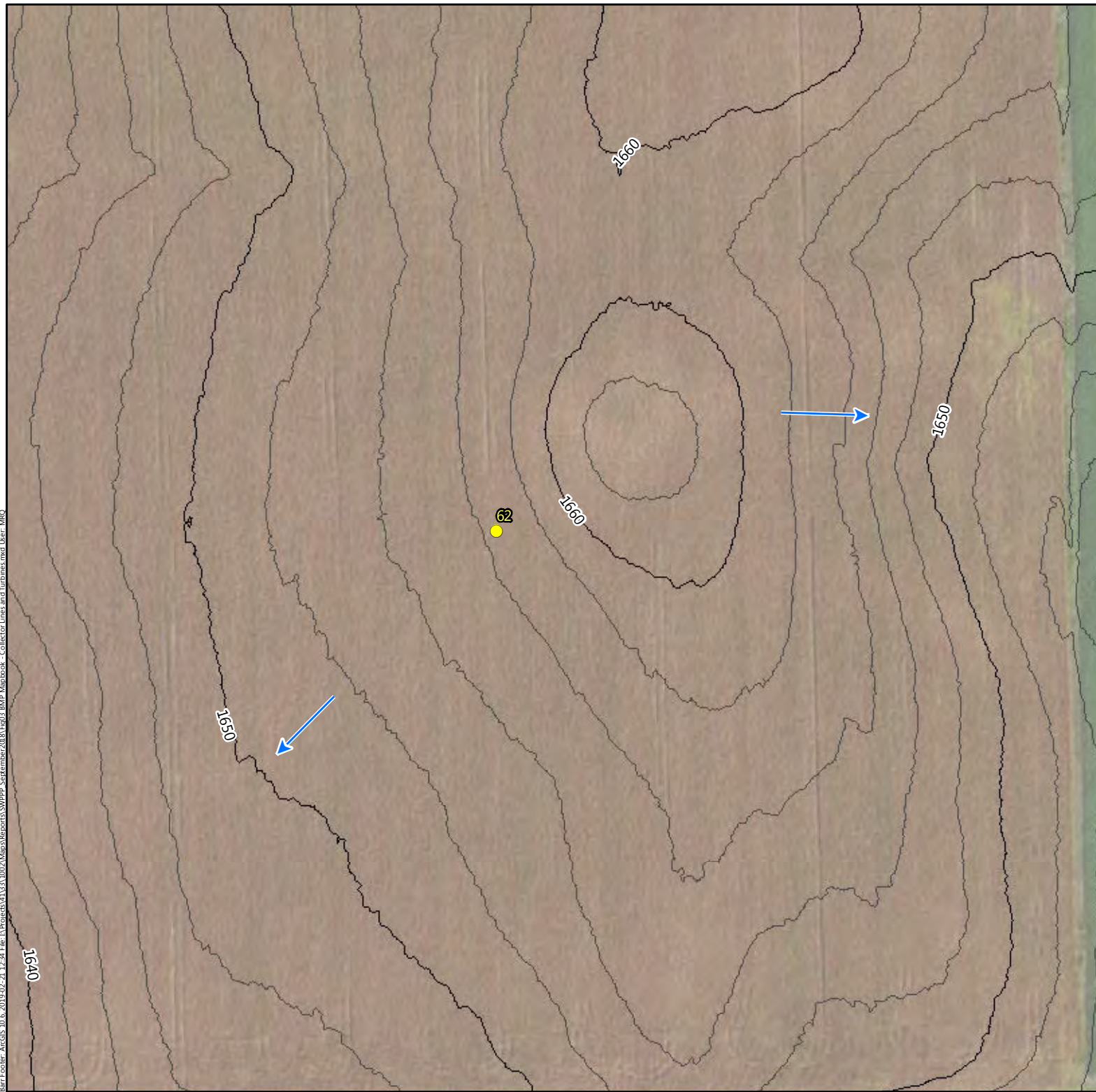


Figure 3-255

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





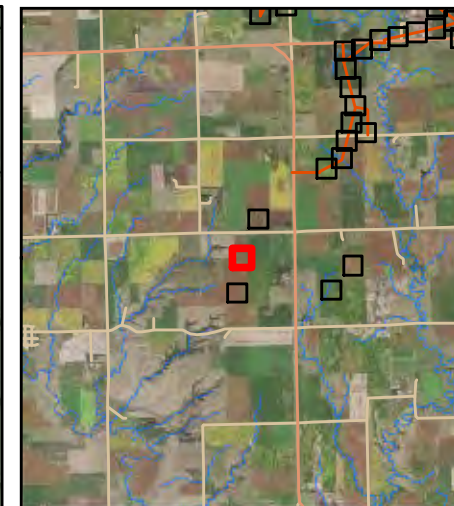
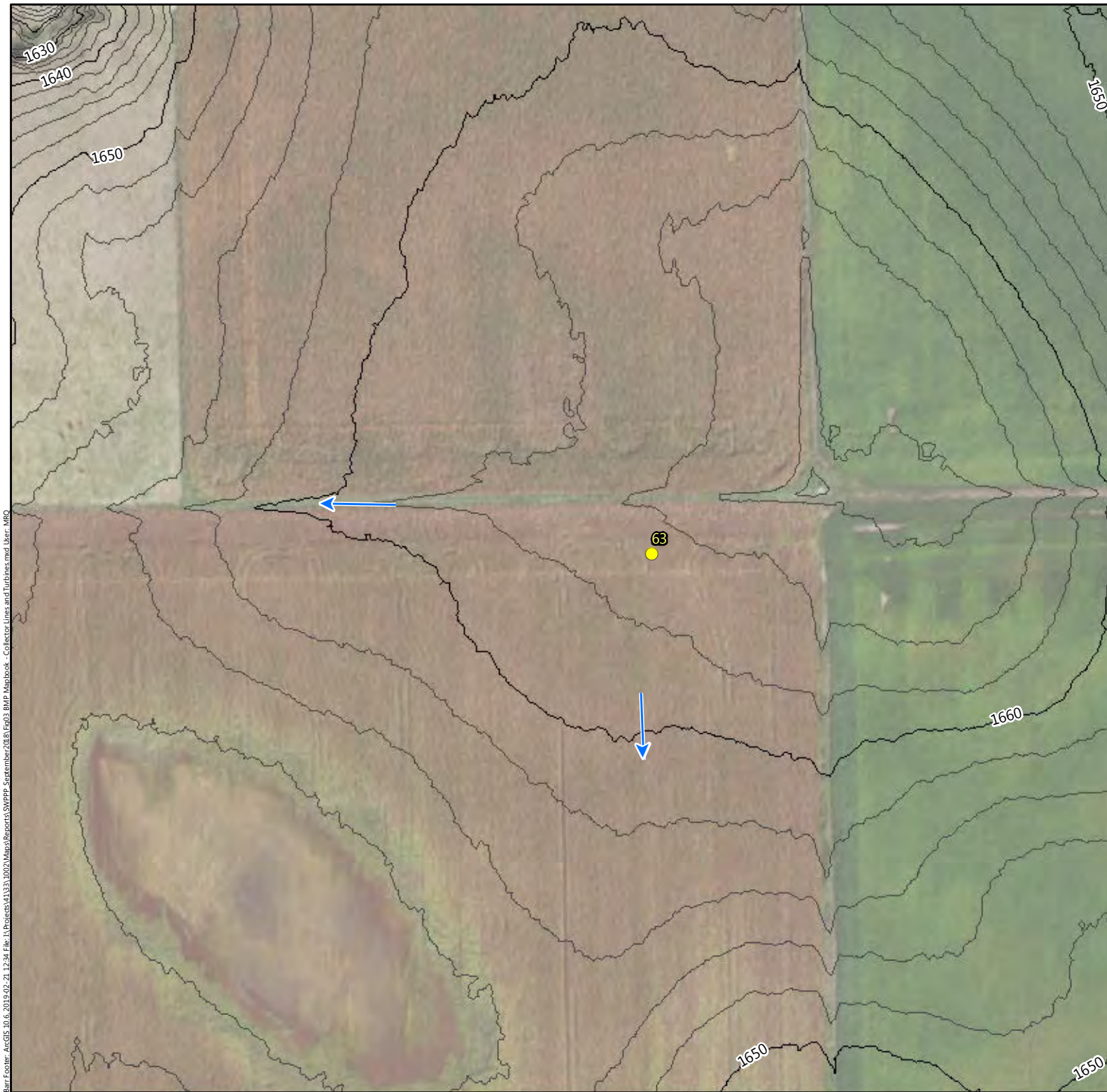
- Turbine Location (4/13/2018)
- Flow Direction



Figure 3-256

**EROSION CONTROL PLAN**  
Wind Turbine and Collector Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





● Turbine Location (4/13/2018)

→ Flow Direction



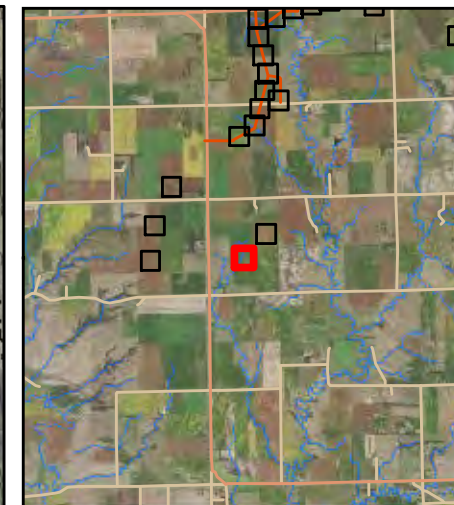
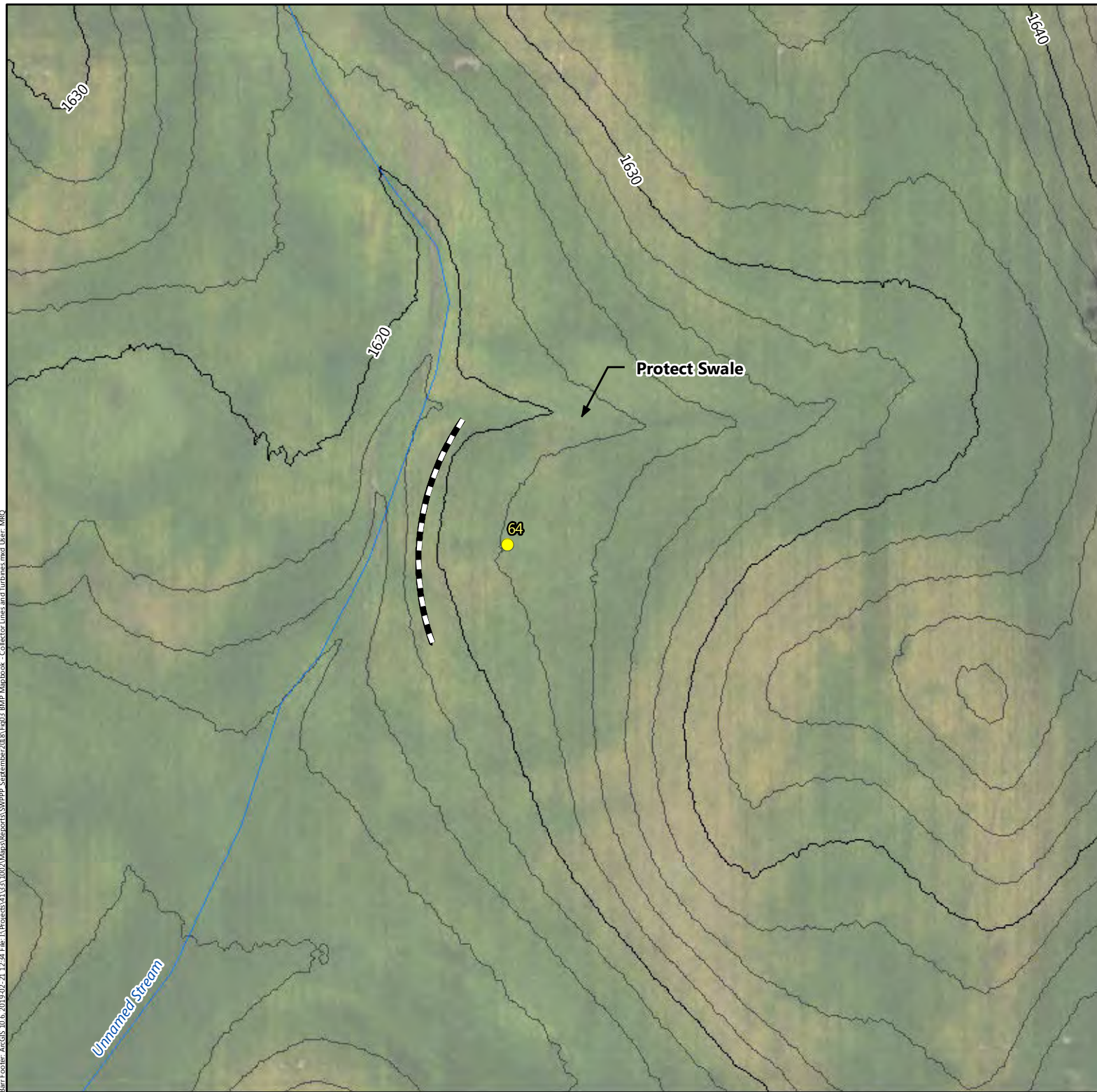
Feet



Figure 3-257

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





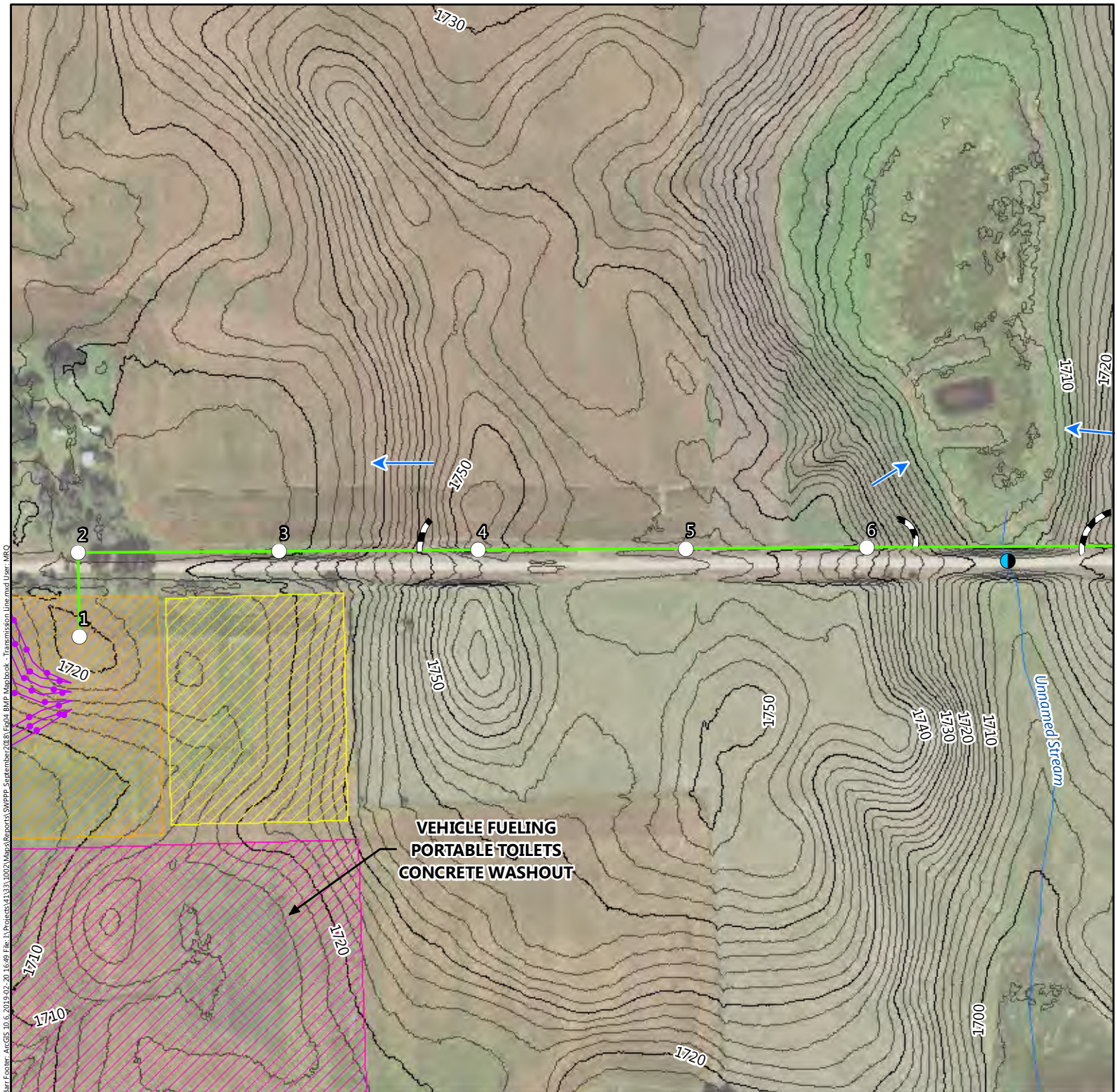
- Turbine Location (4/13/2018)
- ~~~~~ Stream/River (USGS Dataset)
- Sediment Logs, Silt Fence,  
  Diversion Ditch, or Earthen  
 Berm



Figure 3-258

**EROSION CONTROL PLAN**  
 Wind Turbine and Collector Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota









- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-2

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

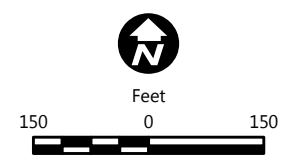
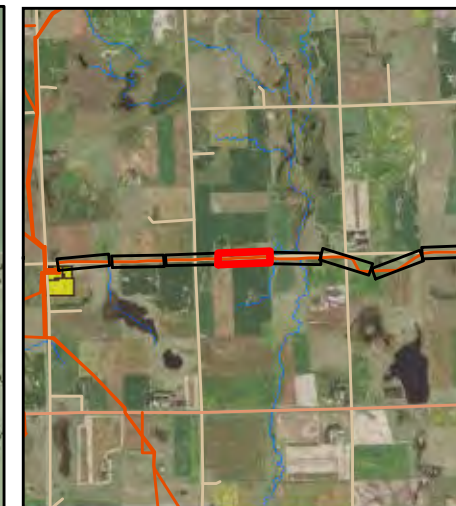


Figure 4-3

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

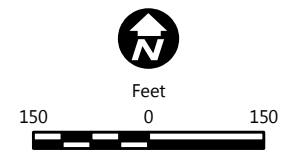
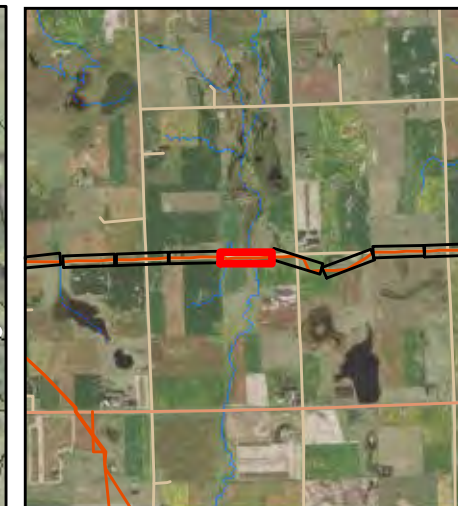









Figure 4-4

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Culvert
-  Transmission Line Structure
-  Transmission Line Alignment
-  Stream/River (USGS Dataset)
-  Ditch/Other (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

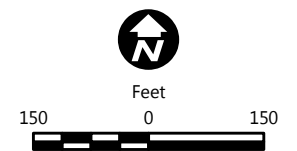


Figure 4-5

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-6

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-7

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm

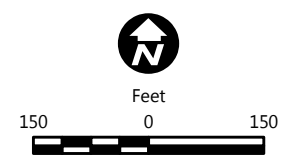


Figure 4-8

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





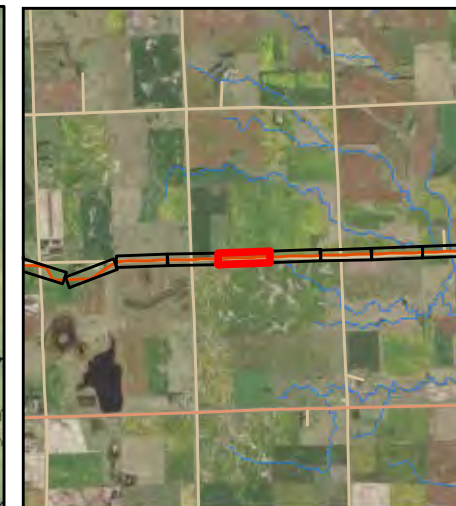
- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction



Figure 4-9

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





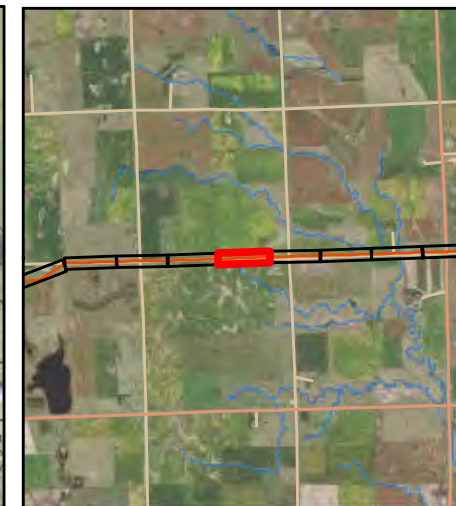
- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction



Figure 4-10

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction



Figure 4-11

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction

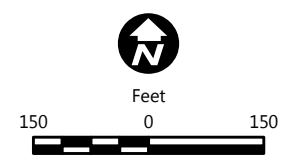
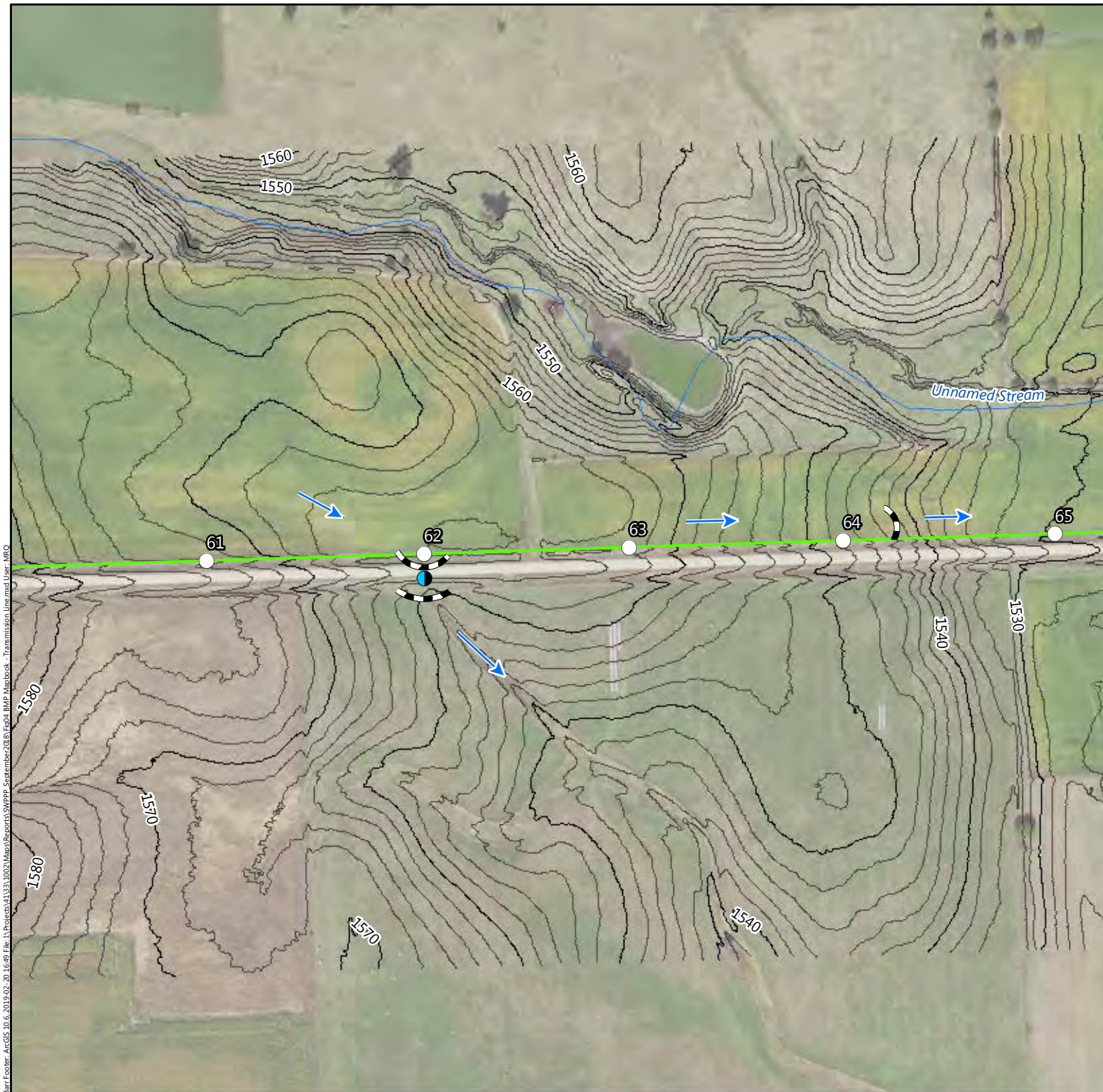


Figure 4-12

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





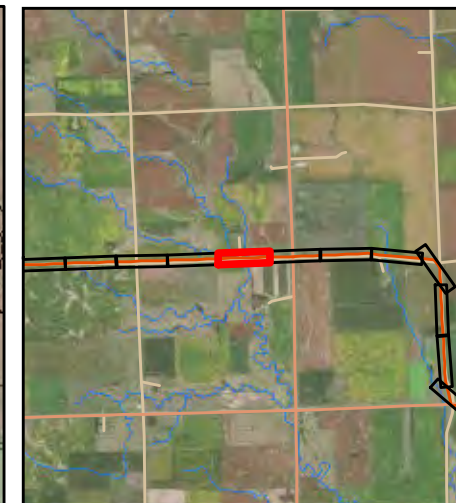
- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-13

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm



Feet

150 0 150

Figure 4-14

## EROSION CONTROL PLAN

Transmission Line

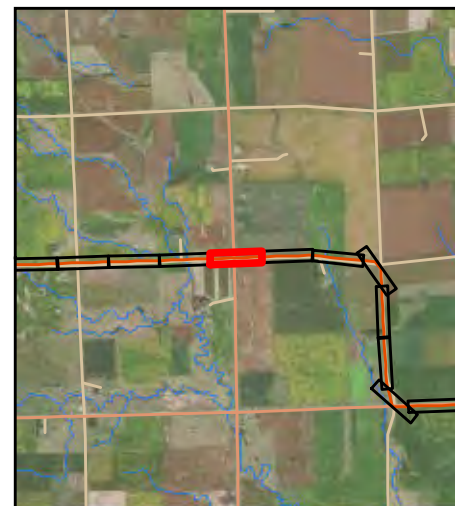
Prevailing Wind Project

Thorstad Companies

Charles Mix, Bon Homme, &

Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment

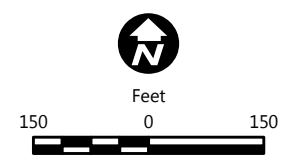
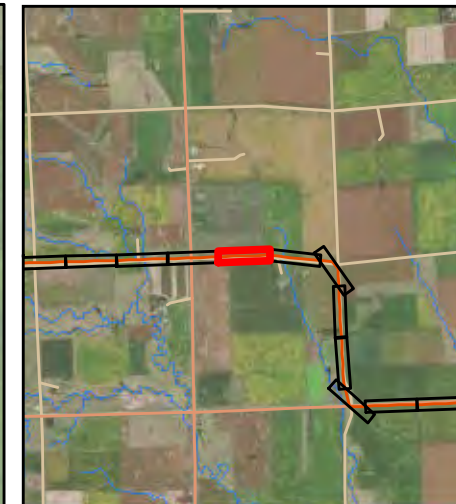


Figure 4-15

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





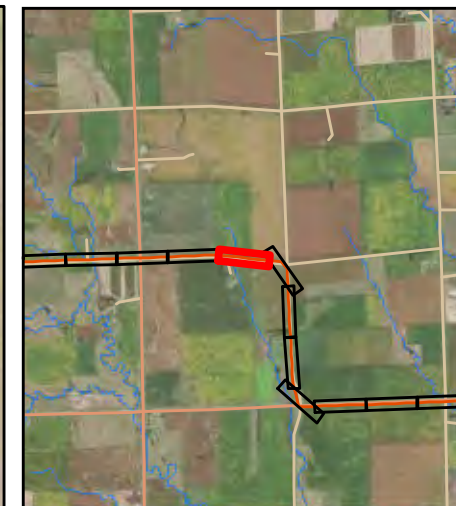
- Transmission Line Structure
- Transmission Line Alignment



Figure 4-16

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota











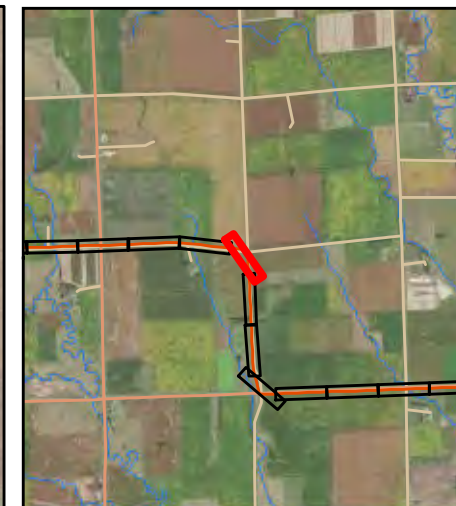
-  Culvert
-  Transmission Line Structure
-  Transmission Line Alignment
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-17

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





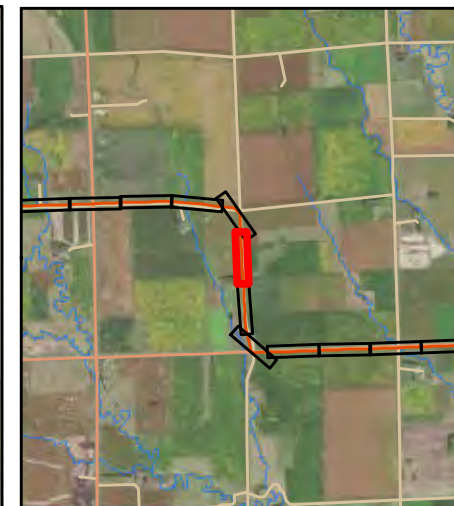
- Transmission Line Structure
- Transmission Line Alignment



Figure 4-18

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





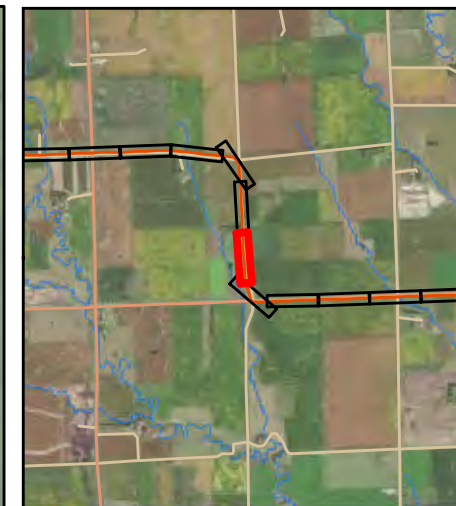
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)



Figure 4-19

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

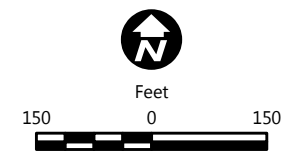
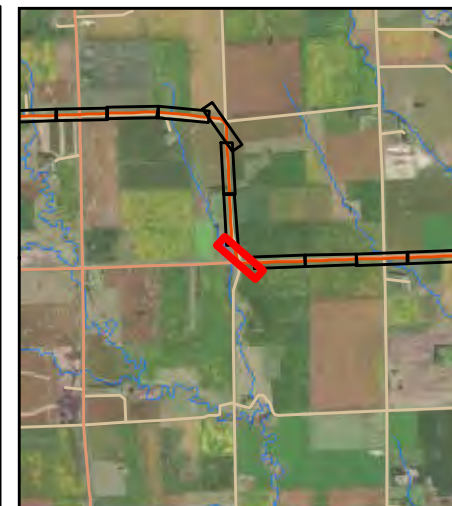
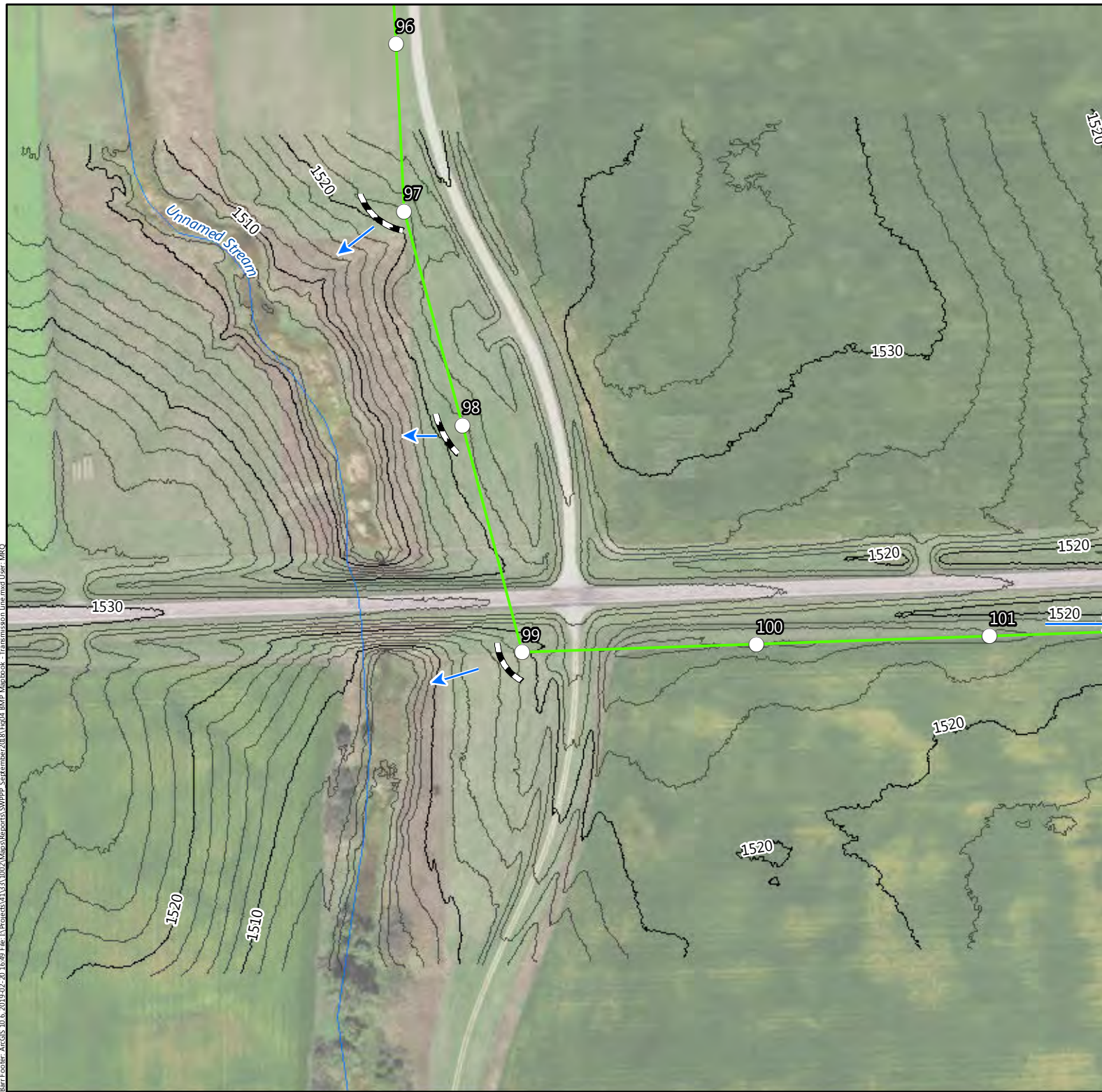


Figure 4-20

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





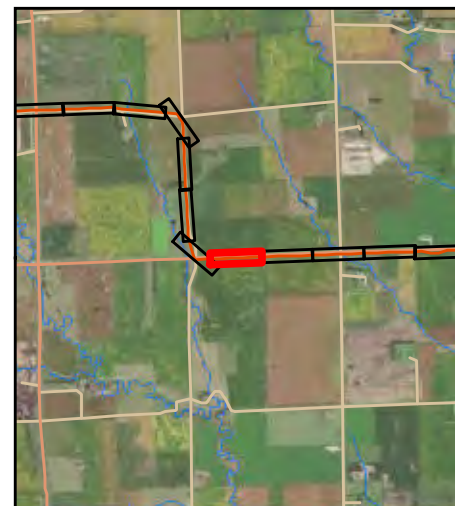
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-21

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

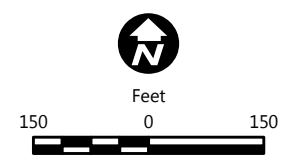
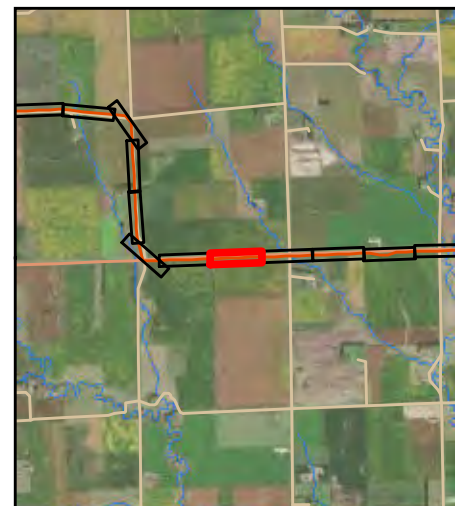


Figure 4-22

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

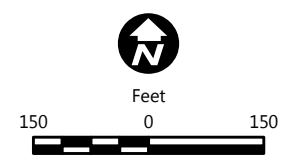
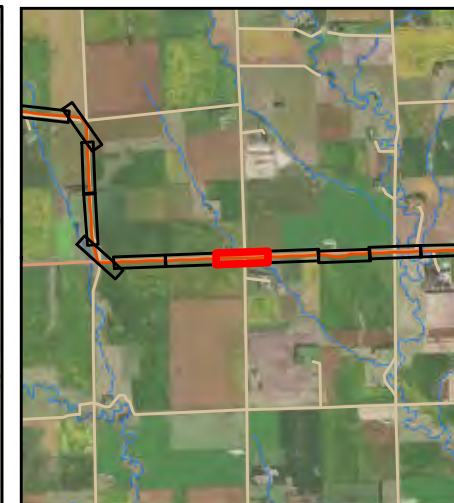


Figure 4-23

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-24

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ➔ Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

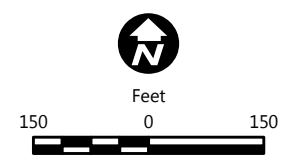


Figure 4-25

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

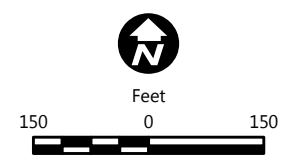
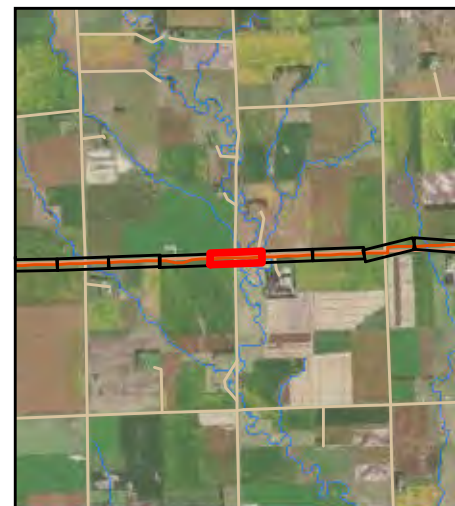
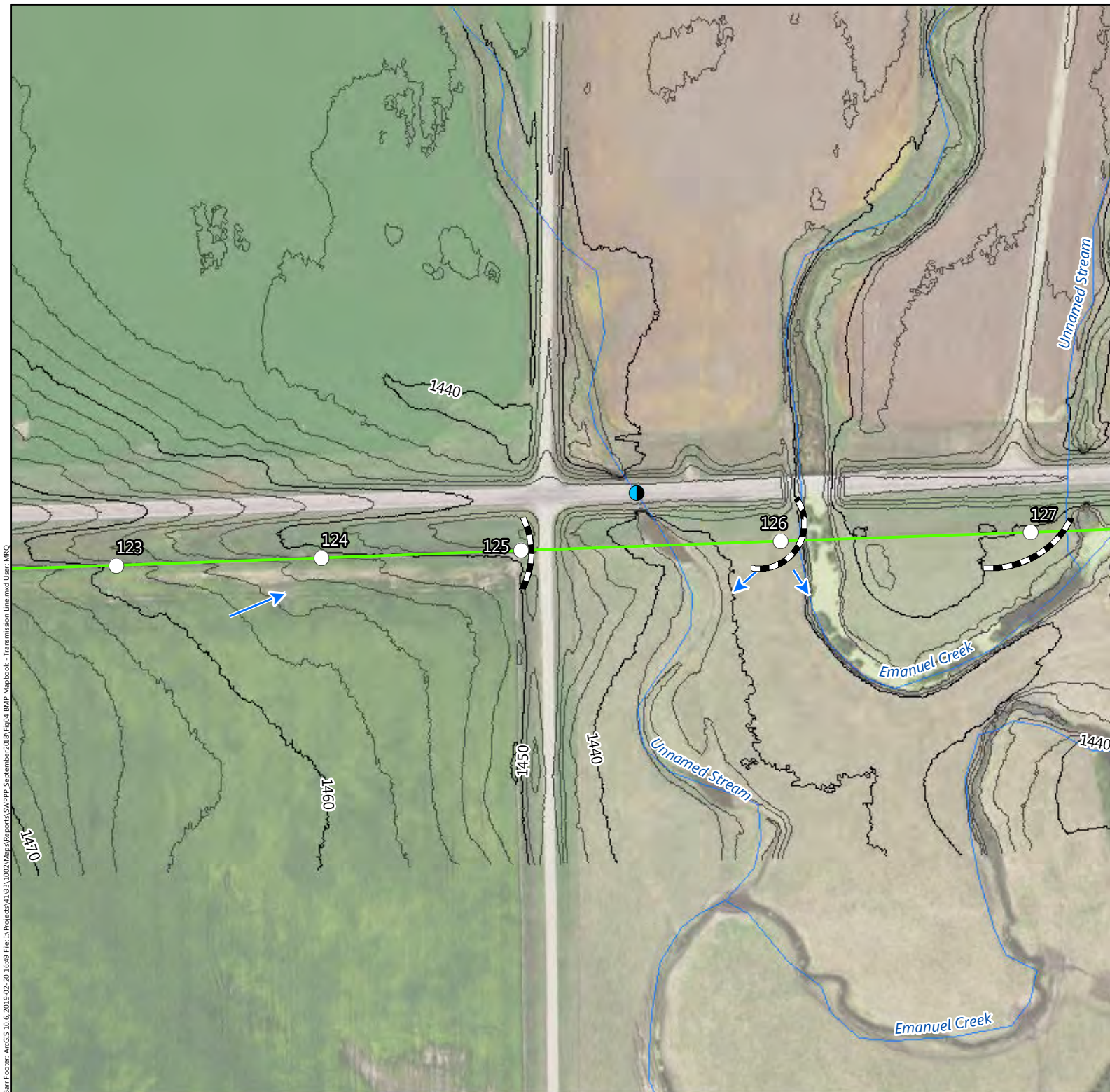


Figure 4-26

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

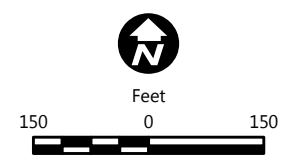
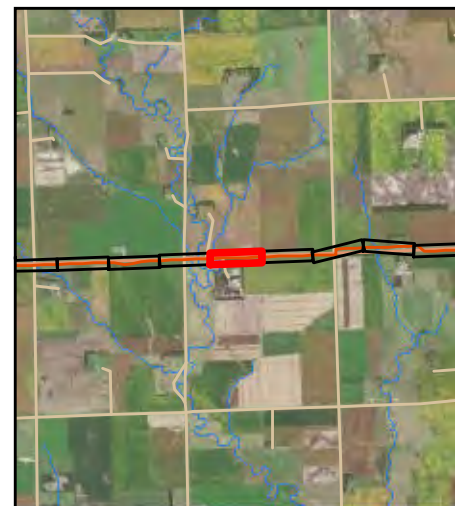


Figure 4-27

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

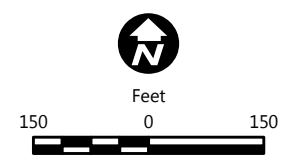


Figure 4-28

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

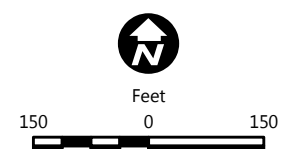
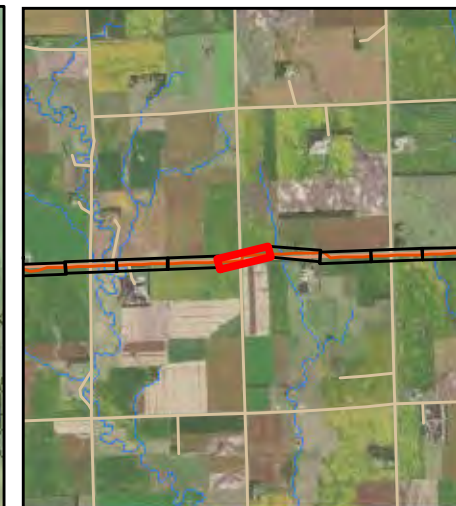


Figure 4-29

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- - - Sediment Logs, Silt Fence,
- - - Diversion Ditch, or Earthen Berm









Figure 4-30

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





-  Culvert
-  Transmission Line Structure
-  Transmission Line Alignment
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Feet

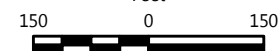


Figure 4-31

## EROSION CONTROL PLAN

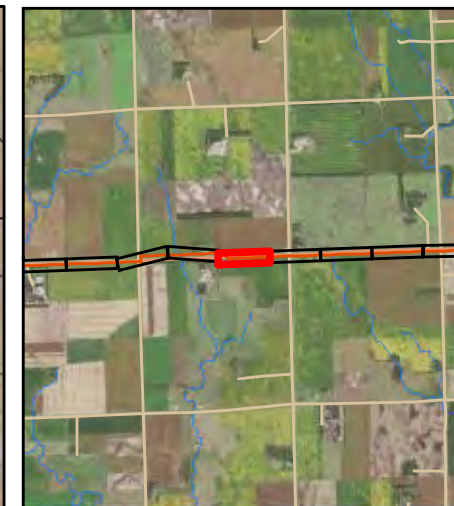
Transmission Line

Prevailing Wind Project

Thorstad Companies

Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





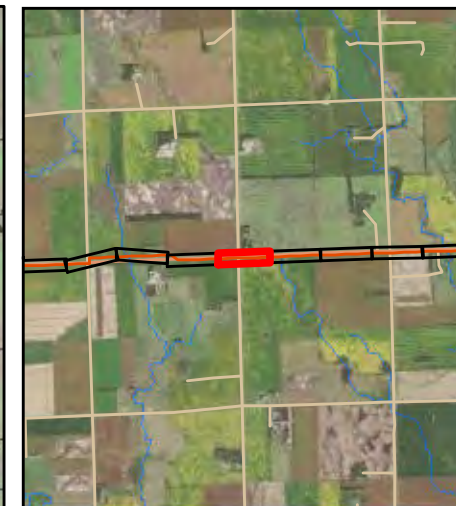
- Transmission Line Structure
- Transmission Line Alignment
- ➔ Flow Direction



Figure 4-32

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction



Figure 4-33

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- ~ Ditch/Other (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm

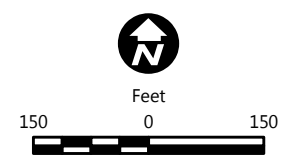
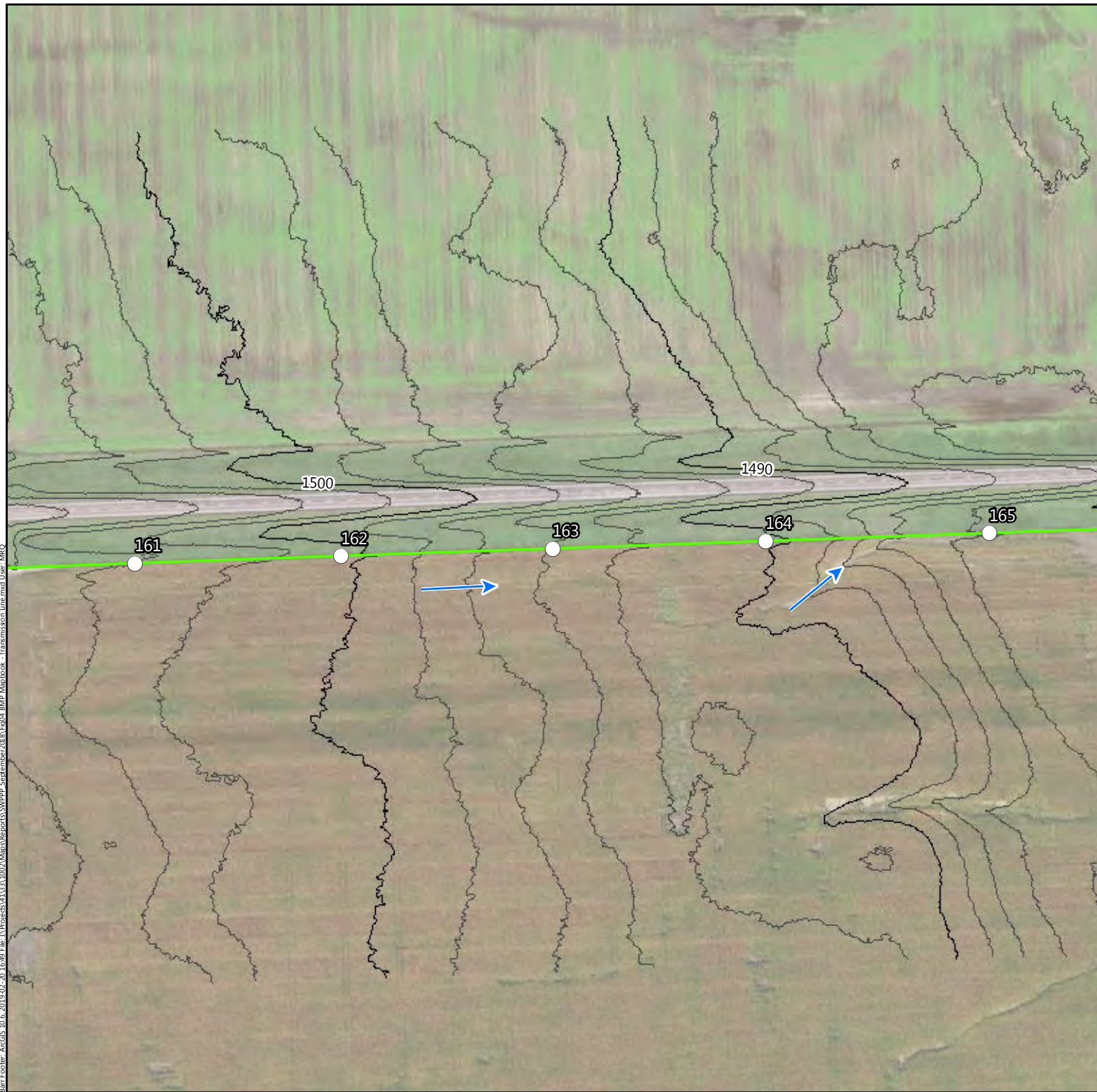


Figure 4-34

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

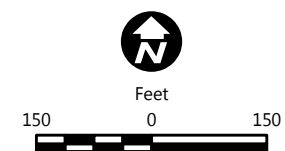


Figure 4-35

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction

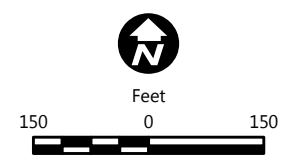


Figure 4-36

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

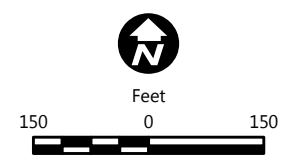


Figure 4-37

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- ✓ Transmission Line Alignment



Figure 4-38

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





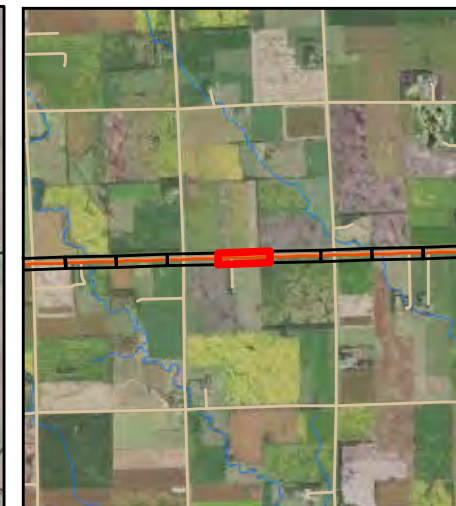
- Transmission Line Structure
- Transmission Line Alignment



Figure 4-39

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction



Feet

150 0 150

Figure 4-40

## EROSION CONTROL PLAN

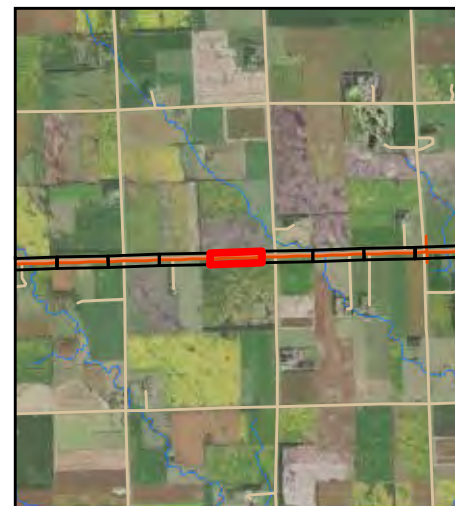
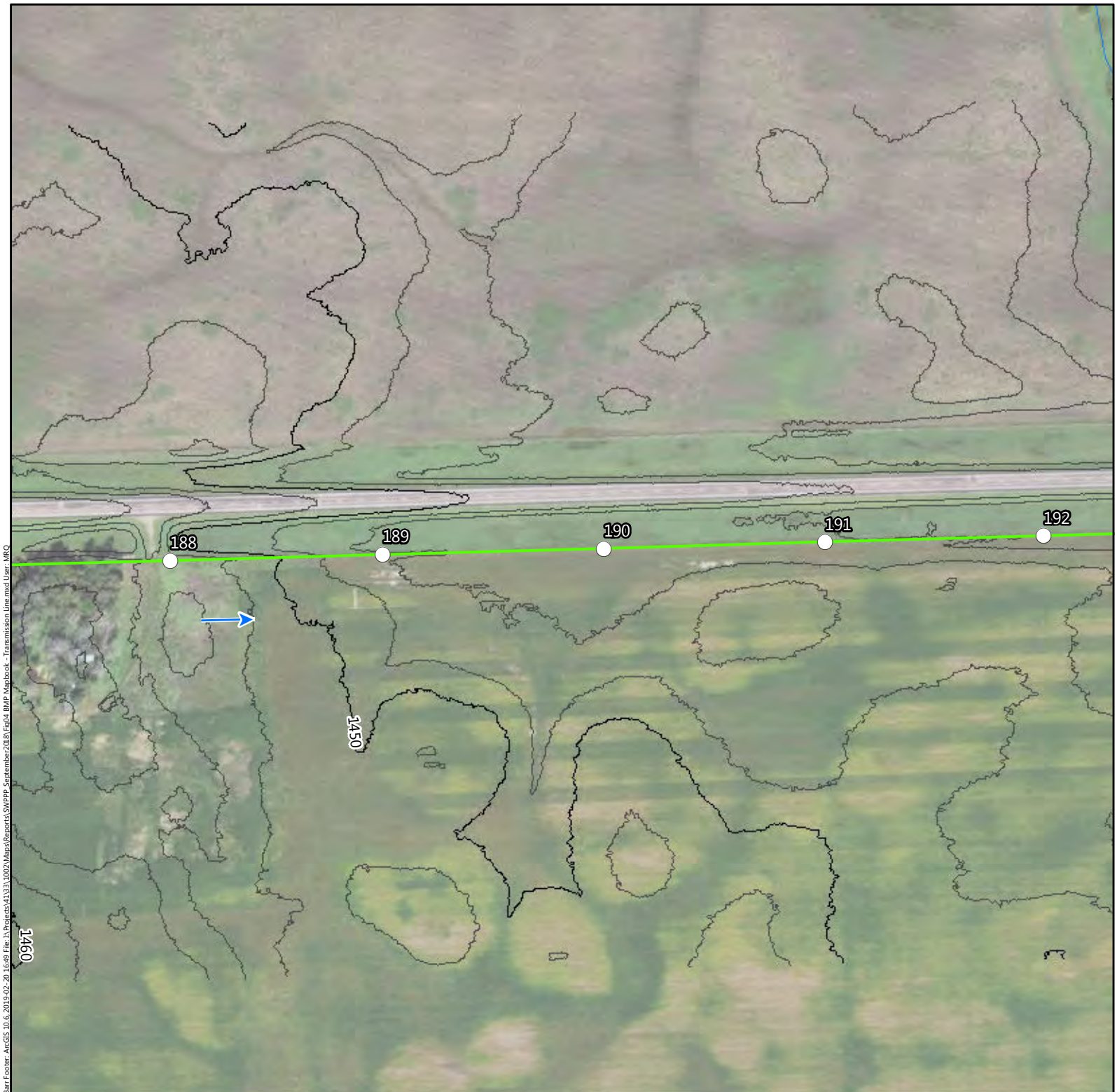
Transmission Line

Prevailing Wind Project

Thorstad Companies

Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction

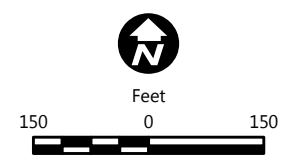


Figure 4-41

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Stream/River (USGS Dataset)



Figure 4-42

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- - - Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Feet  
150 0 150

Figure 4-43

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- ✓ Transmission Line Alignment

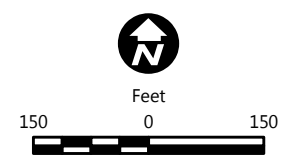


Figure 4-44

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota











-  Culvert
-  Transmission Line Structure
-  Transmission Line Alignment
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-45

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment



Figure 4-46

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ➔ Flow Direction

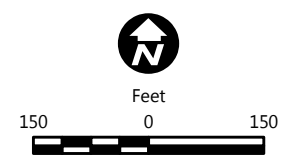


Figure 4-47

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- ✓ Transmission Line Alignment

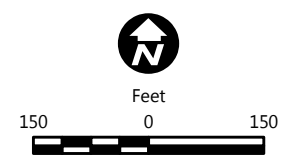
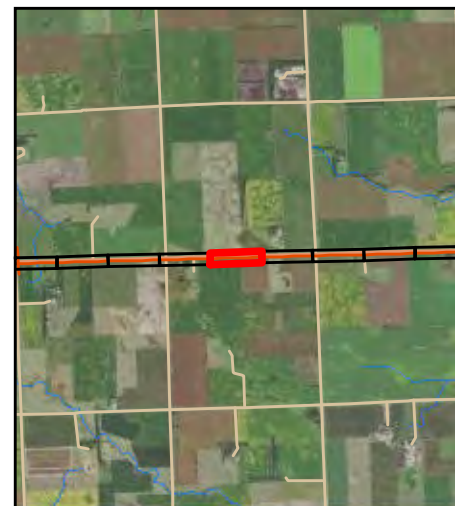


Figure 4-48

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

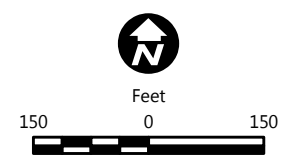


Figure 4-49

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment

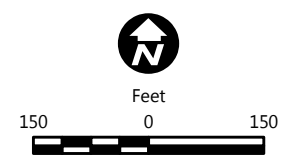


Figure 4-50

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- ✓ Transmission Line Alignment



Feet

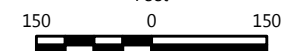


Figure 4-51

## EROSION CONTROL PLAN

Transmission Line

Prevailing Wind Project

Thorstad Companies

Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

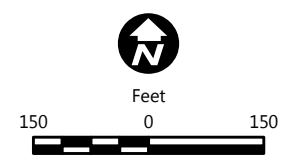


Figure 4-52

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- ✓ Transmission Line Alignment



Figure 4-53

## EROSION CONTROL PLAN

Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment

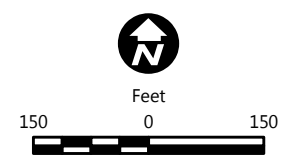


Figure 4-54

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

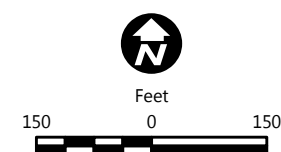


Figure 4-55

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota











-  Culvert
-  Transmission Line Structure
-  Transmission Line Alignment
-  Stream/River (USGS Dataset)
-  Flow Direction
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-56

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- ✓ Transmission Line Alignment



Figure 4-57

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Feet

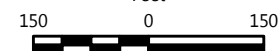


Figure 4-58

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-59

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

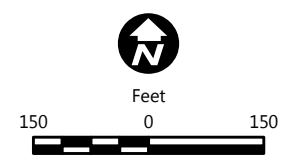


Figure 4-60

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-61

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction



Feet



Figure 4-62

## EROSION CONTROL PLAN

Transmission Line

Prevailing Wind Project

Thorstad Companies

Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment

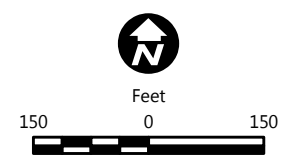


Figure 4-63

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

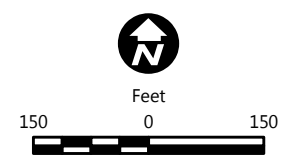







Figure 4-64

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





-  Culvert
-  Transmission Line Structure
-  Transmission Line Alignment
-  Stream/River (USGS Dataset)
-  Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

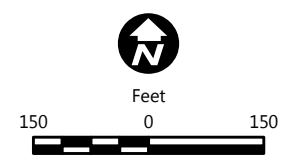


Figure 4-65

# **EROSION CONTROL PLAN**

Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment

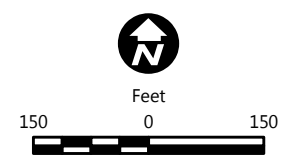


Figure 4-66

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

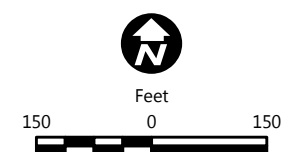


Figure 4-67

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





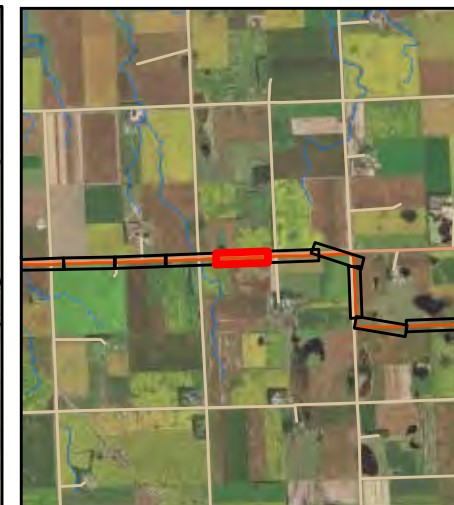
- Culvert
- Transmission Line Structure
- Transmission Line Alignment
- Stream/River (USGS Dataset)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-68

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





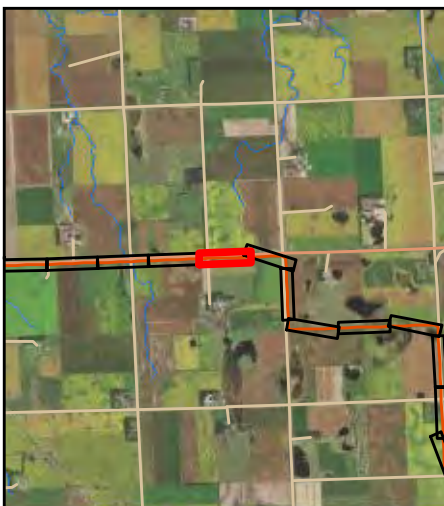
- Transmission Line Structure
- Transmission Line Alignment
- ~ Stream/River (USGS Dataset)



Figure 4-69

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- ✓ Transmission Line Alignment

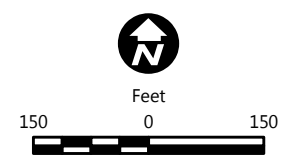
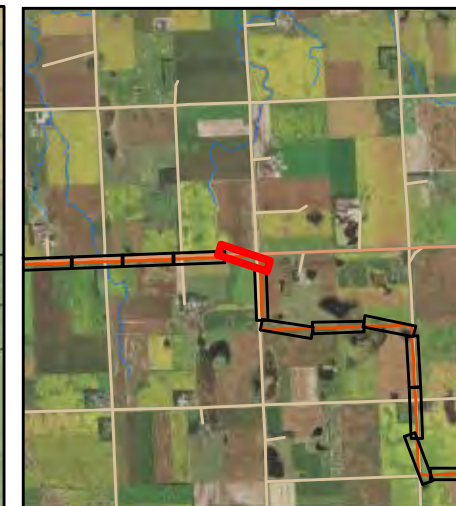


Figure 4-70

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





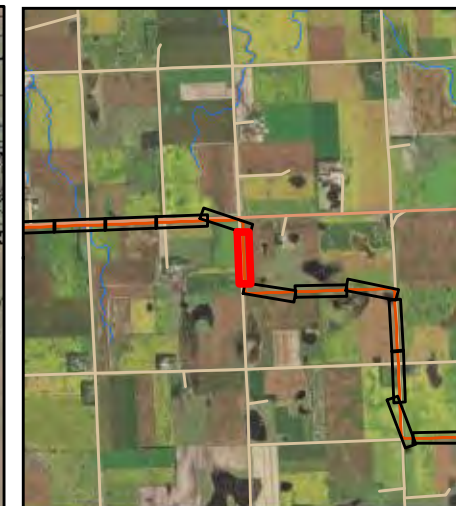
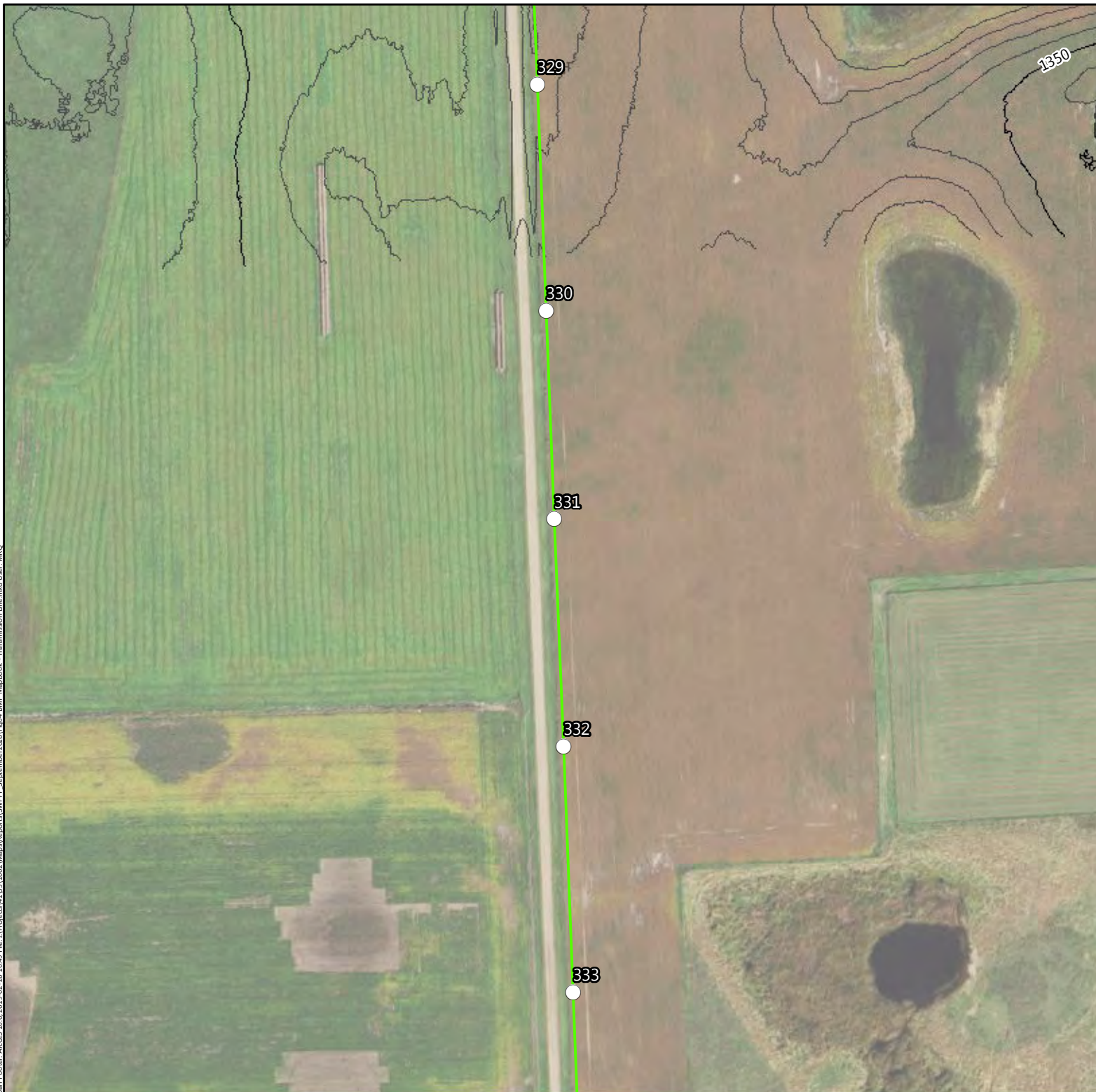
- Transmission Line Structure
- Transmission Line Alignment



Figure 4-71

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





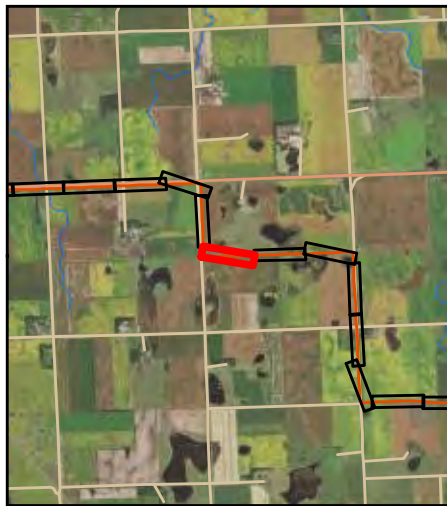
- Transmission Line Structure
- Transmission Line Alignment



Figure 4-72

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





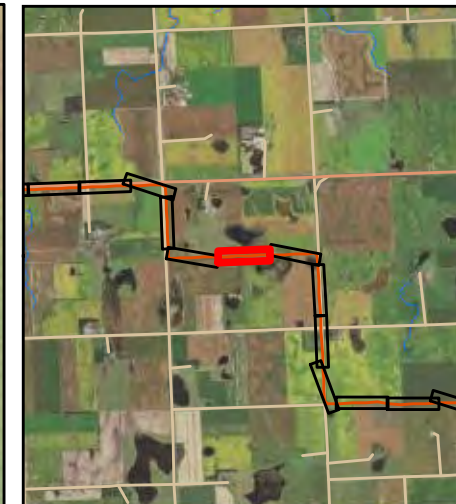
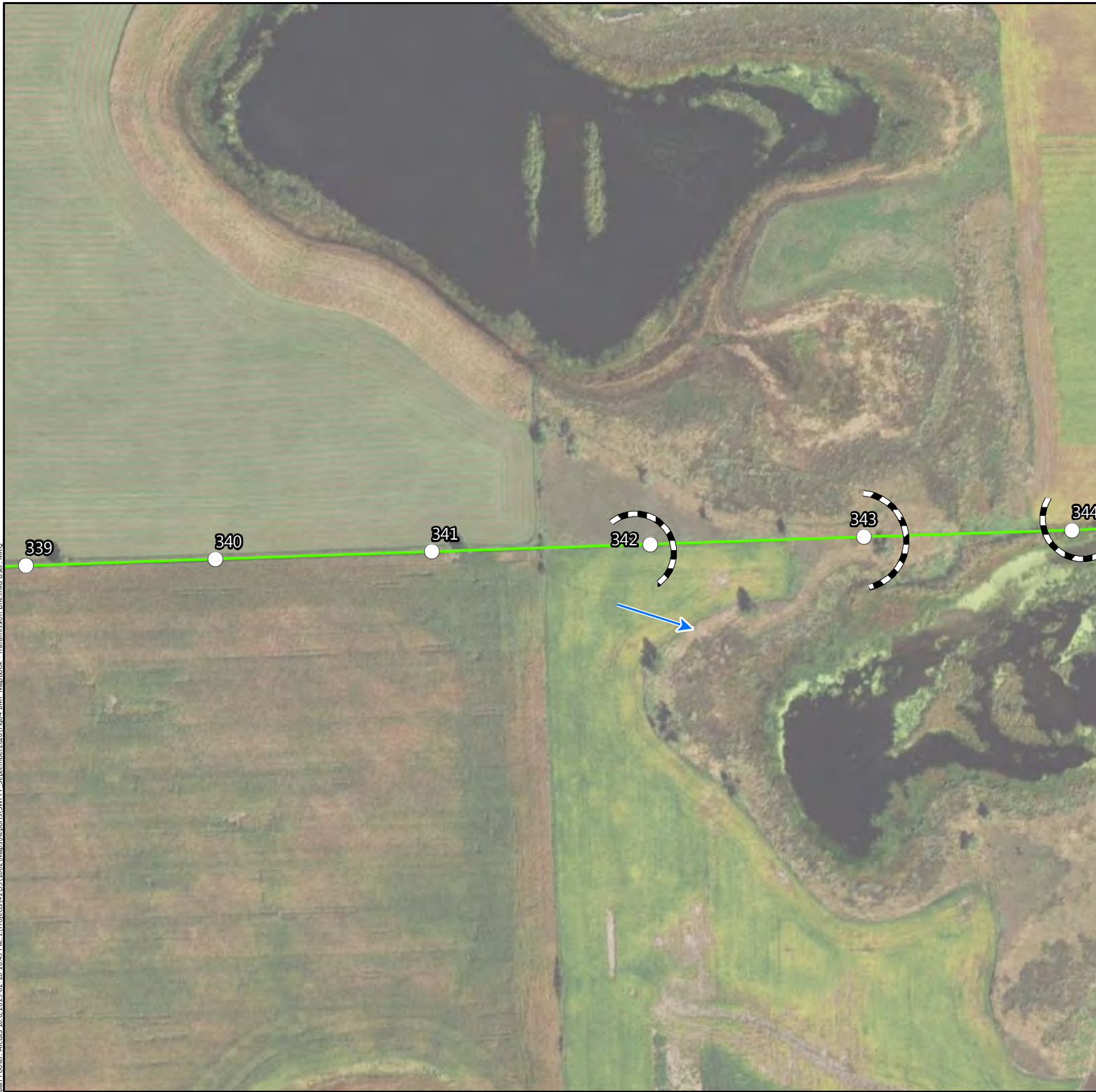
- Transmission Line Structure
- Transmission Line Alignment



Figure 4-73

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





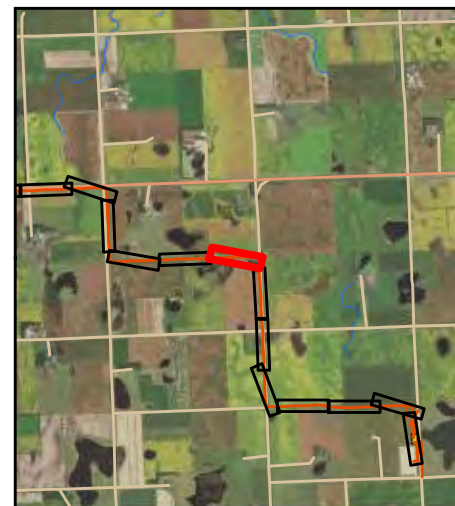
- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm



Figure 4-74

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

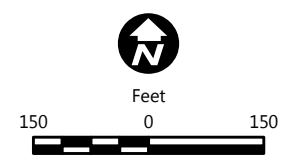
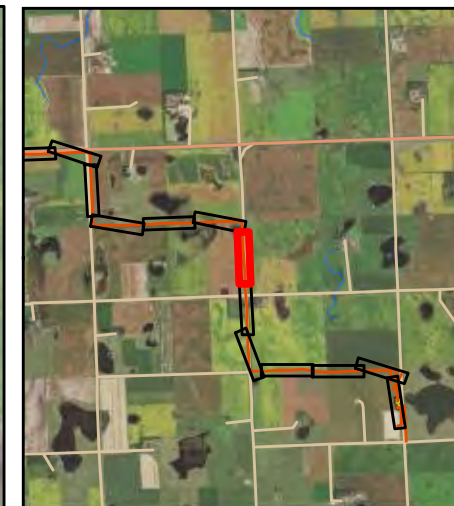
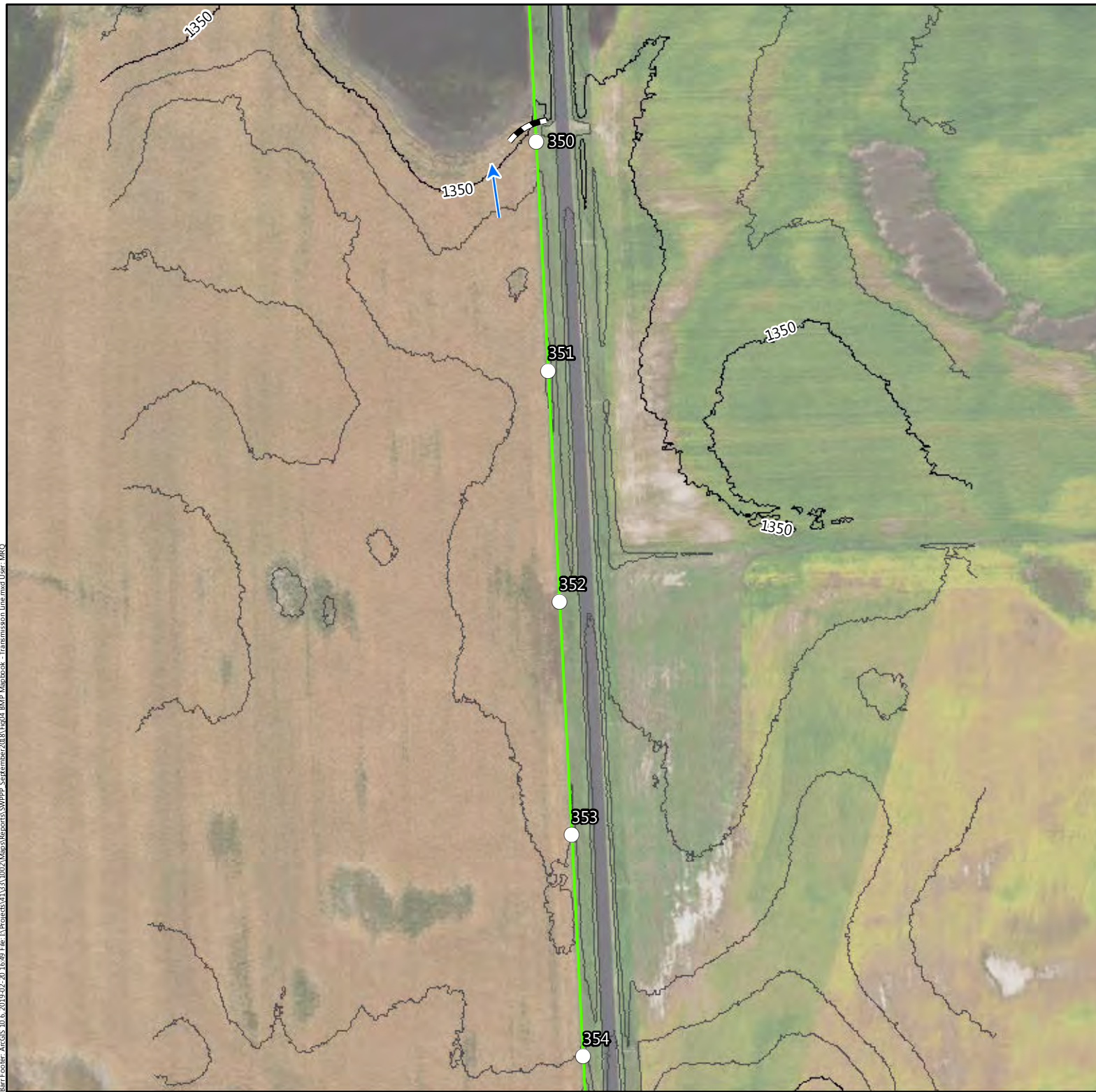


Figure 4-75

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

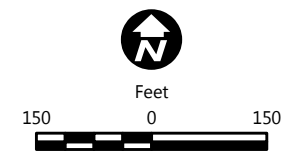
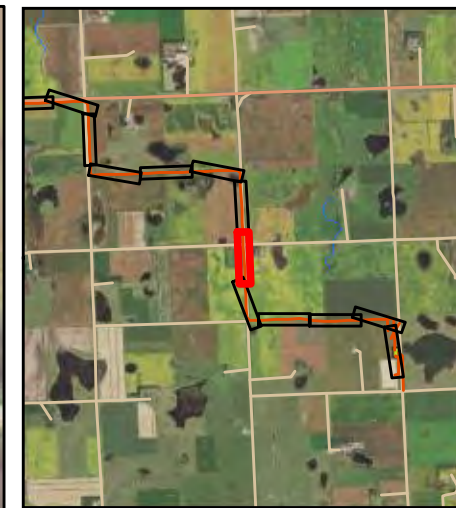


Figure 4-76

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

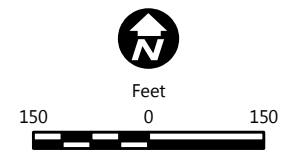
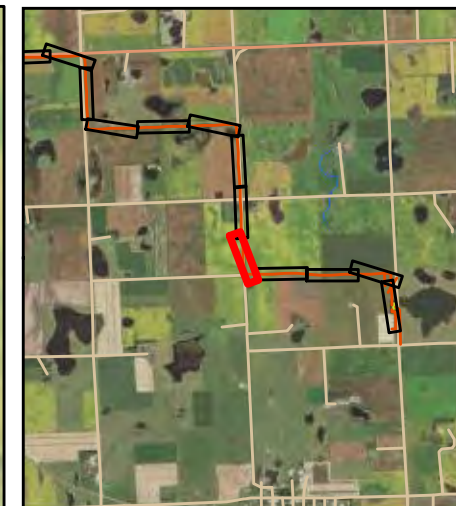


Figure 4-77

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction

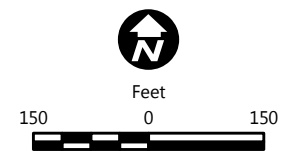
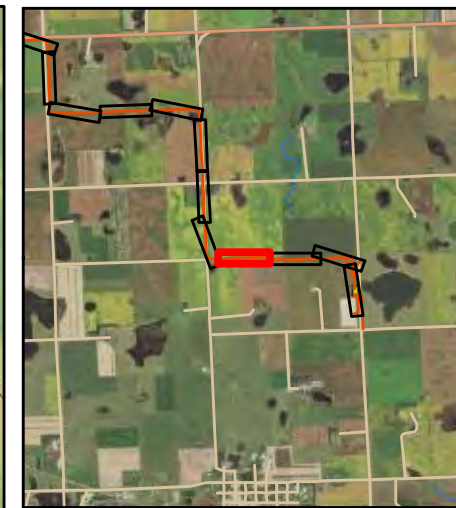
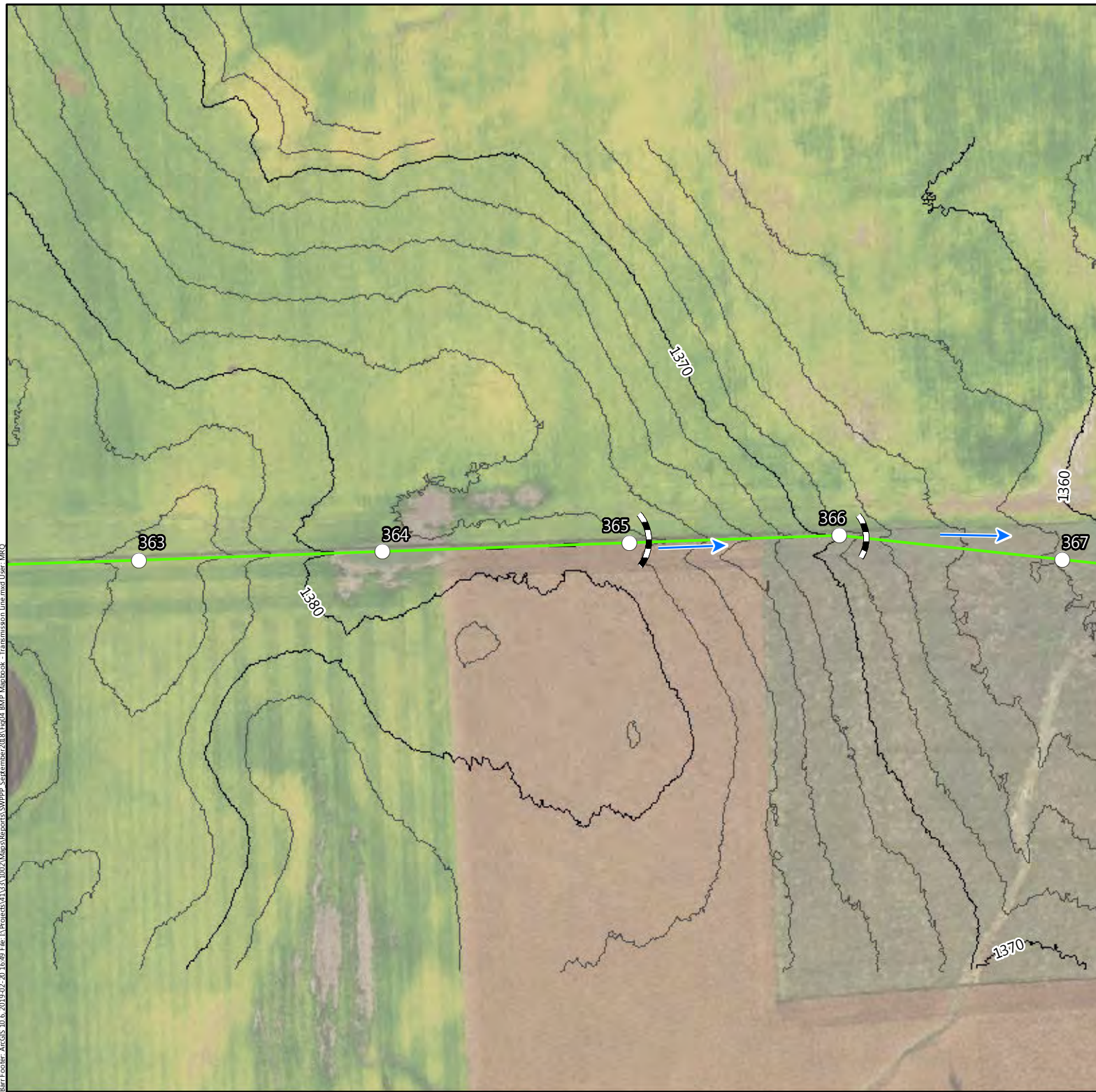


Figure 4-78

**EROSION CONTROL PLAN**  
Transmission Line  
Prevailing Wind Project  
Thorstad Companies  
Charles Mix, Bon Homme, &  
Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence,
- Diversion Ditch, or Earthen Berm

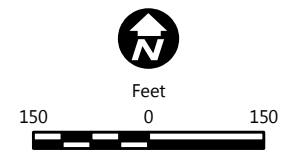
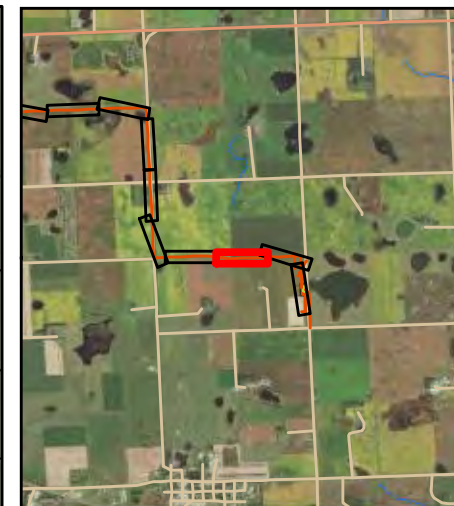


Figure 4-79

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction



Feet

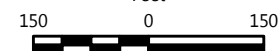


Figure 4-80

## EROSION CONTROL PLAN

Transmission Line

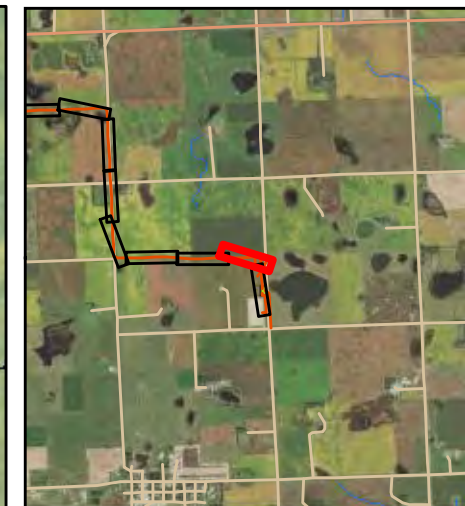
Prevailing Wind Project

Thorstad Companies

Charles Mix, Bon Homme, &

Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

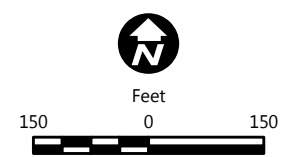
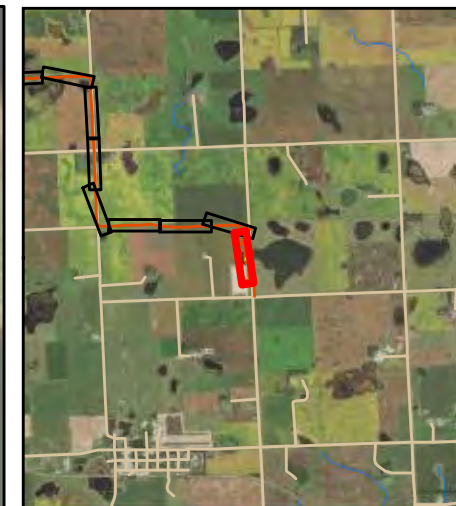


Figure 4-81

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- Transmission Line Structure
- Transmission Line Alignment
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm

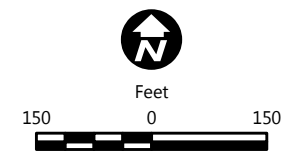
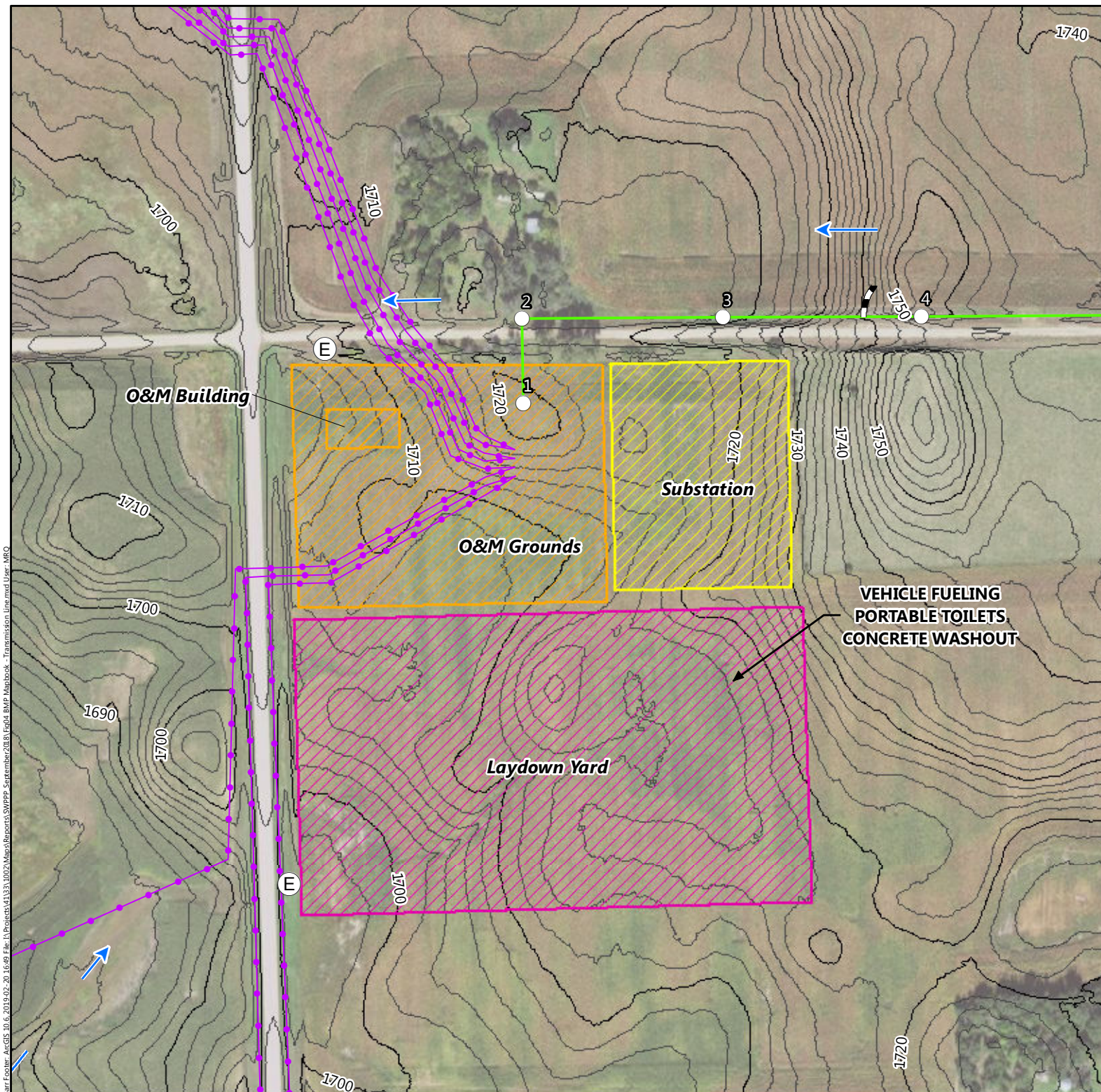


Figure 4-82

**EROSION CONTROL PLAN**  
 Transmission Line  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota





- (E) Construction Entrance BMP
- Transmission Line Structure
- Transmission Line Alignment
- Collector Lines (8/14/2018)
- Flow Direction
- Sediment Logs, Silt Fence, Diversion Ditch, or Earthen Berm
- ▨ Laydown Yard
- ▨ O&M Grounds; O&M Building
- ▨ Substation

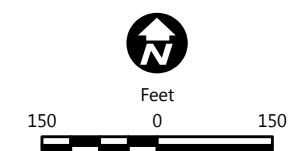


Figure 5

**EROSION CONTROL PLAN**  
 Substation, Laydown Yard,  
 and O&M Building  
 Prevailing Wind Project  
 Thorstad Companies  
 Charles Mix, Bon Homme, &  
 Hutchinson Counties, South Dakota



## **Appendix A**

### **South Dakota NPDES/SDS Construction Stormwater General Permit (NPDES/SDS Permit No. SDR100000)**



**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.*



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**Appendix A – Notice of Intent (NOI) Form**

**Appendix B – Notice of Termination (NOT) Form**

**Appendix C – Contractor Authorization Form**

**Appendix D – Transfer of Permit Coverage Form**

**Appendix E – Notice of Intent for Reauthorization Form**

**Appendix F – Two-year, Twenty-four Hour Precipitation Event Map**



## 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](mailto: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](mailto: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 1<sup>st</sup> 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](mailto: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 personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware 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](mailto: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 contractor certification form may be submitted after they have been identified, but before they begin 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 websites:

<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.

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**VII. Nature of Discharge:**

Please include a brief description of the construction project:

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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.

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**STATE OF SOUTH DAKOTA**

**BEFORE THE SECRETARY OF**

**THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**

**IN THE MATTER OF THE  
APPLICATION OF**

**STATE OF**

**COUNTY OF**

**CERTIFICATION OF**

**APPLICANT**

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](mailto: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](mailto: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](mailto: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](mailto: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 officer 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: \_\_\_\_\_

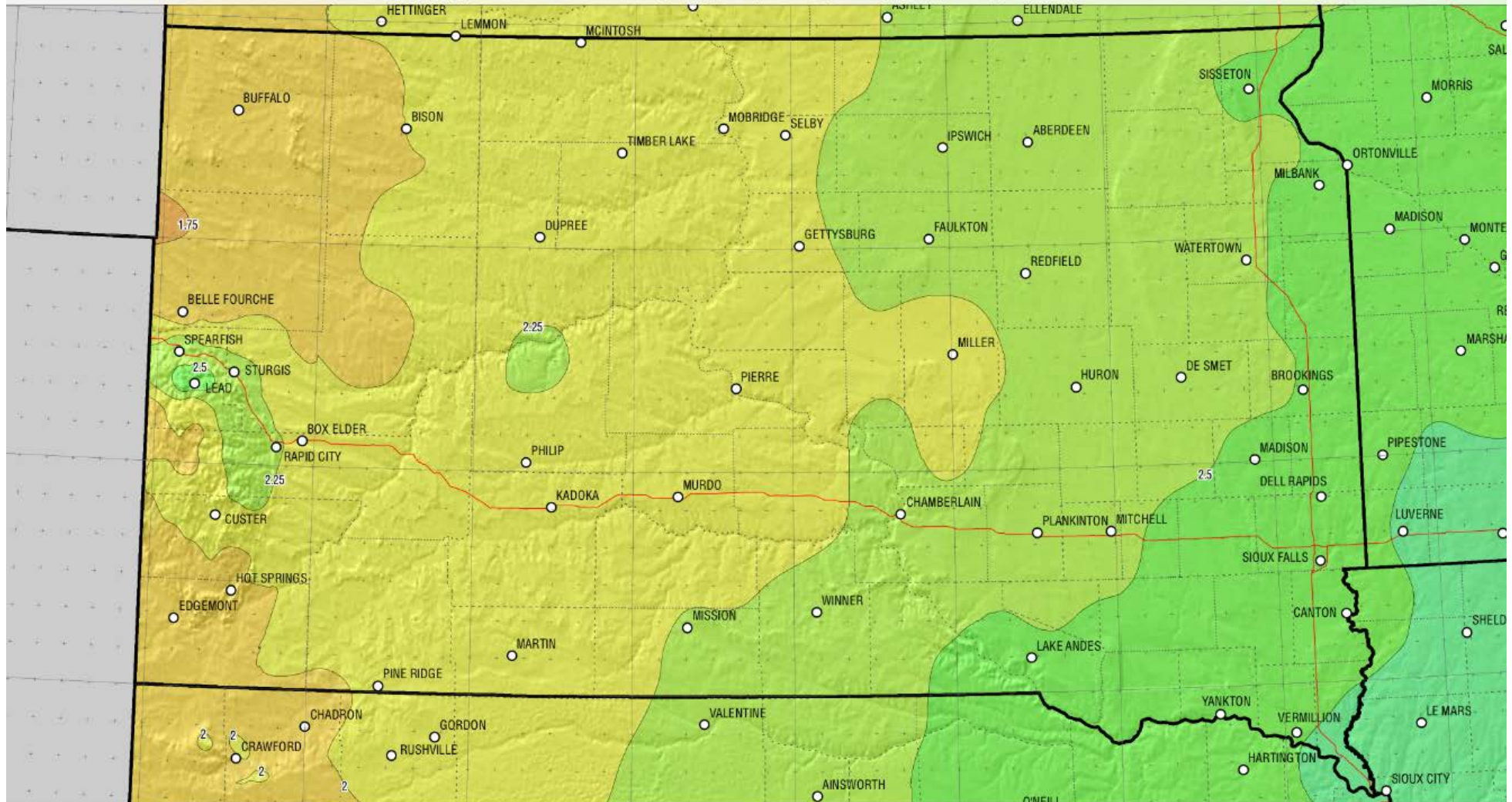


## **Appendix F**

### **TWO YEAR, TWENTY-FOUR HOUR PRECIPITATION EVENT MAP**



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



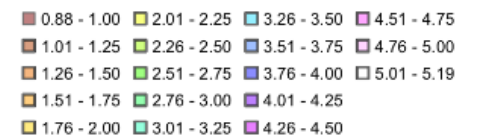
NOAA Atlas 14, Volume 8, Version 2  
Midwestern States

SOUTH DAKOTA

2-year 24-hour precipitation in inches



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



Legend based on actual Volume 8 project area



## **Appendix B**

### **SDDENR Authorization Letter**



## **Appendix C**

### **Construction Schedule**



This page is a placeholder. The project has a Gantt Chart that will be updated once all permits are issued and contractor start date is finalized.



## **Appendix D**

### **Erosion Prevention and Sediment Control BMP Design**





CATCHING SEDIMENT ON THE GO, ENABLING CLEAN WATER TO FLOW



## **The Pump-It Tube™**

The Pump-It Tube is ideal for removing sediment when dewatering collection ponds, sumps, and more.

- Attaches easily to pipes and hoses with a Velcro strip (included), simple pipe clamp or heavy zip tie (not included)
- High Flow Grey Material allows 192 gal/ft<sup>2</sup>/min
- Reusable-After use; clean by spraying out sediment
- Also available in custom sizes depending on amount of discharge
- High strength stitching to minimize high pressure blowouts
- Velcro handles sewn along the length of tube to aide in mobility
- Includes inside strap for Bio-Star floc pouches

## **The Pumpit Tube™ Specifications**

Minimum Average Fabric Values

### **Properties**

Mass per Unit Area (oz/yd<sup>2</sup>)

Grab Tensile Strength, MD x CD (lbs)

Grab Elongation, MD x CD (%)

Trapezoid Tear, MD x CD (lbs)

Puncture (lbs)

Burst Strength (psi)

Permittivity (sec-1)

A.O.S. (U.S. sieve – (mm)

Water Flow Rate (gpm/ft<sup>2</sup>)

### **ASTM TEST**

D-3776

D 4632

D 4632

D 4533

D 4833

D 3786

D 4491

D 4751

D-4491

### **Value**

5.2

297 x 223

58 / 59

81 x 75

99

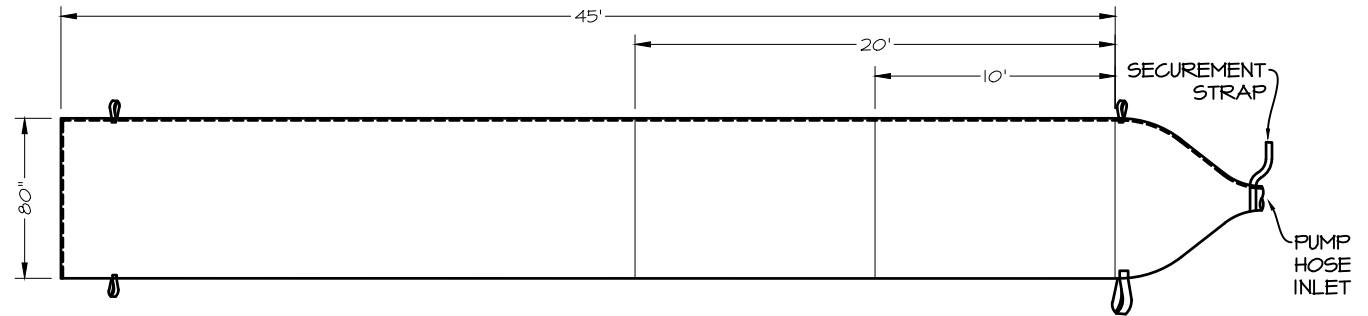
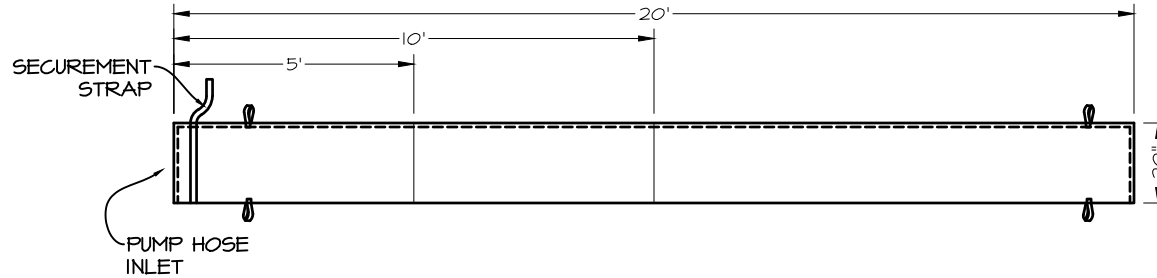
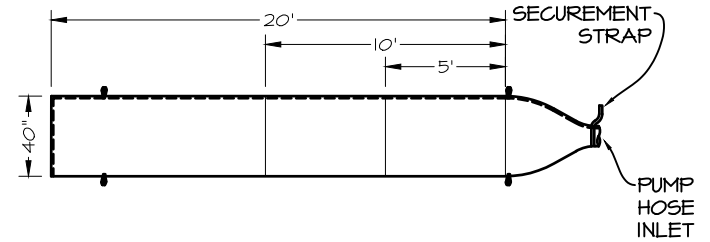
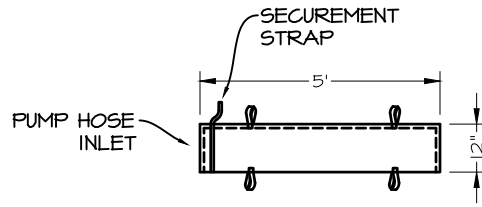
340

2.60

60

192





## FLO-WATER SPECIFICATION

(EXCLUDING MAXXFLO)

PROPERTIES	ASTM TEST	VALUE
MASS PER UNIT AREA (OZ/YD <sup>2</sup> )	D 3776	5.20
GRAB TENSILE STRENGTH, MDxCD (lbs)	D 4632	297x223
GRAB ELONGATION, MDxCD (%)	D 4632	58 / 59
TRAPEZOID TEAR, MDxCD (lbs)	D 4533	81 x 75
PUNCTURE (lbs)	D 4833	99
BURST STRENGTH (psi)	D 3786	340
PERMITTIVITY (sec-1)	D 4491	2.60
A.O.S. (U.S. SIEVE - [MM])	D 4751	60
WATER FLOW RATE (gpm/ft <sup>2</sup> )	D 4491	192
FILTERING EFFICIENCY (%)	D 5141	91.60

\* UNDER NORMAL CIRCUMSTANCES

### PUMP-IT TUBE™ SIZING:

80" x 10'    40" x 05'    20" x 05'    12" x 05'

80" x 20'    40" x 10'    20" x 10'


80" x 45'    40" x 20'    20" x 20'

20' x 20'    30' x 30'    30' x 45'

CUSTOM SIZING AVAILABLE

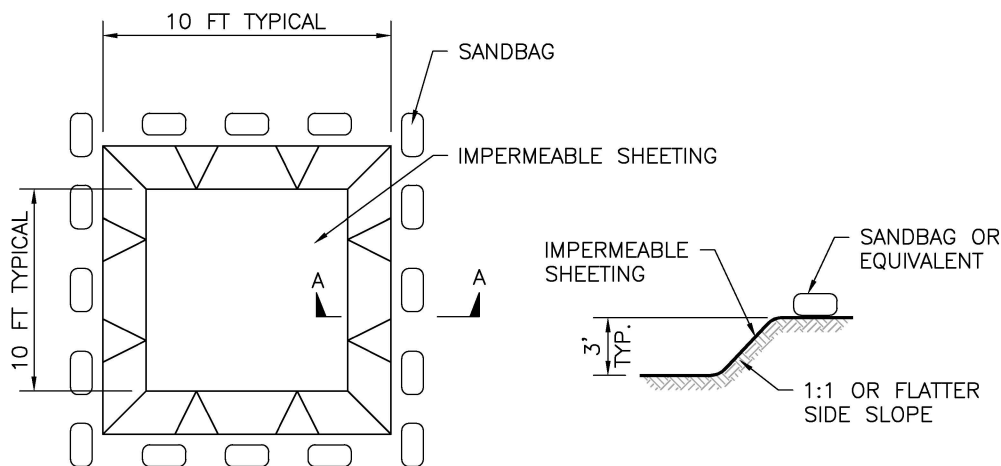
### INSTALLATION INSTRUCTIONS:

1. ATTACH PUMP-IT TUBE TO PUMP HOSE, DO NOT ATTACH DIRECTLY TO PUMP.

	DRAWING: 05-15-2017	FLO-WATER 308 33RD STREET WEST DES MOINES, IA 50265 PH: 515-577-6763 WEB SITE: FLO-WATER.NET EMAIL: CORYDON@FLO-WATER.NET
	REVISED:	
CAPTURING SEDIMENT ON THE GO, ENABLING CLEAN WATER TO FLOW		
TITLE PUMP-IT TUBE™ DEWATERING BAGS		REV. A
		SHEET 1 OF 1

SHEET 1 OF 1





#### NOTES:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.



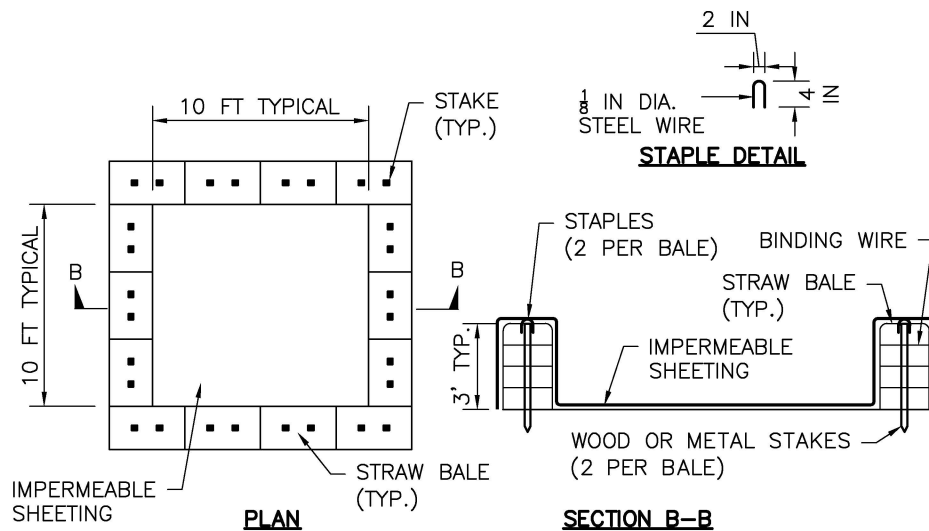
#### DETAIL: CONCRETE WASHOUT – EXCAVATED STRUCTURE

NOT TO SCALE



EROSION CONTROL DETAIL  
CONCRETE WASHOUT  
EXCAVATED STRUCTURE  
UPDATED: 12/22/14 BY PEB





CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

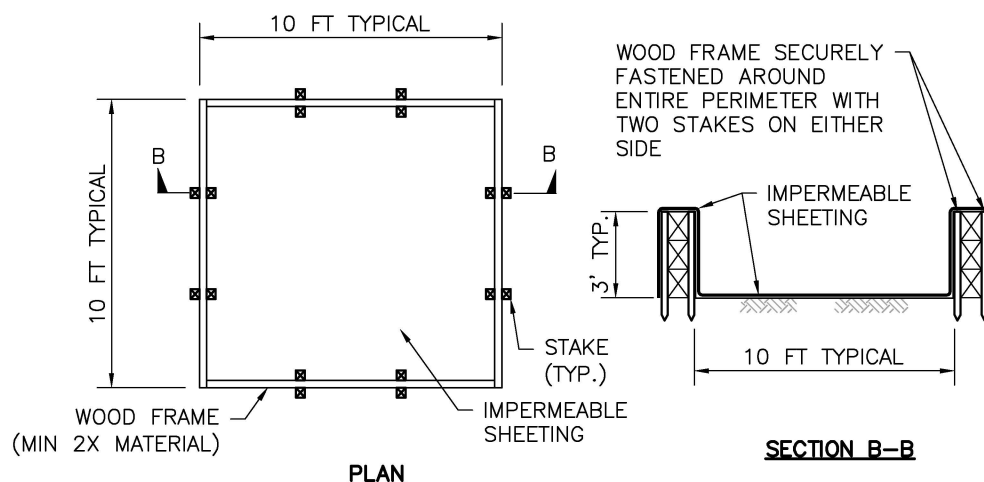
#### NOTES:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.



DETAIL: CONCRETE WASHOUT - STRUCTURE WITH STRAW BALES  
NOT TO SCALE





**NOTES:**

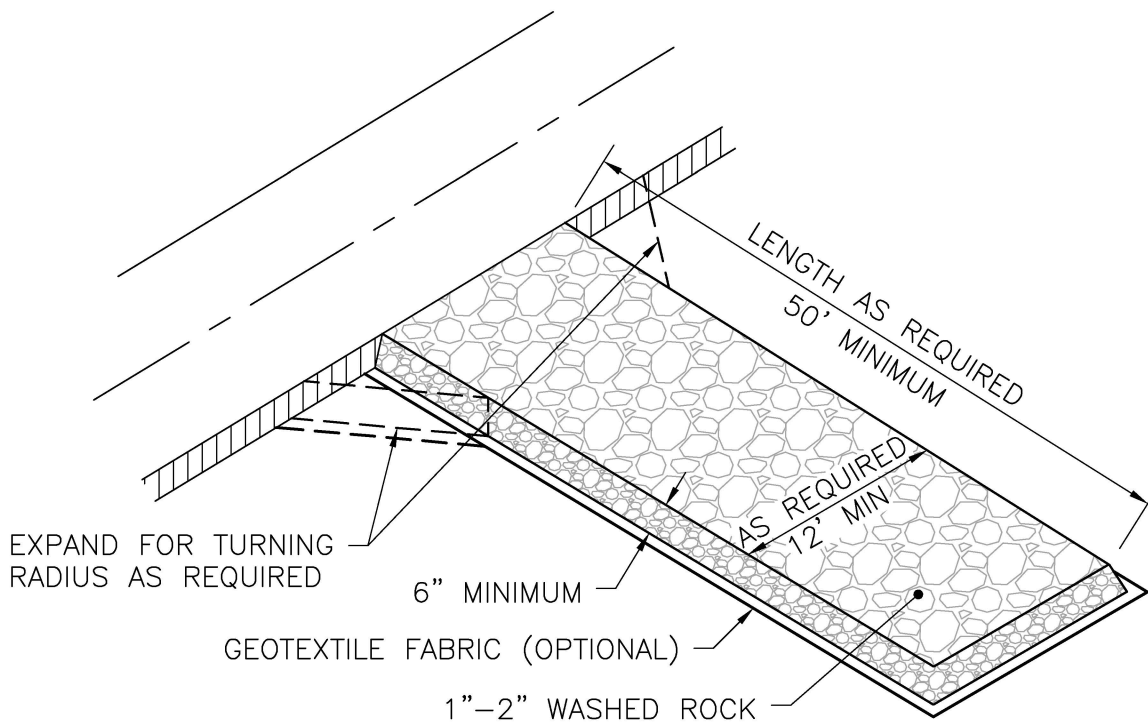
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.



**DETAIL: CONCRETE WASHOUT – STRUCTURE WITH WOOD PLANKS**

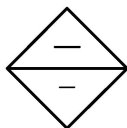
NOT TO SCALE





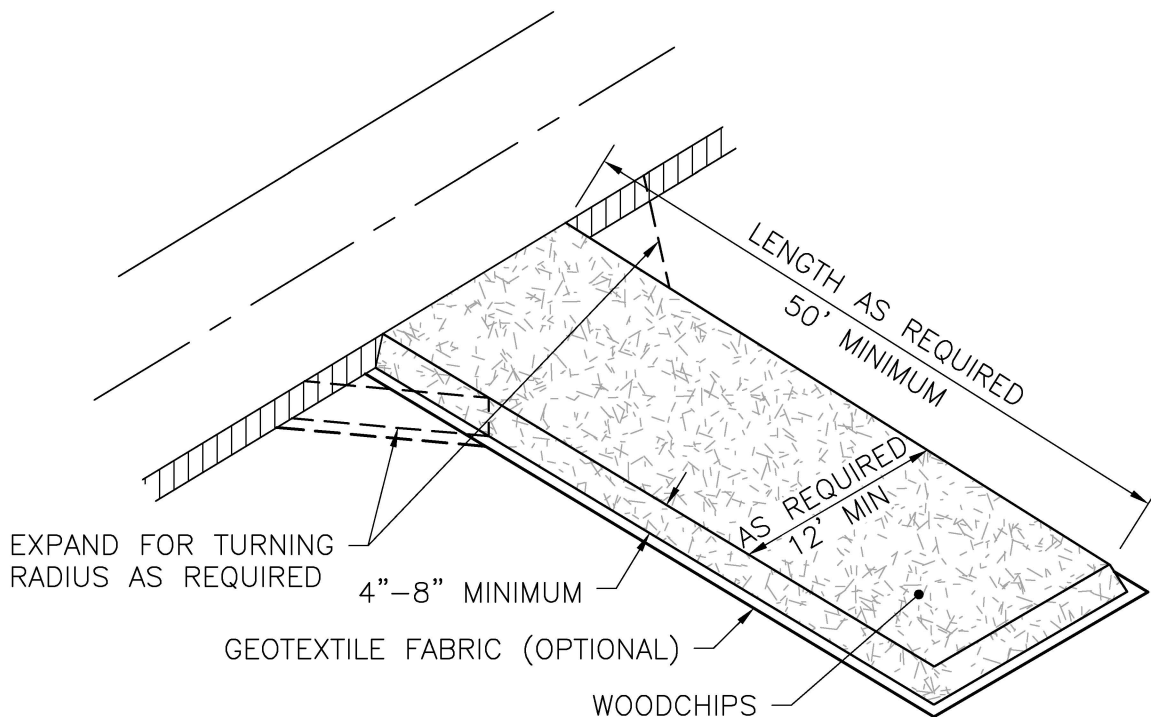
NOTES:

1. ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED TO PREVENT TRACKING OFFSITE.
2. ENTRANCE SHALL BE REMOVED IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.



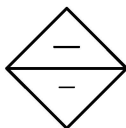
**DETAIL: CONSTRUCTION ENTRANCE – ROCK**  
NOT TO SCALE





NOTES:

1. ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED TO PREVENT TRACKING OFFSITE.
2. ENTRANCE SHALL BE REMOVED IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.



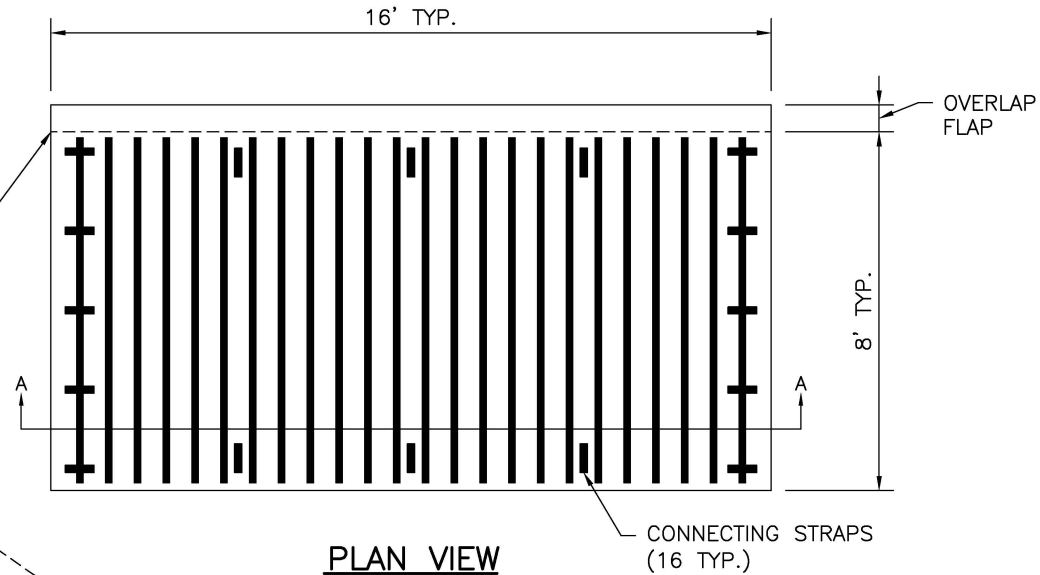
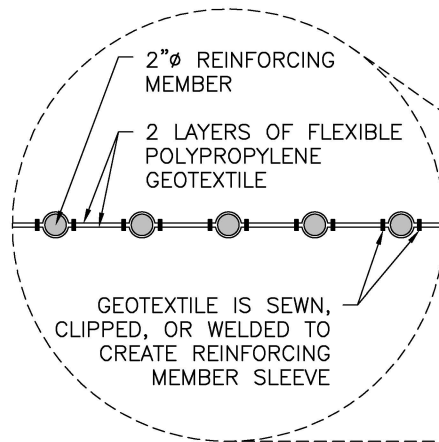
**DETAIL: CONSTRUCTION ENTRANCE – WOODCHIP**  
NOT TO SCALE



PROPERTY	TEST PROCEDURE	VALUE
Grab Tensile Strength	ASTM D4632	802.6 lbs.
Apparent Breaking Elongation	ASTM D4632	25% / 18%
Trapezoid Tearing Strength	ASTM D4533	607 lbs.
Puncture Resistance	ASTM D4833	374.3 lbs.
Mullen Burst	ASTM D3786	456.88 psi
Apparent Opening Size	ASTM D4751	70 US Sieve / 0.212mm
Constant Head Permittivity	ASTM D4491	20.16 g/m/ft <sup>2</sup>
Wide Width Tensile	ASTM D4595	685.7 lbs./in.
Material	Woven Geotextile	100% Polypropylene

NOTE: MATS SHIP IN 1.5' OR 450MM DIAMETER ROLLS WITH AN APPROXIMATE WEIGHT OF 90 LBS OR 40 KG PER MAT.

ENDS ARE SEWN OR CLIPPED SHUT TO CONFINE REINFORCING MEMBERS



NOTES:

1. ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED TO PREVENT TRACKING OFFSITE.
2. ENTRANCE SHALL BE REMOVED IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.



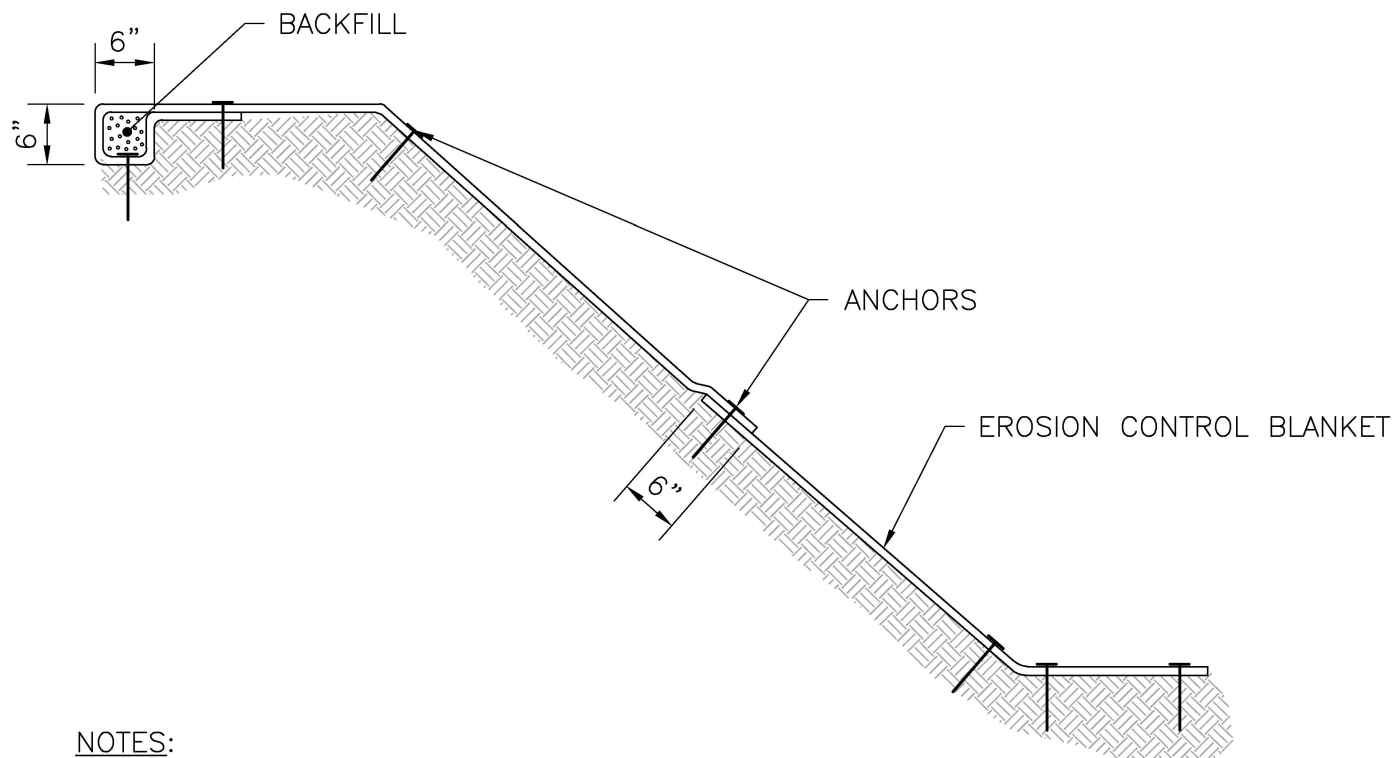
DETAIL: CONSTRUCTION ENTRANCE - RUMBLE STRIP MAT

NOT TO SCALE



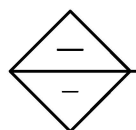
EROSION CONTROL DETAIL  
CONSTRUCTION ENTRANCE  
RUMBLE STRIP MAT





NOTES:

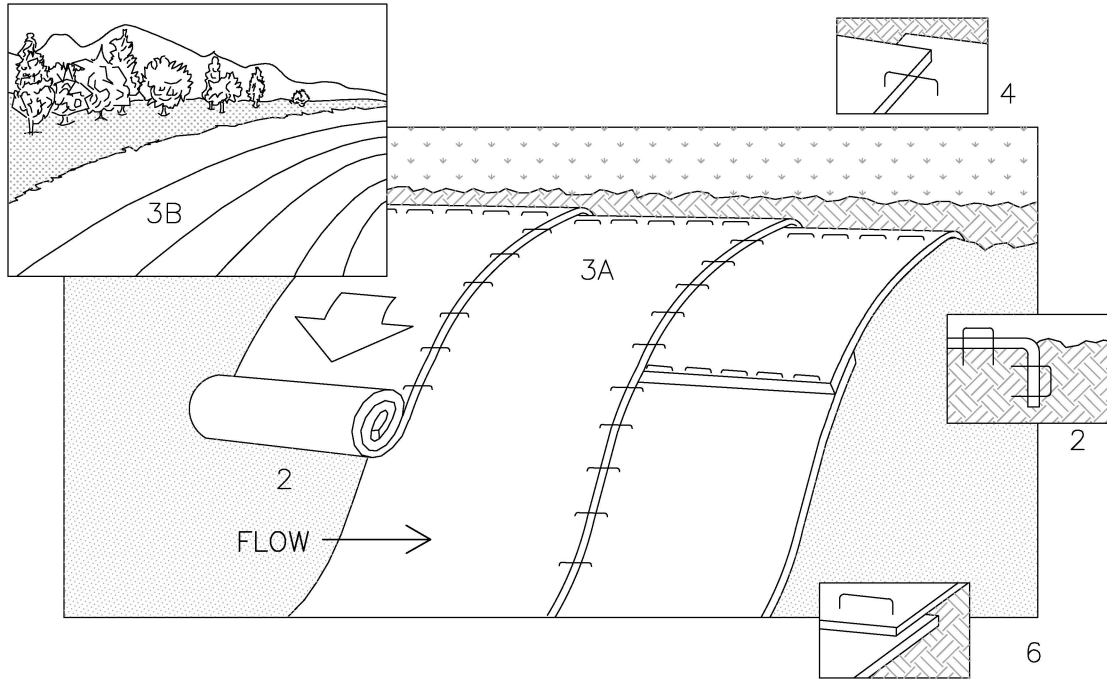
1. REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
2. PREPARE SOIL BY LOOSENING TOP 1–2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
3. BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.



DETAIL: EROSION CONTROL BLANKET – ANCHOR TRENCH  
NOT TO SCALE

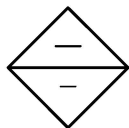


## SLOPE INSTALLATION



### NOTES:

1. REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
2. PREPARE SOIL BY LOOSENING TOP 1-2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
3. BEGIN (A) AT THE TOP OF THE SLOPE AND ROLL THE BLANKETS DOWN OR (B) AT ONE END OF THE SLOPE AND ROLL THE BLANKETS HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
6. BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.

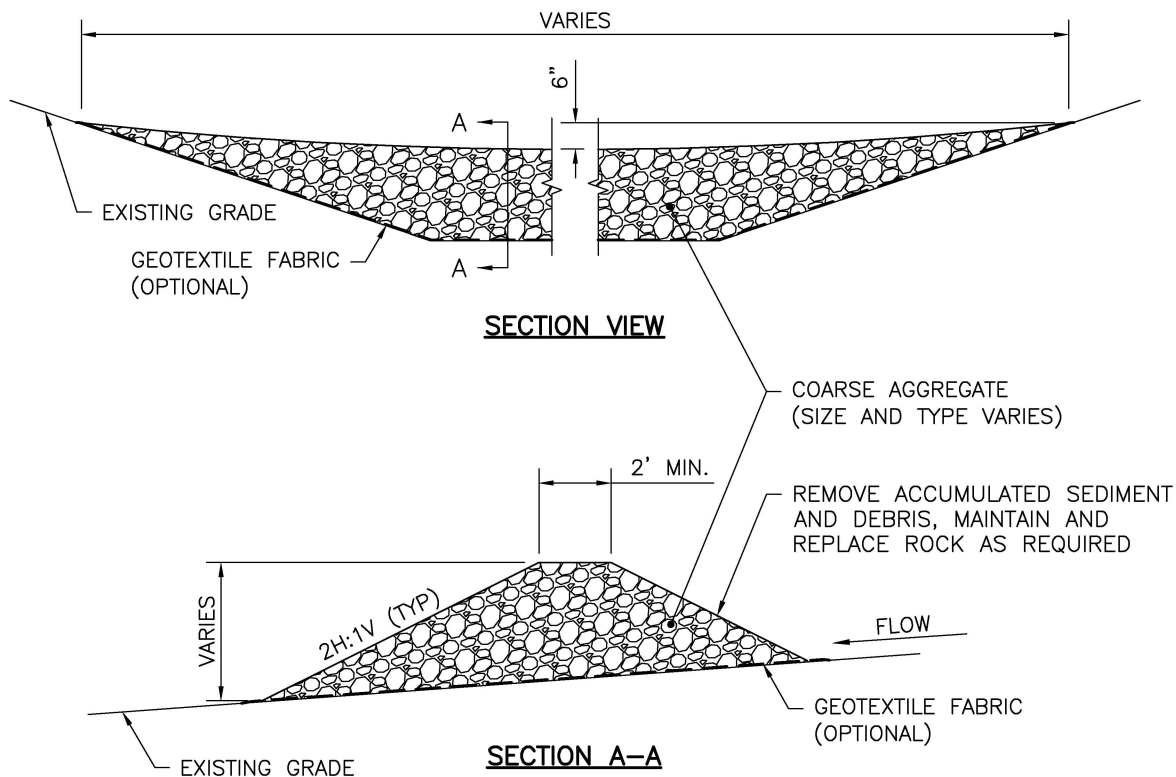


**DETAIL: EROSION CONTROL BLANKET — INSTALLATION**  
NOT TO SCALE









**NOTES:**

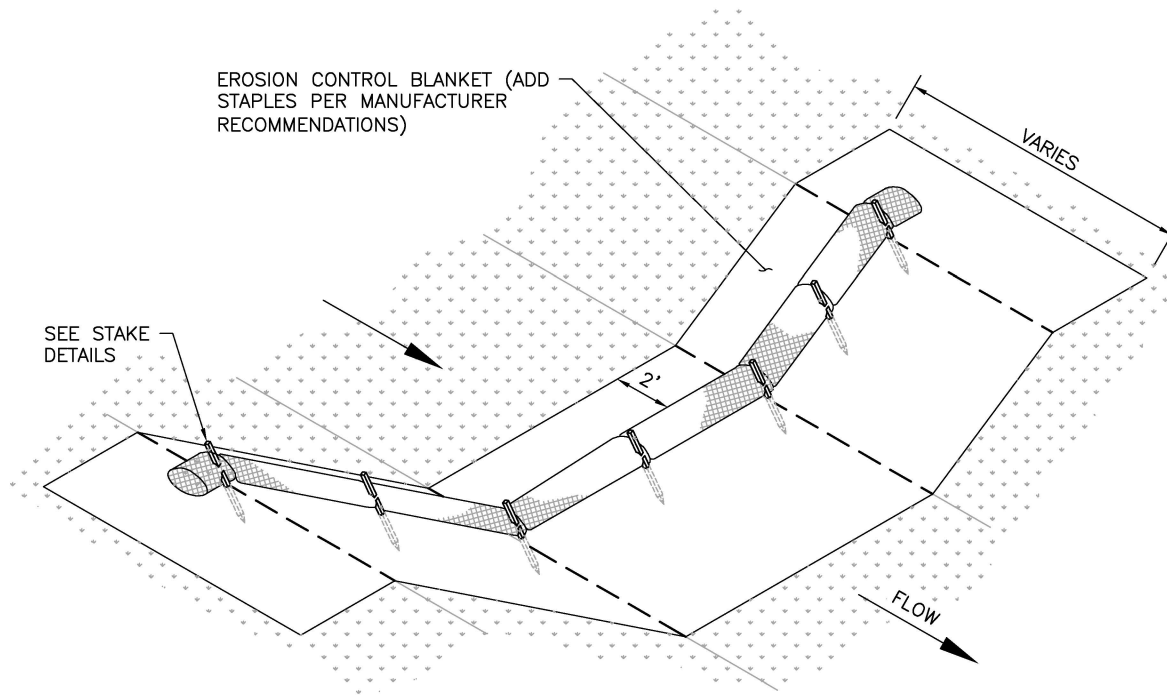
1. AGGREGATE SIZE MAY VARY AND DEPENDING ON CHANNEL SIZE, FLOW, SEDIMENT LOAD OR OTHER SITE CONDITIONS. AGGREGATE USED SHOULD BE RELATIVELY FREE OF SEDIMENT PRIOR TO INSTALLATION.
2. ROCK FILTER DIKE SHALL BE CLEANED OR REPLACED WHEN SEDIMENT BUILD UP REACHES 1/2 OF THE DIKE HEIGHT. ALTERNATIVELY A SECOND ROCK FILTER DIKE MAY BE INSTALLED DOWNSTREAM OF THE EXISTING DIKE AT A SUITABLE DISTANCE.
3. ROCK FILTER DIKE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. ROCK, GEOTEXTILE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.



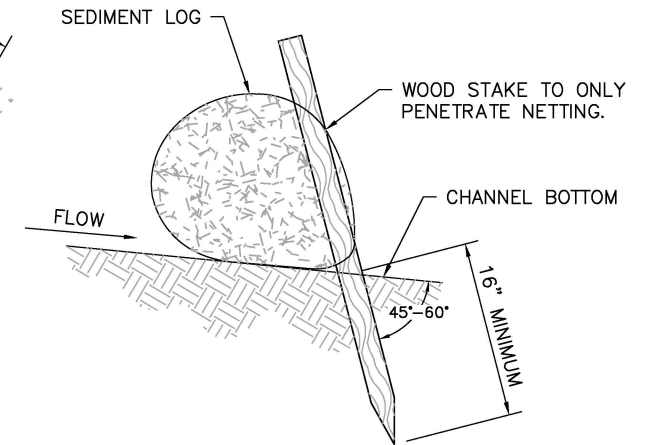
**DETAIL: ROCK FILTER DIKE**

NOT TO SCALE





PLAN VIEW



STAKING SIDE VIEW

NOTES:

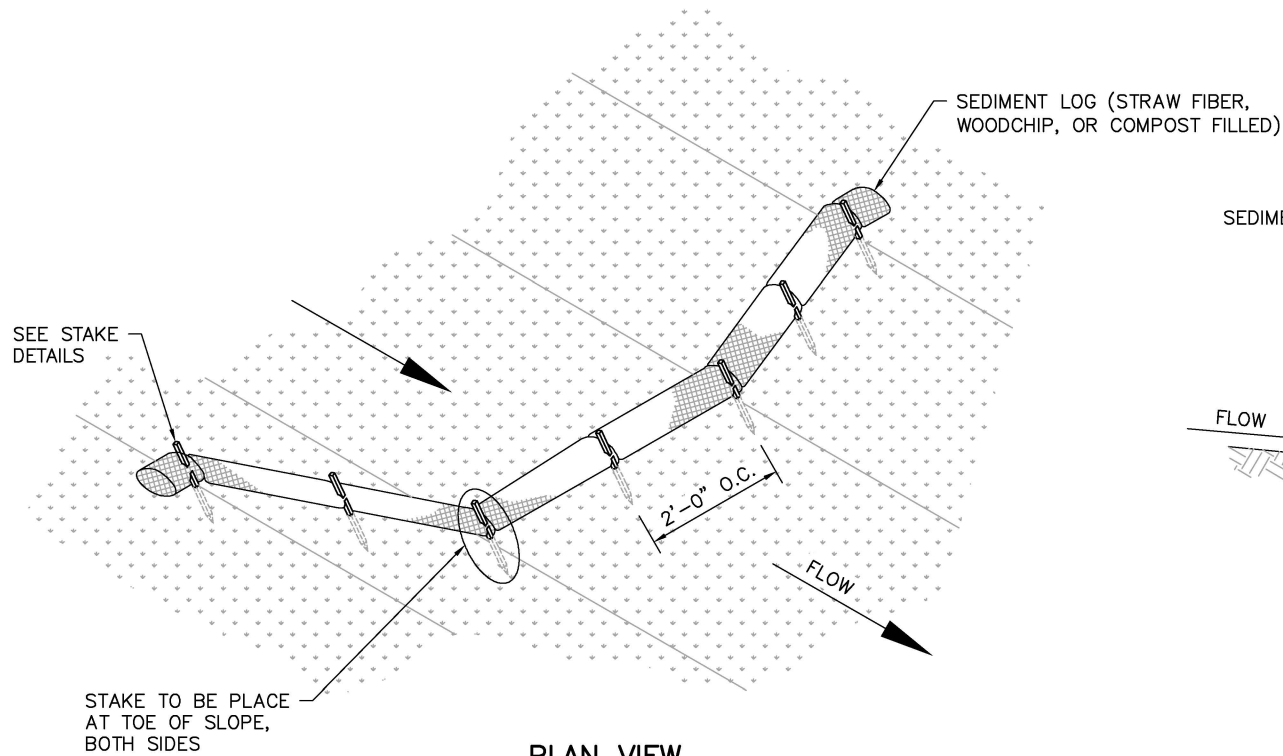
1. NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS. PLACE ADDITIONAL STAKES AS NEEDED.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING 1/2 OF LOG HEIGHT.
3. SEDIMENT LOG SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED.



DETAIL: SEDIMENT LOG - DITCH CHECK WITH BLANKET

NOT TO SCALE

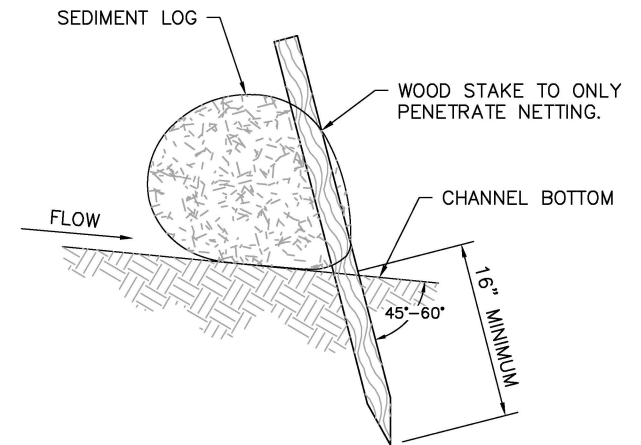




**PLAN VIEW**

**NOTES:**

1. NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS. PLACE ADDITIONAL STAKES AS NEEDED.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING 1/2 OF LOG HEIGHT.
3. SEDIMENT LOG SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED.

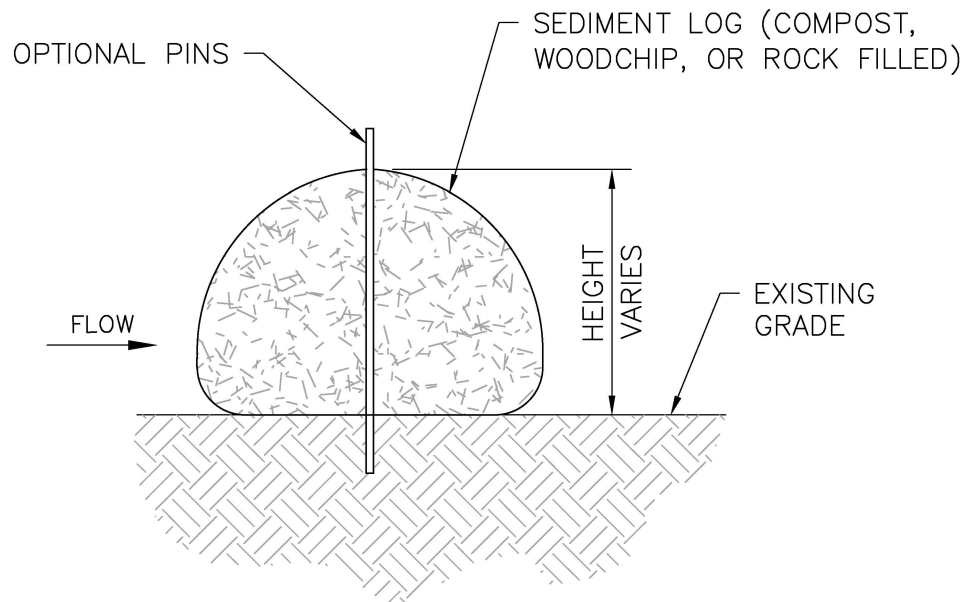


**STAKING SIDE VIEW**



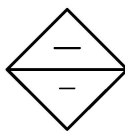
**DETAIL: SEDIMENT LOG – DITCH CHECK**  
NOT TO SCALE





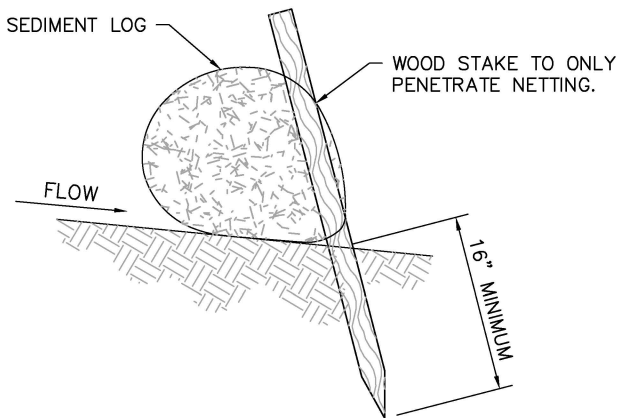
NOTES:

1. STAKE FREE SEDIMENT LOG TO BE USED IN AREAS THAT ARE RELATIVELY FLAT AND SHOULD BE INSTALLED ALONG CONTOURS (CONSTANT ELEVATION).
2. NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING 1/2 OF LOG HEIGHT.
4. SEDIMENT LOG SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED.

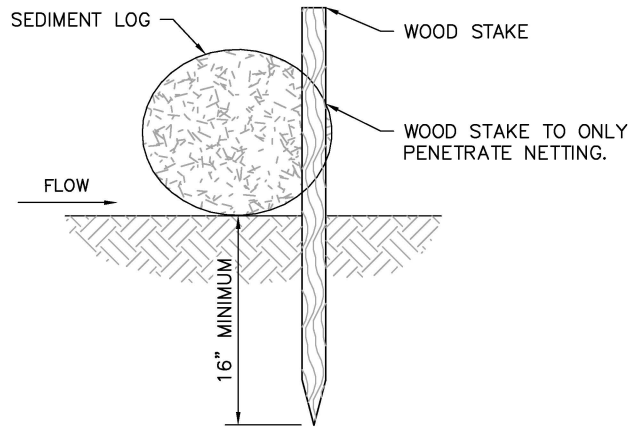


**DETAIL: SEDIMENT LOG – STAKE FREE**  
NOT TO SCALE

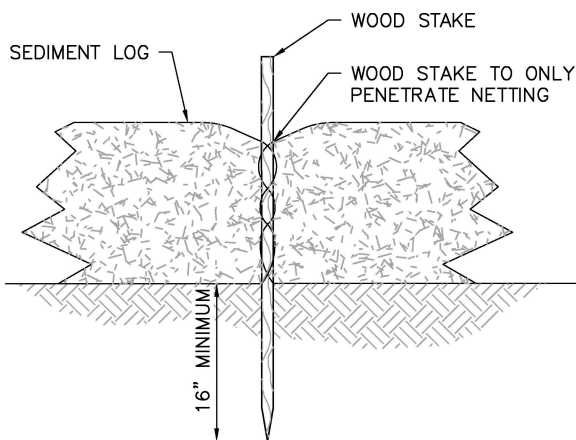




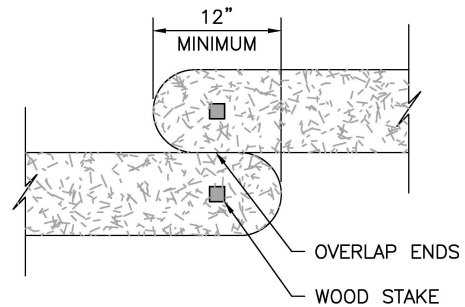
SIDE VIEW ON SLOPE



SIDE VIEW FLAT



FRONT VIEW



TOP VIEW

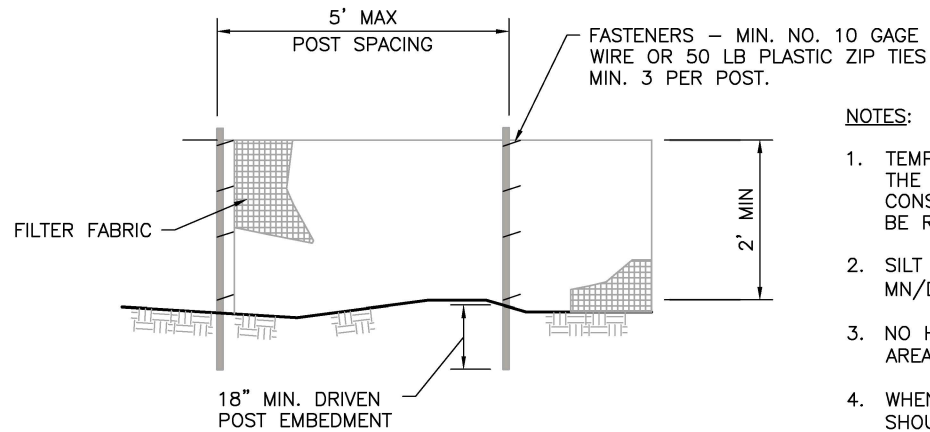
NOTES:

1. SEDIMENT LOG SHOULD BE INSTALLED ALONG CONTOURS (CONSTANT ELEVATION).
2. NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING 1/2 OF LOG HEIGHT.
4. SEDIMENT LOG SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED.

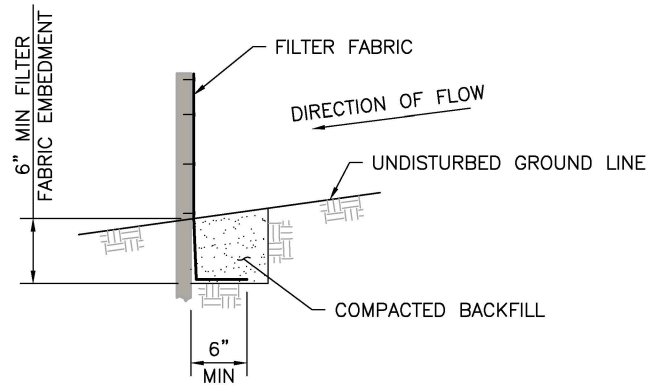


DETAIL: EROSION LOG – STAKING  
NOT TO SCALE





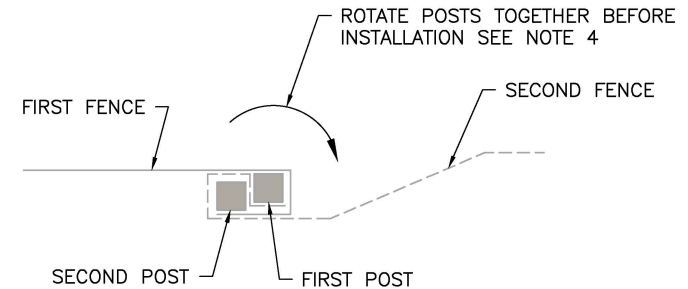
**ELEVATION**



**FABRIC ANCHOR DETAIL**

**NOTES:**

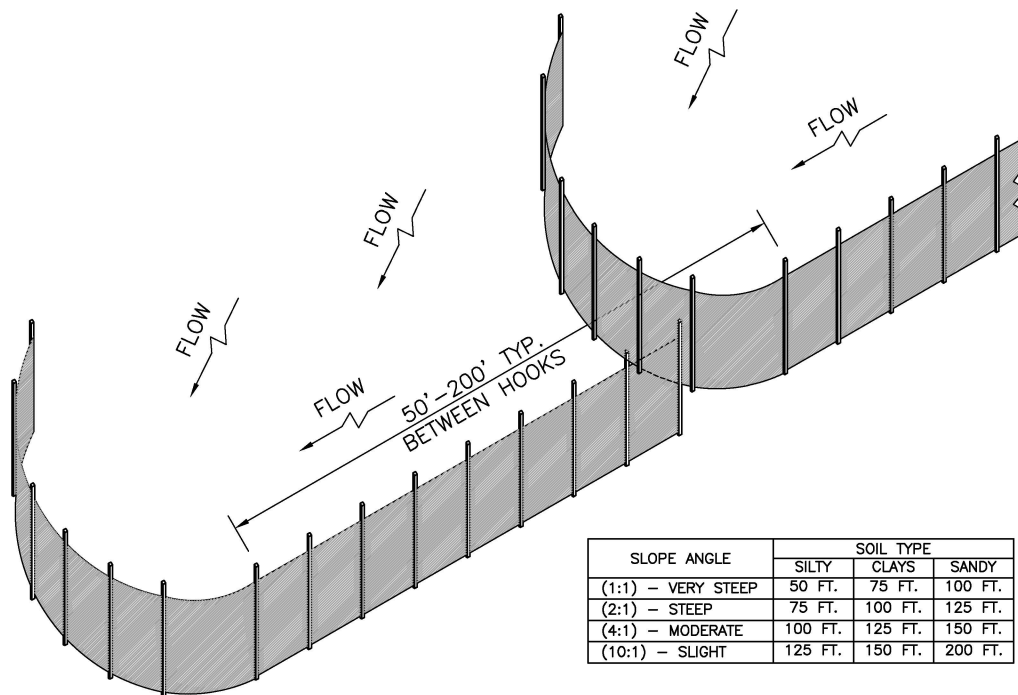
1. TEMPORARY SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. SILT FENCE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. SILT FENCE INSTALLATION AND MATERIALS SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATIONS 2573 AND 3886.
3. NO HOLES OR GAPS SHALL BE PRESENT IN/UNDER SILT FENCE. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
4. WHEN SEDIMENT BUILD UP REACHES 1/3 OF FENCE HEIGHT, THE SILT FENCE SHOULD BE REMOVED OR A SECOND SILT FENCE INSTALLED UPSTREAM OF THE EXISTING FENCE AT A SUITABLE DISTANCE.
3. WHEN SPLICES ARE NECESSARY MAKE SPLICE AT POST ACCORDING TO SPLICE DETAIL. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS TOGETHER AT LEAST 180 DEGREES TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL. CUT THE FABRIC NEAR THE BOTTOM OF THE POSTS TO ACCOMMODATE THE 6 INCH FLAP. THEN DRIVE BOTH POSTS AND BURY THE FLAP. COMPACT BACKFILL.



**SPLICE DETAIL-PLAN VIEW**

**DETAIL: SILT FENCE - HAND PLACED**  
NOT TO SCALE





**NOTES:**

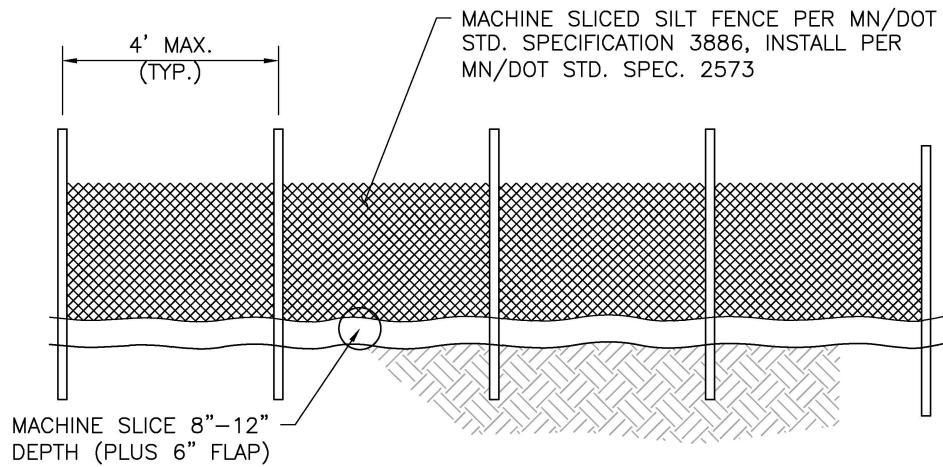
1. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. SILT FENCE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. SILT FENCE INSTALLATION AND MATERIALS SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATIONS 2573 AND 3886.
3. NO HOLES OR GAPS SHALL BE PRESENT IN/UNDER SILT FENCE. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
4. WHEN SEDIMENT BUILD UP REACHES 1/3 OF FENCE HEIGHT, THE SILT FENCE SHOULD BE REMOVED OR A SECOND SILT FENCE INSTALLED UPSTREAM OF THE EXISTING FENCE AT A SUITABLE DISTANCE.



**DETAIL: SILT FENCE - J-HOOKS**

NOT TO SCALE

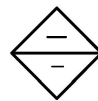




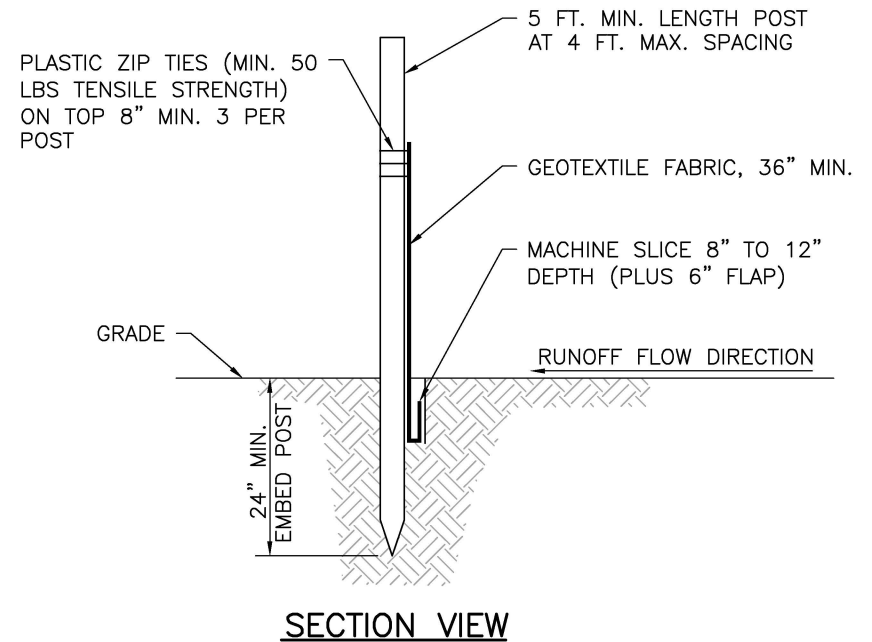
### DOWNSTREAM VIEW

#### NOTES:

1. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. SILT FENCE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. SILT FENCE INSTALLATION AND MATERIALS SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATIONS 2573 AND 3886.
3. NO HOLES OR GAPS SHALL BE PRESENT IN/UNDER SILT FENCE. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
4. WHEN SEDIMENT BUILD UP REACHES 1/3 OF FENCE HEIGHT, THE SILT FENCE SHOULD BE REMOVED OR A SECOND SILT FENCE INSTALLED UPSTREAM OF THE EXISTING FENCE AT A SUITABLE DISTANCE.
5. WHEN SPLICES ARE NECESSARY MAKE SPLICE AT POST ACCORDING TO SPLICE DETAIL. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS TOGETHER AT LEAST 180 DEGREES TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL. CUT THE FABRIC NEAR THE BOTTOM OF THE POSTS TO ACCOMMODATE THE 6 INCH FLAP. THEN DRIVE BOTH POSTS AND BURY THE FLAP. COMPACT BACKFILL.



DETAIL: SILT FENCE – MACHINE SLICED  
NOT TO SCALE



### SECTION VIEW



## **Appendix E**

### **Permanent Stormwater Treatment System Design**



This page is a placeholder. There have been no permanent stormwater treatment systems identified.



## **Appendix F**

### **Construction Stormwater Training Documentation**



# UNIVERSITY OF MINNESOTA

**Examine your card carefully.** To report errors and request a corrected card, contact the Erosion and Stormwater Management Program at (612) 625-9733, or write: Erosion and Stormwater Management Program, 1390 Eckles Avenue, St Paul MN 55108.

---

UNIVERSITY OF MINNESOTA

**Jacob Thompson**

Construction Site Management (May 31 2020)  
Design of Construction SWPPP (May 31 2020)

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See reverse side for important information.

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## **Appendix G**

### **Record of SWPPP Amendments**

**SWPPP Certification Page**



# SWPPP Certification Page

## Prevailing Wind

*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 personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



[illegible]



## **Appendix H**

### **Inspection and Maintenance Forms and Records**



# Construction Stormwater Inspection Form

## Facility Information

Site name: \_\_\_\_\_  
Facility address: \_\_\_\_\_ Auth. number: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

## Inspection Information

Inspector name: \_\_\_\_\_ Phone number: \_\_\_\_\_  
Title: \_\_\_\_\_ Time: \_\_\_\_\_ ☐ am ☐ pm  
Date: \_\_\_\_\_

## Erosion Control Requirement

	Yes	No	NA
1. Soil stabilization where no construction activity for 14 days?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Any erosion observed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. All ditches stabilized with appropriate BMPs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are there erosion BMP's for onsite stockpiles?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Are appropriate BMP's installed protecting inlets/outlets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Do pipe outlets have energy dissipation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

## Sediment Control Requirement

	Yes	No	NA
1. Perimeter control installed on all down gradient perimeters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Perimeter Control – Has sediment reached one half the height of the device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Inlet protection on all catch basins and culvert inlets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Vehicle tracking Best Management Practices (BMPs) at all site exits?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. All tracked sediment removed within 24 hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Do all stockpiles have perimeter control?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**



## Other

	Yes	No	NA
1. Are all materials that can leach pollutants under cover?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Has access been restricted to onsite hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Does on-site fueling only occur in a contained area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are all solid wastes being properly disposed of?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the concrete washout area completely contained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is the concrete washout area marked with a sign?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Comments:

Any runoff observed flowing onsite and/or offsite? ☐ Yes ☐ No

Describe (please take photo as well):

Is any dewatering occurring on site? ☐ Yes ☐ No

If yes, where? What BMP is being used? How much water is being dewatered? Is the water clear? Where is the water being discharged to?

Date and amount of most recent precipitation event?

Description of areas of non-compliance noted during the inspection, required corrective actions, and recommended date of completion of corrective actions:

Proposed amendments to the SWPPP:

---

Signature: \_\_\_\_\_

---



## **Appendix I**

### **Spill Reporting**



## **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.

## **Appendix J**

**Contractor Authorization Form**

**Notice of Termination (NOT) 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](mailto: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.**





**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](mailto: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 K**

### **Dewatering Information and Analytical**



This page is a placeholder for dewatering information and analytical.