Appendix A
Agency Correspondence

Representative Project Notification Letters

June 1, 2017
October 4, 2019
January 30, 2020

June 1, 2017

[Name]
[Address 1]
[Address 2]
[Address 3]
[Address 4]

RE: Requesting Comments on Wild Springs Solar in Pennington County, South Dakota

Dear [NAME]:

Wild Springs Solar, LLC (Wild Springs), a wholly owned subsidiary of Geronimo Energy, LLC, is gathering information and requesting agency comments for a proposed utility scale solar energy project in Pennington County, South Dakota.

Wild Springs proposed interconnection is the Western Area Power Administration (Western) transmission system and will therefore be subject to an environmental review in accordance with the National Environmental Policy Act (NEPA). Wild Springs will also be submitting a Facility Permit Application to the South Dakota Public Utilities Commission (PUC). Construction is anticipated to begin as early as mid-2019.

The planned output for the Project is up to 125 megawatts of nameplate solar energy capacity. The Project's permanent facilities will include:

- Solar modules, inverters and racking;
- Fencing;
- Access roads as required;
- Substation facility;
- On-site underground electrical collection lines; and
- Up to two weather stations (up to 20 feet tall).

Wild Springs will interconnect to the New Underwood Substation located in Section 5 of Township 1 N, Range 11 E via a 115 kV transmission line. A transmission line route has not yet been determined; however, it will be located within the project boundary.

The racking layout, access roads and electrical connections have not been finalized at this time. Table 1 provides the sections of land Wild Springs is evaluating for siting the solar energy project.

Table 1: Sections within the Wild Springs Project Boundary

State	County	Township	Range	Sections
SD	Pennington	1 N	10 E	1
SD	Pennington	1 N	11 E	5, 6
SD	Pennington	2 N	10 E	36
SD	Pennington	2 N	11 E	31

To facilitate your review, we have enclosed a map of the Wild Springs location and the associated project boundary.

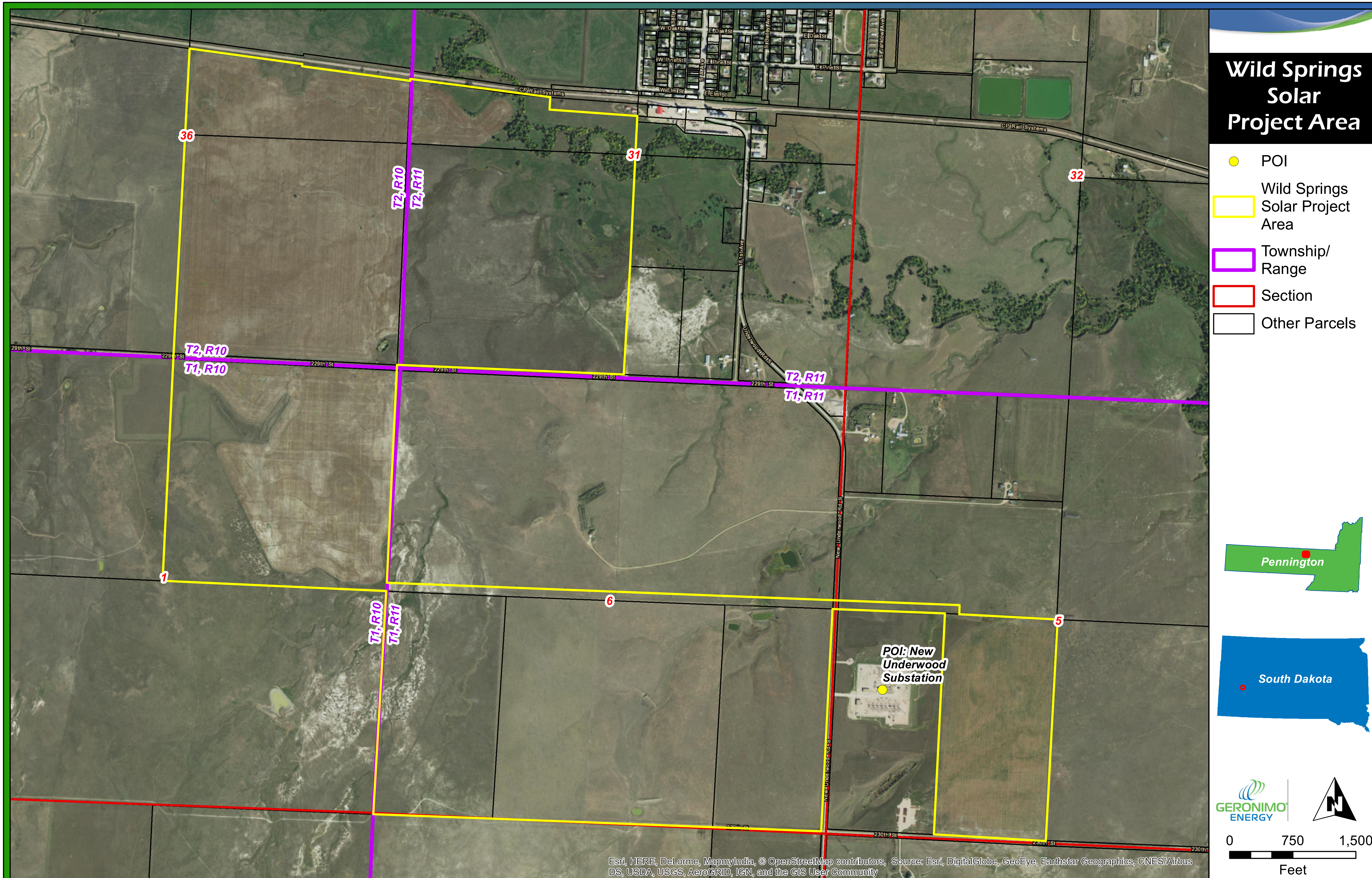
The purpose of this letter is to inform your organization of the proposed Project, seek your input regarding any permits and approvals that may be required, and identify interests your organization may have in the Project site or associated study area. Any written agency comments provided in response to this letter will be incorporated into the permitting review process.

If you require further information or have questions regarding this matter, please contact me at 952-988-9000 or at melissa@geronimoenergy.com.

Sincerely,

Melissa Schmit
Senior Permitting Specialist

Enclosure:
Wild Springs Location Map


Wild Springs Solar Project Area
POI
Wild Springs Solar Project Area
Township/ Range
Section
Other Parcels
Pennington
South Dakota
GERONIMO ENERGY
0
750
1,500
Feet
POI: New Underwood Substation
T2, R10
T2, R11
T1, R10
T1, R11
36
31
32
1
6
5
CP Rail Systems
229th St
230th St
New Underwood Rd S
Underwood Rd S
161st Ave
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Document Path: G:\GISData\Research\SOLAR\Wild Springs\Projects\WildSprings_LocationMap11x17_2.mxd
kgarcia Date: 6/1/2017

October 4 2019

[Name]
[Address 1]
[Address 2]
[Address 3]
[Address 4]

RE: Requesting Comments on Wild Springs Solar in Pennington County, South Dakota- Project Update

Dear [Name],

Wild Springs Solar, LLC (Wild Springs), a wholly owned subsidiary of Geronimo Energy, LLC, a National Grid Company, is gathering information and requesting agency comments for a proposed utility scale solar energy project in Pennington County, South Dakota. You received a letter in June of 2017 that provided an overview of the proposed project. Wild Springs has expanded the project area previously presented, and the purpose of this letter is to provide an update on the revised project area.

Wild Springs proposed interconnection is the Western Area Power Administration (Western) transmission system and will therefore be subject to an environmental review in accordance with the National Environmental Policy Act (NEPA). Wild Springs will also be submitting a Facility Permit Application to the South Dakota Public Utilities Commission (PUC). Construction is anticipated to begin as early as spring 2021.

The planned output for the Project is up to 128 megawatts of nameplate solar energy capacity. The Project's permanent facilities will include:

- Solar modules, inverters and racking;
- Fencing;
- Access roads as required;
- Substation facility;
- On-site underground or aboveground electrical collection lines; and
- Up to two weather stations (up to 20 feet tall).

Wild Springs will interconnect to the New Underwood Substation located in Section 5 of Township 1 N, Range 11 E via a 115 kV transmission line. The exact transmission line routing to interconnect the project into the substation has not yet been determined; however, it will be located within the project boundary until it crosses over into the New Underwood Substation parcel.

The racking layout, access roads and electrical connections have not been finalized at this time. Table 1 provides the sections of land Wild Springs is evaluating for siting the solar energy project.

Table 1: Sections within the Wild Springs Project Boundary

State	County	Township	Range	Sections
SD	Pennington	1 N	10 E	1
SD	Pennington	1 N	11 E	5, 6, 7, 8
SD	Pennington	2 N	10 E	36
SD	Pennington	2 N	11 E	31

To facilitate your review, we have enclosed a map of the Wild Springs location and the associated project boundary.

The purpose of this letter is to inform your organization of the proposed Project, seek your input regarding any permits and approvals that may be required, and identify interests your organization may have in the Project site or associated study area. Any written agency comments provided in response to this letter will be incorporated into the permitting review process.

If you require further information or have questions regarding this matter, please contact me at 952-988-9000 or at melissa@geronimoenergy.com.

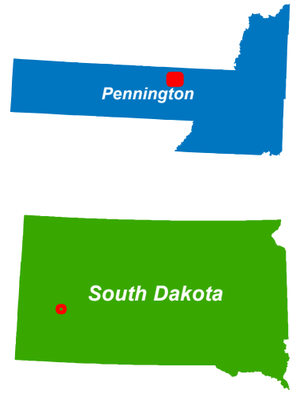
Sincerely,

Melissa Schmit
Permitting Manager

Enclosure:
Wild Springs Location Map

Wild Springs Project Area

- POI: New Underwood Substation
- Wild Springs Project Area
- Sections
- Parcels



0 750 1,500

Feet

GERONIMO ENERGY

S:36 T: 002N R: 010E
S:31 T: 002N R: 011E
S:32 T: 002N R: 011E
S:01 T: 001N R: 010E
S:06 T: 001N R: 011E
S:05 T: 001N R: 011E
S:12 T: 001N R: 010E
S:07 T: 001N R: 011E
S:08 T: 001N R: 011E

New Underwood Substation

159th Ave
161st Ave
162nd Ave
New Underwood Rd S
229th St
230th St
W Pine St
E Pine St
W Elm St
E Oak St
E Ash St
S Monroe
S Janklow

Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Document Path: G:\GISData\Research\SOLAR\Wild Springs\Projects\WildSprings_NewUnderwood.mxd

cjenson Date: 9/11/2019

January 30, 2020

[Name]
[Address 1]
[Address 2]
[Address 3]
[Address 4]

RE: Requesting Comments on Wild Springs Solar in Pennington County, South Dakota- Project Update

Dear [Name],

Wild Springs Solar, LLC (Wild Springs or Project), a wholly owned subsidiary of Geronimo Energy, LLC, a National Grid Company, is gathering information and requesting agency comments for a proposed utility scale solar energy project in Pennington County, South Dakota. You received a letter in October of 2019 that provided an overview of the proposed project. Wild Springs has since expanded the project area previously presented to avoid wildlife habitat identified during field investigations, and the purpose of this letter is to provide an update on the revised project area.

Wild Springs proposed interconnection is the Western Area Power Administration (Western) transmission system and will therefore be subject to an environmental review in accordance with the National Environmental Policy Act (NEPA). Wild Springs will also be submitting a Facility Permit Application to the South Dakota Public Utilities Commission (PUC). Construction is anticipated to begin as early as spring 2021.

The planned output for the Project is up to 128 megawatts of nameplate solar energy capacity. The Project's permanent facilities will include:

- Solar modules, inverters and racking;
- Fencing;
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- Up to two weather stations (up to 20 feet tall).

Wild Springs will interconnect to the New Underwood Substation located in Section 5 of Township 1 N, Range 11 E via a 115 kV transmission line. The exact transmission line routing to interconnect the project into the substation has not yet been determined; however, it will be located within the Project's leased lands until it crosses over into the New Underwood Substation parcel.

The racking layout, access roads and electrical connections have not been finalized at this time. Table 1 provides the sections of land Wild Springs is evaluating for siting the solar energy project.

Table 1: Sections within the Wild Springs Project Boundary

State	County	Township	Range	Sections
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To facilitate your review, we have enclosed a map of the Wild Springs location and the associated project boundary.

The purpose of this letter is to inform your organization of the proposed Project, seek your input regarding any permits and approvals that may be required, and identify interests your organization may have in the Project site or associated study area. Any written agency comments provided in response to this letter will be incorporated into the permitting review process. *If you have already provided comments, we will assume further input is not required as a result of the Project area expansion unless an additional response is received.*

If you require further information or have questions regarding this matter, please contact me at 952-988-9000 or at melissa@geronimoenergy.com.

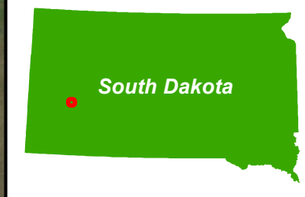
Sincerely,

Melissa Schmit
Director, Permitting

Enclosure:
Wild Springs Location Map

Wild Springs Project Area

- POI: New Underwood Substation
- Wild Springs Project Area
- Sections
- Parcels



0 1,000 2,000

Feet

GERONIMO ENERGY

S:36 T: 002N R: 010E
S:31 T: 002N R: 011E
S:32 T: 002N R: 011E
S:33 T: 002N R: 011E
S:01 T: 001N R: 010E
S:06 T: 001N R: 011E
S:05 T: 001N R: 011E
S:04 T: 001N R: 011E
S:12 T: 001N R: 010E
S:07 T: 001N R: 011E
S:08 T: 001N R: 011E
S:09 T: 001N R: 011E

New Underwood Substation

E Ash St
E Oak St
W Pine St
E Pine St
W Elm St
S C Ave
S B Ave
S Bailey Ave
S Monroe
S Lark
161st Ave
162nd Ave
229th St
230th St
New Underwood Rd S

Agency Responses

U.S. Army Corps of Engineers

August 24, 2017
December 13, 2019
February 7, 2020
March 18, 2020

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
SOUTH DAKOTA REGULATORY OFFICE
28563 POWERHOUSE ROAD, ROOM 118
PIERRE, SOUTH DAKOTA 57501-6174

REPLY TO
ATTENTION OF

August 24, 2017

South Dakota Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, South Dakota 57501

Geronimo Energy, LLC
Attn: Melissa Schmit
7650 Edinborough Way, Suite 725
Edina, Minnesota 55435

Dear Ms. Schmit:

Reference is made to the information received June 22, 2017, concerning Section 404 of the Clean Water Act permit requirements for the Wild Springs Solar Project. The review area is located in Sections 5 and 6 Township 1 North, Range 11 East, Section 1, Township 1 North, Range 10 East, Section 31, Township 2 North, Range 11 East, and Section 36, Township 2 North, Range 10 East, Pennington County, South Dakota.

Based on the information provided, we have determined that there are waters of the United States (i.e. jurisdictional waters) located within the review area. Therefore, any activity involving the discharge of dredged or fill material within the waters of the United States would require a permit from the Corps of Engineers.

An approved jurisdictional determination (JD) has been completed for your project. This JD is valid for 5 years from the date of this letter. The JD is enclosed and also may be viewed at our website. The link to the website is shown below. The JD will be available on the website within 30 days. If you are not in agreement with the JD, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit an RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (by October 23, 2017). It is not necessary to submit a RFA if you do not object to the JD.

You can obtain additional information about the Regulatory Program from our website:
http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx

If you have any questions, please feel free to contact this office at the above Regulatory Office address, or telephone Jeff Breckenridge at (605) 341-3169, ext. 3621 and reference action ID NWO-2017-1100-PIE.

Sincerely,

Steven E. Naylor
Regulatory Program Manager,
South Dakota

Enclosures

cc:
Area M Consulting (Knudsen)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Geronimo Energy, LLC	File Number: NWO-2017-1100-PIE	Date: Aug. 24, 2017
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found in Corps regulations at 33 CFR Part 331, or at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact: US Army Corps of Engineers, Northwestern Division Attn: Melinda M. Witgenstein Post Office Box 2870 Portland, OR 97208-2870 Telephone (503) 808-3888 Melinda.M.Witgenstein@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 24, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Omaha District, South Dakota Regulatory Office, CENWO-OD-RSD, Wild Springs Solar Project, NWO-2017-1100-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The review area consists of Waters NWO-2017-1100-PIE-5, NWO-2017-1100-PIE-6, NWO-2017-1100-PIE-7, NWO-2017-1100-PIE-8, NWO-2017-1100-PIE-11, NWO-2017-1100-PIE-15, NWO-2017-1100-PIE-16

State: South Dakota County/parish/borough: Pennington County City: New Underwood
Center coordinates of site (lat/long in degree decimal format): Lat. 44.07929 N; Long. -102.83949 W
Universal Transverse Mercator: 13
Name of nearest waterbody: Boxelder Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): 10120111- Middle Cheyenne-Elk
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: August 1, 2017
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: These wetlands are identified as being non-jurisdictional. These wetlands do not exhibit a discernable hydrologic

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

outlet to (or interaction with) any WOUS. In addition, these wetlands are intrastate, non-navigable water bodies with no nexus to interstate commerce .

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) **General Area Conditions:**
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) **Physical Characteristics:**
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.
   Project waters are **Pick List** river miles from RPW.
   Project waters are **Pick List** aerial (straight) miles from TNW.
   Project waters are **Pick List** aerial (straight) miles from RPW.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .
Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .
Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).

☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. **ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]**
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

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[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. **NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

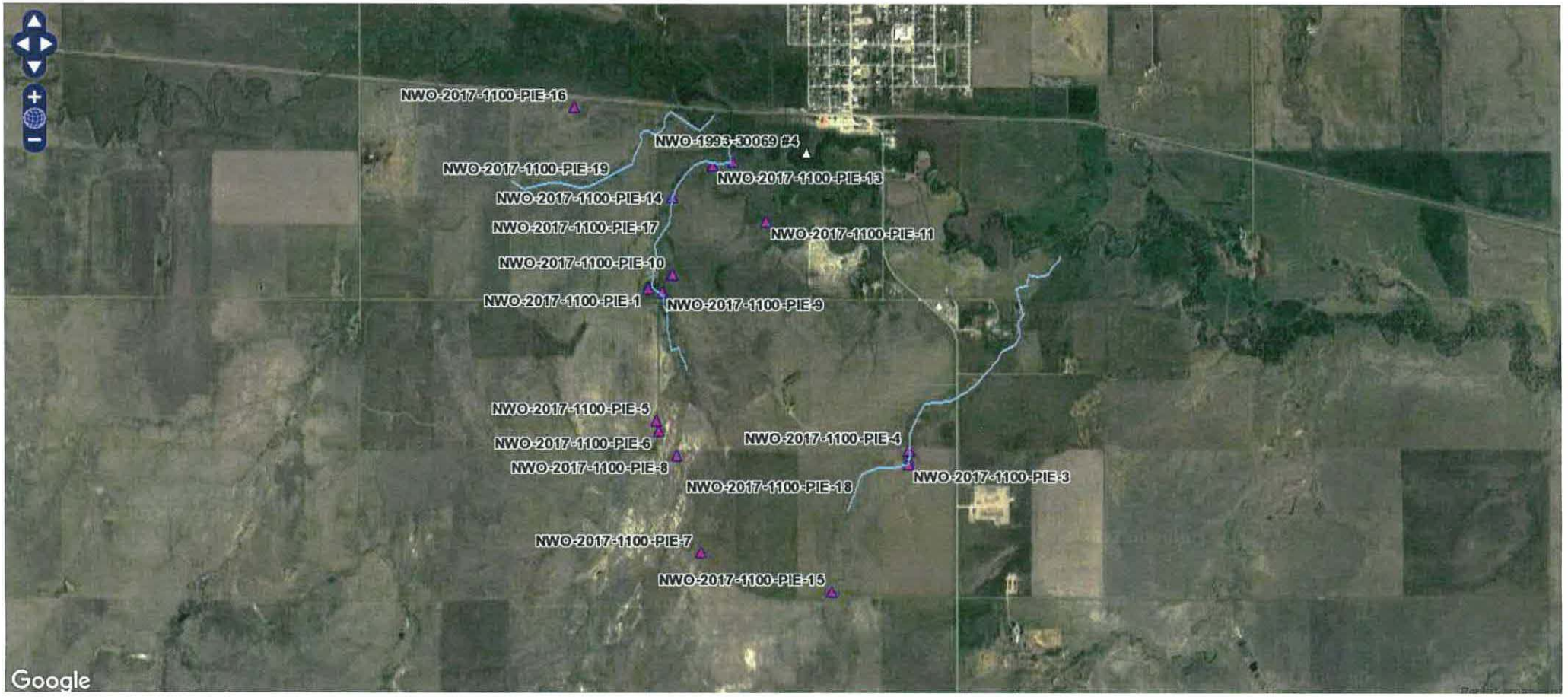
Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: 4.12 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. **SUPPORTING DATA. Data reviewed for JD (check all that apply** - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Wetland Delineation Report submitted prepared by Area M Consulting.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:New Underwood 24K.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Site photographs provided by the consultant and review of Google Earth photos, various years. .
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. **ADDITIONAL COMMENTS TO SUPPORT JD:** Wetlands NWO-2017-1100-PIE-5, NWO-2017-1100-PIE-6, NWO-2017-1100-PIE-7, NWO-2017-1100-PIE-8, and NWO-2017-1100-PIE-11are isolated pocket wetlands. These wetlands do not exhibit a discernable hydrologic outlet to (or interaction with) any WOUS. In addition, these wetlands are intrastate, non-navigable water bodies with no nexus to interstate commerce. Wetlands NWO-2017-1100-PIE-15, NWO-2017-1100-PIE-16 are stock watering dugouts that do not exhibit a discernable hydrologic outlet to (or interaction with) any WOUS. In addition, these wetlands are intrastate, non-navigable water bodies with no nexus to interstate commerce.


NWO-2017-1100-PIE-16
NWO-1993-30069 #4
NWO-2017-1100-PIE-19
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NWO-2017-1100-PIE-17
NWO-2017-1100-PIE-11
NWO-2017-1100-PIE-10
NWO-2017-1100-PIE-1
NWO-2017-1100-PIE-9
NWO-2017-1100-PIE-5
NWO-2017-1100-PIE-6
NWO-2017-1100-PIE-4
NWO-2017-1100-PIE-8
NWO-2017-1100-PIE-3
NWO-2017-1100-PIE-18
NWO-2017-1100-PIE-7
NWO-2017-1100-PIE-15
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APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 10, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Omaha District, South Dakota Regulatory Office, CENWO-OD-RSD, Wild Springs Solar Project, NWO-2017-1100-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

Wetlands Include:
NWO-2017-1100-PIE-1,
NWO-2017-1100-PIE-2,
NWO-2017-1100-PIE-3,
NWO-2017-1100-PIE-4,
NWO-2017-1100-PIE-9,
NWO-2017-1100-PIE-10,
NWO-2017-1100-PIE-12,
NWO-2017-1100-PIE-13,
NWO-2017-1100-PIE-14,

Ephemeral Tributaries include:
NWO-2017-1100-PIE-17 up gradient to Lat. 44.078615, Long. -102.847592
NWO-2017-1100-PIE-18 up gradient to Lat. 44.072257, Long. -102.836461
NWO-2017-1100-PIE-19 up gradient to Lat. 44.088956, Long. -102.851146

State:South Dakota County/parish/borough:Pennington County City:New Underwood
Center coordinates of site (lat/long in degree decimal format): Lat.44.07929 N; Long.-102.83949W
Universal Transverse Mercator: 13
Name of nearest waterbody: Boxelder Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:Cheyenne River
Name of watershed or Hydrologic Unit Code (HUC):10120111-Middle Cheyenne-Elk
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date:August 1, 2017
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** *"navigable waters of the U.S."* within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** *"waters of the U.S."* within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
   ☐ TNWs, including territorial seas
   ☐ Wetlands adjacent to TNWs
   ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
   ☒ Non-RPWs that flow directly or indirectly into TNWs
   ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
   ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
   ☒ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

☐ Impoundments of jurisdictional waters
☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. **Identify (estimate) size of waters of the U.S. in the review area:**
Non-wetland waters: 14,300 linear feet: 5 width (ft) and/or acres.
Wetlands:2.36 acres.

c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
Elevation of established OHWM (if known):Unknown.

2. **Non-regulated waters/wetlands (check if applicable):**[3]
☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
Identify TNW: **Cheyenne River**.

Summarize rationale supporting determination: From Omaha District TNW List for South Dakota. Basis is from reommendation report for Cheyenne River Section 10 designation.

2. **Wetland adjacent to TNW**
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

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[3] Supporting documentation is presented in Section III.F.
[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

(i) **General Area Conditions:**
Watershed size: 1570 **square miles**
Drainage area: 6.41 **square miles**
Average annual rainfall: 16.64 inches
Average annual snowfall: 40.4 inches

(ii) **Physical Characteristics:**
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **1** tributaries before entering TNW.

Project waters are **25-30** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **15-20** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: Unnamed Tributary to Boxelder Creek (RPW) to Cheyenne River(TNW).
Tributary stream order, if known: 1st.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Dugouts and dams for livestock water occur within the tributary.

Tributary properties with respect to top of bank (estimate):
Average width: 5 feet
Average depth: 1 feet
Average side slopes: **3:1** .

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☒ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Mostly stable.
Presence of run/riffle/pool complexes. Explain: No.
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): less than 1 %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **6-10**
Describe flow regime: Tributary flows during spring runoff and rain events.
Other information on duration and volume: .

Surface flow is: **Discrete and confined.** Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☒ shelving ☐ the presence of wrack line
☒ vegetation matted down, bent, or absent ☐ sediment sorting

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

☐ leaf litter disturbed or washed away
☐ sediment deposition
☐ water staining
☐ other (list):
☐ scour
☐ multiple observed or predicted flow events
☐ abrupt change in plant community

☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Chemicals contained within the tributaries are typical of livestock grazing and agriculture. Typical chemicals would be a mix of animal waste, herbicides and pesticides for pasture and crop care and suspended solids from crop fields..

Identify specific pollutants, if known: Specific pollutants are unknown but chemical inputs stated above are expected to be found in the tributaries.

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width):
☒ Wetland fringe. Characteristics: Wetland pockets where hydrology pools.
☐ Habitat for:
- ☐ Federally Listed species. Explain findings:
- ☐ Fish/spawn areas. Explain findings:
- ☐ Other environmentally-sensitive species. Explain findings:
- ☒ Aquatic/wildlife diversity. Explain findings: Tributary provides a low level of habitat for species tolerant of the various chemical inputs, and diverse/extreme weather patterns..

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size:2.36 acres

Wetland type. Explain:Depressional.

Wetland quality. Explain:The wetlands contained with the review area have a history of being significantly impacted by livestock grazing activities. These activities include watering, trampling, animal waste and runoff of herbicides and pesticides used on adjacent pastures and crop fields.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain:

Surface flow is: **Discrete**

Characteristics:

Subsurface flow: **Unknown**. Explain findings:

☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

☒ Directly abutting

☐ Not directly abutting
- ☐ Discrete wetland hydrologic connection. Explain:
- ☐ Ecological connection. Explain:
- ☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

[7]Ibid.

Estimate approximate location of wetland as within the **500-year or greater** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Chemicals contained within the wetlands are likely a typical mix of animal waste, herbicides, pesticides, and suspended solids typical of agricultural runoff.

Identify specific pollutants, if known: Specific pollutants are unknown but chemical inputs stated above are expected to be found in the wetlands.

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width):
- ☒ Vegetation type/percent cover. Explain:A mix of wetland species and weeds.
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings:
  - ☐ Fish/spawn areas. Explain findings:
  - ☐ Other environmentally-sensitive species. Explain findings:
  - ☒ Aquatic/wildlife diversity. Explain findings:Wetlands within the review area likely provide minimal habitat for wetland-related species.

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **15-20**

Approximately (2.36) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)
NWO-2017-1100-PIE-1	0.39	Y
NWO-2017-1100-PIE-2	0.98	Y
NWO-2017-1100-PIE-3	0.21	Y
NWO-2017-1100-PIE-4	0.21	Y
NWO-2017-1100-PIE-9	0.08	Y
NWO-2017-1100-PIE-10	0.14	Y
NWO-2017-1100-PIE-12	0.10	Y
NWO-2017-1100-PIE-13	0.17	Y
NWO-2017-1100-PIE-14	0.08	Y

Summarize overall biological, chemical and physical functions being performed: The unnamed ephemeral tributaries and the abutting wetlands (fluvial system) reviewed above function as headwater tributaries which eventually drain into the Cheyenne River. The fluvial system moderates the duration and intensity of large discharge events which in turn influences the structure and stability of Boxelder Creek and the Cheyenne River (i.e., physical integrity). The fluvial system has some capacity to retain and process excess nutrients and other pollutants being transported downstream into Boxelder Creek and then to the Cheyenne River. Water quality within the Cheyenne River is influenced by the fluvial system (i.e., chemical integrity). The capacity of the fluvial system to moderate flood flows and nutrient transport to the Cheyenne River has not been significantly diminished by past modifications and activities, however, these important functions remain and are still being performed at some minimal level.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?

- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The unnamed ephemeral tributaries in combination with the adjacent wetlands have a significant nexus to the Cheyenne River. These tributaries with abutting wetlands (fluvial system) function as headwater tributaries which eventually drain into Boxelder Creek, then the Cheyenne River. The fluvial system moderates the duration and intensity of large discharge events which in turn influences the structure and stability of the Cheyenne River channel (i.e., physical integrity). The fluvial system has some capacity to retain and process excess nutrients and other pollutants being transported downstream to the Cheyenne River. Water quality within the Cheyenne River is influenced by the fluvial systems (i.e. chemical integrity). Loss or degradation of the fluvial system incrementally over time would be expected to contribute to degradation of the chemical, physical, and biological integrity of the Cheyenne River.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   - ☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   - ☒ Tributary waters: **14,300** linear fee **5** width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   - ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   - ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale

[8]See Footnote # 3.

indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☒ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: **2.36** acres.

7. **Impoundments of jurisdictional waters.**[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

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[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

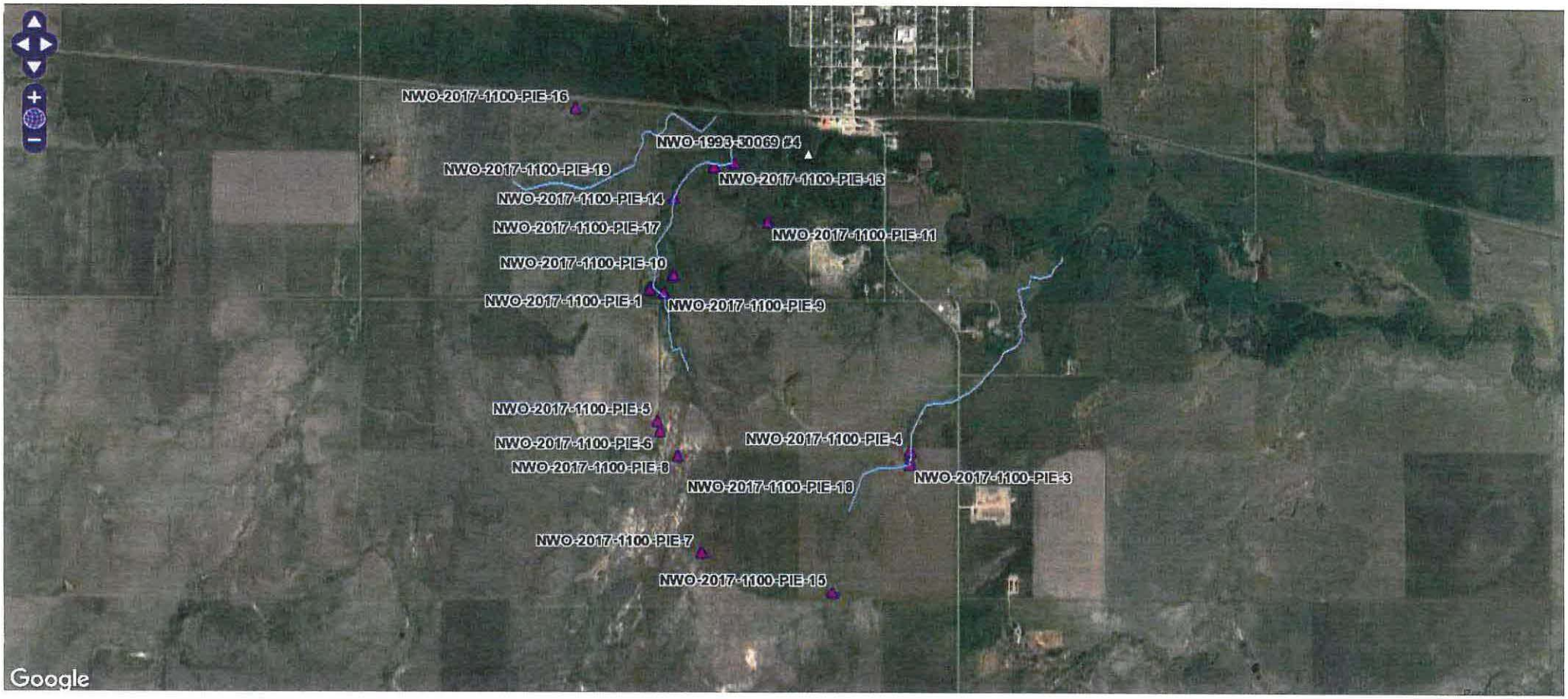
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Wetland Delineation Report submitted prepared by Area M Consulting.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:New Underwood 24K.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Site photographs provided by the consultant and review of Google Earth photos, various years.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):Review of flow statistics and data generated from USGS South Dakota StreamStats.

B. ADDITIONAL COMMENTS TO SUPPORT JD: The upper bounds of ephemeral tributaries NWO-2017-1100-PIE-17, NWO-2017-1100-PIE-17, and NWO-2017-1100-PIE-17 were identified with coordinates because they do not exhibit characteristics of regular flow such as OHWL and/or continuous wetland. Site photos provided by the consultant and Google Earth Aerial Photography were used to support that determination.


NWO-2017-1100-PIE-16
NWO-1993-30069 #4
NWO-2017-1100-PIE-19
NWO-2017-1100-PIE-13
NWO-2017-1100-PIE-14
NWO-2017-1100-PIE-17
NWO-2017-1100-PIE-11
NWO-2017-1100-PIE-10
NWO-2017-1100-PIE-1
NWO-2017-1100-PIE-9
NWO-2017-1100-PIE-5
NWO-2017-1100-PIE-6
NWO-2017-1100-PIE-4
NWO-2017-1100-PIE-8
NWO-2017-1100-PIE-3
NWO-2017-1100-PIE-18
NWO-2017-1100-PIE-7
NWO-2017-1100-PIE-15
Google

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
SOUTH DAKOTA REGULATORY OFFICE
28563 POWERHOUSE ROAD, ROOM 118
PIERRE, SOUTH DAKOTA 57501-6174

REPLY TO
ATTENTION OF

December 13, 2019

South Dakota Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, South Dakota 57501

Wild Springs Solar
Attn: Melissa Schmit
7650 Edinborough Way, Suite 725
Edina, Minnesota 55435

Dear Ms. Schmit,

Reference is made to the preliminary information received October 7, 2019, concerning Department of the Army authorization requirements for a proposed utility scale solar energy project, in Pennington County, South Dakota.

The Corps' jurisdiction is derived from Section 404 of the Clean Water Act which calls for Federal regulation of the discharge of dredged or fill material into certain waterways, lakes and/or wetlands, (i.e. waters of the United States). If the project involves either the discharge of dredged or fill material into waters subject to Federal regulation, it is requested that the project proponent submit an application for a Department of the Army permit.

Regarding your request for comment relative to environmental impacts, this office assesses project impacts, including environmental impacts, after receipt of the detailed, site specific information required via our permit application process.

You can obtain additional information about the Regulatory Program and download forms from our website:
http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx

If you have any questions or need any assistance, please feel free to contact this office at the above Regulatory Office address or telephone at (605) 224-8531.

Sincerely,

Steven E. Naylor
Regulatory Program Manager,
South Dakota

From: Juhas, Catherine D CIV USARMY CENWO (USA)
To: Melissa Schmit
Subject: Wild Springs Solar
Date: Friday, February 7, 2020 9:19:41 AM
Attachments: ENG_4345_2019.pdf
permitapplicationinstructions.pdf

Good Morning Melissa,

Reference is made to your request for comments regarding the Wild Springs Solar Project in Pennington County, SD.

Under the authority of Section 404 of the Clean Water Act, Department of the Army (DA) permits are required for the discharge of fill material into waters of the United States. Waters of the United States include the area below the ordinary high water (OHW) mark of stream channels and lakes or ponds connected to the tributary system, and wetlands adjacent to these waters. Isolated waters and wetlands, as well as man-made channels and ditches, may be waters of the United States, which must be determined on a case-by-case basis.

If your final design prescribes the placement of fill material in any of the jurisdictional areas described above, please submit an application form (see attached) prior to doing any work. We will determine the type, if any, of permit required. You can email me the completed application, or mail it to my address listed below. Please let me know if you have any questions or need more information.

Thank you,

Cathy Juhas
US Army Corps of Engineers
South Dakota Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, South Dakota 57501

Instructions for Preparing a
Department of the Army Permit Application

Blocks 1 through 4. To be completed by Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the application. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by applicant, if an agent is to be employed.

Block 12. Proposed Project Name or Title. Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center.

Block 13. Name of Waterbody. Please provide the name of any stream, lake, marsh, or other waterway to be directly impacted by the activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Project Street Address. If the proposed project is located at a site having a street address (not a box number), please enter it here.

Block 15. Location of Proposed Project. Enter the latitude and longitude of where the proposed project is located. If more space is required, please attach a sheet with the necessary information marked Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality that the site is located in.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known

Block 18. Nature of Activity. Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 18.

Block 19. Proposed Project Purpose. Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Block 20. Reasons for Discharge. If the activity involves the discharge of dredged and/or fill material into a wetland or other waterbody, including the temporary placement of material, explain the specific purpose of the placement of the material (such as erosion control).

Block 21. Types of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

Block 22. Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Description of Avoidance, Minimization, and Compensation. Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Also provide a brief description of how impacts to waters of the United States will be compensated for, or a brief statement explaining why compensatory mitigation should not be required for those impacts.

Block 24. Is Any Portion of the Work Already Complete? Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps permit, identity the authorization, if possible.

Block 25. Names and Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Project Site. List complete names and full mailing addresses of the adjacent property owners (public and private) lessees, etc., whose property adjoins the waterbody or aquatic site where the work is being proposed so that they may be notified of the proposed activity (usually by public notice). If more space is needed, attach an extra sheet of paper marked Block 24.

Information regarding adjacent landowners is usually available through the office of the tax assessor in the county or counties where the project is to be developed.

Block 26. Information about Approvals or Denials by Other Agencies. You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for a Corps permit.

Block 27. Signature of Applicant or Agent. The application must be signed by the owner or other authorized party (agent). This signature shall be an affirmation that the party applying for the permit possesses the requisite property rights to undertake the activity applied for (including compliance with special conditions, mitigation, etc.).

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number.

Please submit one original, or good quality copy, of all drawings on 8½ x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). **While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.**

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
SOUTH DAKOTA REGULATORY OFFICE
28563 POWERHOUSE ROAD, ROOM 118
PIERRE, SOUTH DAKOTA 57501-6174

REPLY TO
ATTENTION OF

March 18, 2020

South Dakota Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, South Dakota 57501

Geronimo Energy, LLC
Attn: Melissa Schmit
7650 Edinborough Way, Suite 725
Edina, Minnesota 55435

Dear Ms. Schmit:

Reference is made to the information received February 27, 2020, concerning Section 404 of the Clean Water Act permit requirements for the Wild Springs Solar Project. The review area is located in Sections 5 and 6 Township 1 North, Range 11 East, Section 1, Township 1 North, Range 10 East, Section 31, Township 2 North, Range 11 East, and Section 36, Township 2 North, Range 10 East, Pennington County, South Dakota.

Based on the information provided, we have determined that there are waters of the United States (i.e. jurisdictional waters) located within the review area. Therefore, any activity involving the discharge of dredged or fill material within the waters of the United States would require a permit from the Corps of Engineers.

Based on the information provided, we have determined that there are also aquatic sites located in the review area that are not waters of the United States (i.e. jurisdictional waters). Therefore, activities within these sites are not subject to Department of the Army regulatory authorities and no permit pursuant to Section 404 of the Clean Water Act is required from the Corps of Engineers for these sites.

An approved jurisdictional determination (AJD) has been completed for your project. This AJD is valid for 5 years from the date of this letter. The AJD is enclosed and also may be viewed at our website. The link to the website is shown below. The AJD will be available on the website within 30 days. If you are not in agreement with the AJD, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit an RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (May 18, 2020). It is not necessary to submit a RFA if you do not object to the AJD.

You can obtain additional information about the Regulatory Program from our website:
http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx

If you have any questions, please feel free to contact this office at the above Regulatory Office address, or telephone Jeff Breckenridge at (605) 341-3169, 3621 and reference action ID NWO-2017-01100-PIE.

Sincerely,

Steven E. Naylor
Regulatory Program Manager,
South Dakota

Enclosures

cc:
Area M Consulting (Knudsen)

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 18, 2020.

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:Omaha District, South Dakota Regulatory Office, CENWO-OD-RSD, Wild Springs Solar Project, NWO-2017-1100-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

Wetlands Include:
NWO-2017-1100-PIE-1,
NWO-2017-1100-PIE-2,
NWO-2017-1100-PIE-3,
NWO-2017-1100-PIE-4,
NWO-2017-1100-PIE-9,
NWO-2017-1100-PIE-10,
NWO-2017-1100-PIE-12,
NWO-2017-1100-PIE-13,
NWO-2017-1100-PIE-14,
NWO-2017-1100-PIE-22
NWO-2017-1100-PIE-23
NWO-2017-1100-PIE-25
NWO-2017-1100-PIE-26
NWO-2017-1100-PIE-27
NWO-2017-1100-PIE-28
NWO-2017-1100-PIE-29

Ephemeral Tributaries include:
NWO-2017-1100-PIE-17 up gradient to Lat. 44.078615, Long. -102.847592
NWO-2017-1100-PIE-18 up gradient to Lat. 44.072257, Long. -102.836461
NWO-2017-1100-PIE-19 up gradient to Lat. 44.088956, Long. -102.851146
NWO-2017-1100-PIE-30 up gradient beyond project boundary
NWO-2017-1100-PIE-31 up gradient beyond project boundary

State:South Dakota County/parish/borough:Pennington County City:New Underwood
Center coordinates of site (lat/long in degree decimal format): Lat.44.07929 N; Long.-102.83949W
Universal Transverse Mercator: 13
Name of nearest waterbody: Boxelder Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:Cheyenne River
Name of watershed or Hydrologic Unit Code (HUC):10120111-Middle Cheyenne-Elk
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date:March 18, 2020
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. Waters of the U.S.

a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
- ☒ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☒ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. **Identify (estimate) size of waters of the U.S. in the review area:**
Non-wetland waters: 14,300 linear feet: 5 width (ft) and/or acres.
Wetlands:2.36 acres.

c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
Elevation of established OHWM (if known):Unknown.

2. **Non-regulated waters/wetlands (check if applicable):**[3]
☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
Identify TNW: **Cheyenne River**.

Summarize rationale supporting determination: From Omaha District TNW List for South Dakota. Basis is from reommendation report for Cheyenne River Section 10 designation.

2. **Wetland adjacent to TNW**
Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.
[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: 1570 **square miles**
Drainage area: 6.41 **square miles**
Average annual rainfall: 16.64 inches
Average annual snowfall: 40.4 inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☒ Tributary flows through **1** tributaries before entering TNW.

Project waters are **25-30** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **15-20** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: Unnamed Tributary to Boxelder Creek (RPW) to Cheyenne River(TNW).
Tributary stream order, if known: 1st.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☒ Natural
☐ Artificial (man-made). Explain: .
☒ Manipulated (man-altered). Explain: Dugouts and dams for livestock water occur within the tributary.

Tributary properties with respect to top of bank (estimate):
Average width: 5 feet
Average depth: 1 feet
Average side slopes: **3:1 .**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☒ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Mostly stable.
Presence of run/riffle/pool complexes. Explain: No.
Tributary geometry: **Meandering**
Tributary gradient (approximate average slope): less than 1 %

(c) Flow:
Tributary provides for: **Ephemeral flow**
Estimate average number of flow events in review area/year: **6-10**
Describe flow regime: Tributary flows during spring runoff and rain events.
Other information on duration and volume: .

Surface flow is: **Discrete and confined.** Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary has (check all that apply):

☒ Bed and banks

☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☒ shelving	☐ the presence of wrack line
☒ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Chemicals contained within the tributaries are typical of livestock grazing and agriculture. Typical chemicals would be a mix of animal waste, herbicides and pesticides for pasture and crop care and suspended solids from crop fields..

Identify specific pollutants, if known: Specific pollutants are unknown but chemical inputs stated above are expected to be found in the tributaries.

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .

☒ Wetland fringe. Characteristics: Wetland pockets where hydrology pools.

☐ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☒ Aquatic/wildlife diversity. Explain findings: Tributary provides a low level of habitat for species tolerant of the various chemical inputs, and diverse/extreme weather patterns..

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size:2.36 acres

Wetland type. Explain:Depressional.

Wetland quality. Explain:The wetlands contained with the review area have a history of being significantly impacted by livestock grazing activities. These activities include watering, trampling, animal waste and runoff of herbicides and pesticides used on adjacent pastures and crop fields.

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Ephemeral flow**. Explain: .

Surface flow is: **Discrete**

Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

☐ Dye (or other) test performed: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

[7]Ibid.

(c) Wetland Adjacency Determination with Non-TNW:
☒ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .
☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **30 (or more)** river miles from TNW.
Project waters are **30 (or more)** aerial (straight) miles from TNW.
Flow is from: **Wetland to navigable waters.**
Estimate approximate location of wetland as within the **500-year or greater** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Chemicals contained within the wetlands are likely a typical mix of animal waste, herbicides, pesticides, and suspended solids typical of agricultural runoff.
Identify specific pollutants, if known: Specific pollutants are unknown but chemical inputs stated above are expected to be found in the wetlands.

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☒ Vegetation type/percent cover. Explain:A mix of wetland species and weeds.
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☒ Aquatic/wildlife diversity. Explain findings:Wetlands within the review area likely provide minimal habitat for wetland-related species.

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **15-20**
Approximately (4.39) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)
NWO-2017-1100-PIE-1	0.39	Y
NWO-2017-1100-PIE-2	0.98	Y
NWO-2017-1100-PIE-3	0.21	Y
NWO-2017-1100-PIE-4	0.21	Y
NWO-2017-1100-PIE-9	0.08	Y
NWO-2017-1100-PIE-10	0.14	Y
NWO-2017-1100-PIE-12	0.10	Y
NWO-2017-1100-PIE-13	0.17	Y
NWO-2017-1100-PIE-14	0.08	Y
NWO-2017-1100-PIE-22	0.83	Y
NWO-2017-1100-PIE-23	0.98	Y
NWO-2017-1100-PIE-25	0.10	Y
NWO-2017-1100-PIE-26	0.03	Y
NWO-2017-1100-PIE-27	0.02	N
NWO-2017-1100-PIE-28	0.02	N
NWO-2017-1100-PIE-29	0.05	Y

Summarize overall biological, chemical and physical functions being performed: The unnamed ephemeral tributaries and the abutting wetlands (fluvial system) reviewed above function as headwater tributaries which eventually drain into the Cheyenne River. The fluvial system moderates the duration and intensity of large discharge events which in turn influences the structure and stability of Boxelder Creek and the Cheyenne River (i.e., physical integrity). The fluvial system has some capacity to retain and process excess nutrients and other pollutants being transported downstream into Boxelder Creek and then to the Cheyenne River. Water quality within the Cheyenne River is influenced by the fluvial system (i.e., chemical integrity). The capacity of the fluvial system to moderate flood flows and nutrient transport to the Cheyenne River has not been significantly diminished by past modifications and activities, however, these important functions remain and are still being performed at some minimal level.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The unnamed ephemeral tributaries in combination with the adjacent wetlands have a significant nexus to the Cheyenne River. These tributaries with abutting wetlands (fluvial system) function as headwater tributaries which eventually drain into Boxelder Creek, then the Cheyenne River. The fluvial system moderates the duration and intensity of large discharge events which in turn influences the structure and stability of the Cheyenne River channel (i.e., physical integrity). The fluvial system has some capacity to retain and process excess nutrients and other pollutants being transported downstream to the Cheyenne River. Water quality within the Cheyenne River is influenced by the fluvial systems (i.e. chemical integrity). Loss or degradation of the fluvial system incrementally over time would be expected to contribute to degradation of the chemical, physical, and biological integrity of the Cheyenne River.

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**

☒ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

☒ Tributary waters: **14,300** linear fee **5** width (ft).

☐ Other non-wetland waters: acres.

Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

☒ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: **2.36** acres.

7. **Impoundments of jurisdictional waters.[9]**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

☐ Demonstrate that impoundment was created from "waters of the U.S.," or

☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.

☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

☐ which are or could be used for industrial purposes by industries in interstate commerce.

☐ Interstate isolated waters. Explain: .

☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

---

[8]See Footnote # 3.

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Wetland Delineation Report submitted prepared by Area M Consulting.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:New Underwood 24K.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Site photographs provided by the consultant and review of Google Earth photos, various years.
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):Review of flow statistics and data generated from USGS South Dakota StreamStats.

B. ADDITIONAL COMMENTS TO SUPPORT JD: The upper bounds of ephemeral tributaries NWO-2017-1100-PIE-17, NWO-2017-1100-PIE-17, and NWO-2017-1100-PIE-17 were identified with coordinates because they do not exhibit characteristics of regular flow such as OHWL and/or continuous wetland. Site photos provided by the consultant and Google Earth Aerial Photography were used to support that determination.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Geronimo Energy, LLC	File Number: NWO-2017-01100-PIE	Date: March 18, 2020
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found in Corps regulations at 33 CFR Part 331, or at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/FederalRegulation.aspx

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact: US Army Corps of Engineers, Northwestern Division Attn: Melinda Larsen, Regulatory Appeals Review Officer Portland, OR 97232 Telephone (503) 808-3888 Melinda.M.Larsen@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 18, 2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:Omaha District, South Dakota Regulatory Office, CENWO-OD-RSD, Wild Springs Solar Project, NWO-2017-1100-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION:The review area consists of Waters NWO-2017-1100-PIE-5, NWO-2017-1100-PIE-6, NWO-2017-1100-PIE-7, NWO-2017-1100-PIE-8, NWO-2017-1100-PIE-11, NWO-2017-1100-PIE-15, NWO-2017-1100-PIE-16, NWO-2017-1100-PIE-20, NWO-2017-1100-PIE-21, NWO-2017-1100-PIE-24.

State:South Dakota County/parish/borough:Pennington County City:New Underwood
Center coordinates of site (lat/long in degree decimal format): Lat.44.07929 N; Long.-102.83949W
Universal Transverse Mercator: 13
Name of nearest waterbody: Boxelder Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC):10120111- Middle Cheyenne-Elk
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date:March 18, 2020
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: acres.

   c. **Limits (boundaries) of jurisdiction** based on: **Pick List**
      Elevation of established OHWM (if known): .

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:These wetlands are identified as being non-jurisdictional. These wetlands do not exhibit a discernable hydrologic outlet to (or interaction with) any WOUS. In addition, these wetlands are intrastate, non-navigable water bodies with no nexus to interstate commerce .

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. **TNW**
   Identify TNW: .

   Summarize rationale supporting determination: .

2. **Wetland adjacent to TNW**
   Summarize rationale supporting conclusion that wetland is "adjacent": .

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

   (ii) Physical Characteristics:
   (a) Relationship with TNW:
   ☐ Tributary flows directly into TNW.
   ☐ Tributary flows through **Pick List** tributaries before entering TNW.

   Project waters are **Pick List** river miles from TNW.

[3] Supporting documentation is presented in Section III.F.
[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   ☐ Tributary waters: linear feet width (ft).
   ☐ Other non-wetland waters: acres.
   Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☒ Wetlands: 5.92 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

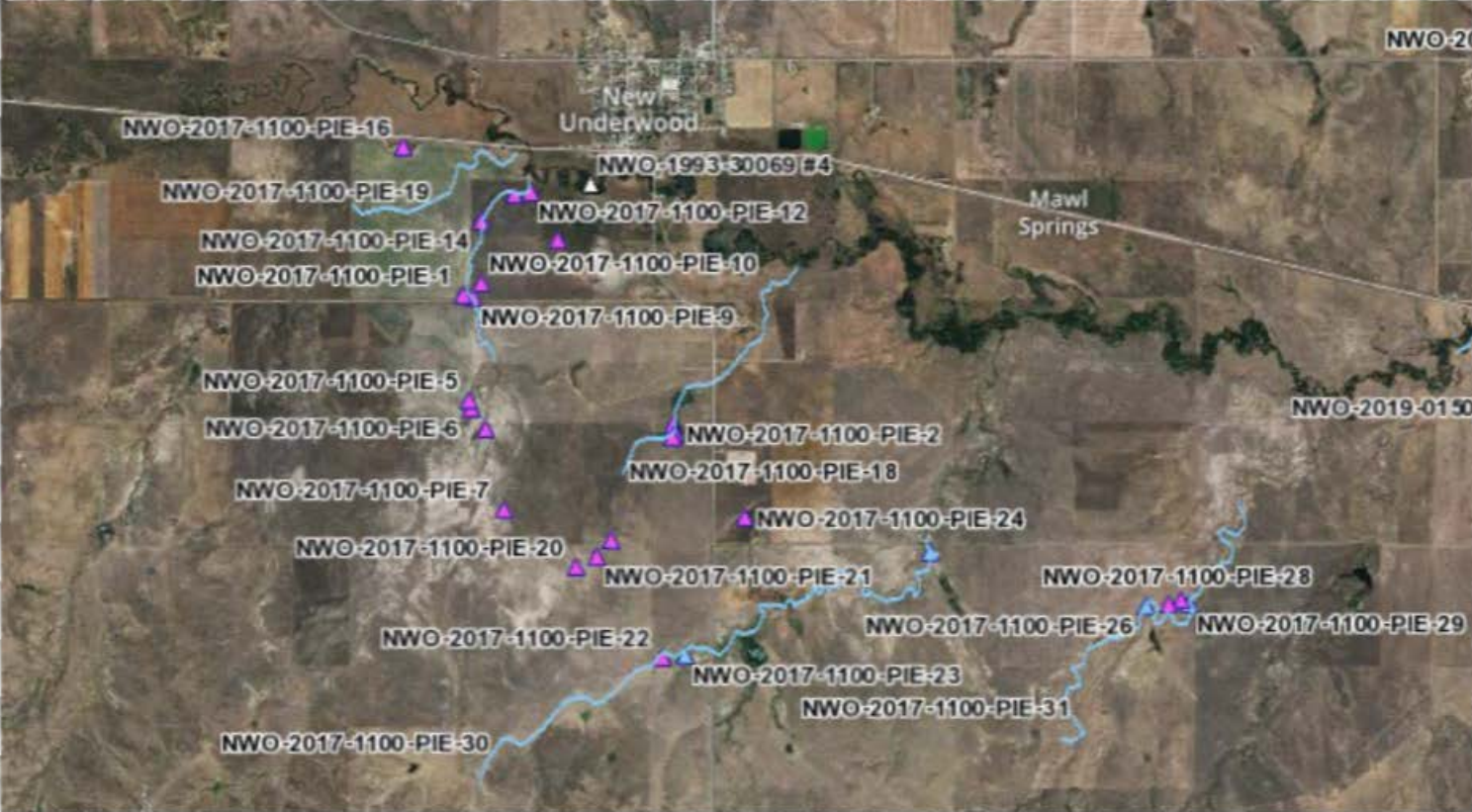
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .
- ☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Wetland Delineation Report submitted prepared by Area M Consulting.
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☒ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps: .
- ☐ Corps navigable waters' study: .
- ☐ U.S. Geological Survey Hydrologic Atlas: .
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name:New Underwood 24K.
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
- ☐ National wetlands inventory map(s). Cite name: .
- ☐ State/Local wetland inventory map(s): .
- ☐ FEMA/FIRM maps: .
- ☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date):Site photographs provided by the consultant and review of Google Earth photos, various years. .
  - or ☐ Other (Name & Date): .
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: Wetlands NWO-2017-1100-PIE-5, NWO-2017-1100-PIE-6, NWO-2017-1100-PIE-7, NWO-2017-1100-PIE-8, NWO-2017-1100-PIE-11, NWO-2017-1100-PIE-20, NWO-2017-1100-PIE-21, and NWO-2017-1100-PIE-24 are isolated pocket wetlands. These wetlands do not exhibit a discernable hydrologic outlet to (or interaction with) any WOUS. In addition, these wetlands are intrastate, non-navigable water bodies with no nexus to interstate commerce. Wetlands NWO-2017-1100-PIE-15, NWO-2017-1100-PIE-16 are stock watering dugouts that do not exhibit a discernable hydrologic outlet to (or interaction with) any WOUS. In addition, these wetlands are intrastate, non-navigable water bodies with no nexus to interstate commerce.


NWO-2017-1100-PIE-16
New Underwood
NWO-1993-30069 #4
NWO-2017-1100-PIE-19
NWO-2017-1100-PIE-12
Mawl Springs
NWO-2017-1100-PIE-14
NWO-2017-1100-PIE-10
NWO-2017-1100-PIE-1
NWO-2017-1100-PIE-9
NWO-2017-1100-PIE-5
NWO-2017-1100-PIE-6
NWO-2017-1100-PIE-2
NWO-2017-1100-PIE-18
NWO-2017-1100-PIE-7
NWO-2017-1100-PIE-24
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NWO-2017-1100-PIE-21
NWO-2017-1100-PIE-28
NWO-2017-1100-PIE-26
NWO-2017-1100-PIE-29
NWO-2017-1100-PIE-22
NWO-2017-1100-PIE-23
NWO-2017-1100-PIE-31
NWO-2017-1100-PIE-30

U.S. Fish & Wildlife Service

July 3, 2017
January 22, 2020
March 9, 2020

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Dakota Ecological Services

420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

IN REPLY REFER TO:
Wild Springs Solar,
Pennington County

July 3, 2017

Ms. Melissa Schmit
Wild Springs Solar
7650 Edinborough Way, Suite 725
Edina Minnesota 55435

Dear Ms. Schmit:

This letter is in response to your request received June 5, 2017, for environmental comments regarding the above referenced Wild Springs Solar project near New Underwood, Pennington County, South Dakota. The project proposal includes solar facilities, fencing, roads, a substation, collection lines and weather station(s) as well as a 115 kV (presumably overhead) transmission line to connect to the existing New Underwood Substation (route yet to be determined). The federal nexus for this project is an interconnection with Western Area Power Administration's (Western) transmission system, thus we have provided a copy of this correspondence to Western's Billings, Montana, office.

Threatened/Endangered Species
In accordance with section 7(c) of the Endangered Species Act, as amended, 16 U.S.C. 1531 et seq., we have determined that the following federally listed species may occur in the project area (this list is considered valid for 90 days):

Species	Status	Expected Occurrence
Whooping Crane (*Grus americana*)	Endangered	Migration
Northern Long-eared Bat (Myotis septentrionalis)	Threatened	Summer resident, seasonal migrant, Black Hills winter resident

Whooping cranes migrate through South Dakota on their way to northern breeding grounds and southern wintering areas. They occupy numerous habitats such as cropland and pastures; wet meadows; shallow marshes; shallow portions of rivers, lakes, reservoirs, and stock ponds; and both freshwater and alkaline basins for feeding and loafing. Overnight roosting sites frequently require shallow water in which to stand and rest. Should construction occur during spring or fall migration, the potential for disturbances to whooping cranes exists. Disturbance (flushing the birds) stresses them at critical times of the year. We recommend remaining vigilant for these

birds. There is little that can be done to reduce disturbance besides ceasing construction at sites where the birds have been observed. The birds normally do not stay in any one area for long during migration. Any whooping crane sightings should be reported to this office.

The northern long-eared bat is a medium-sized brown bat listed as threatened under the Endangered Species Act. Northern long-eared bats are known to be present in South Dakota during the summer months, primarily roosting singly or in colonies underneath bark, in cavities or in crevices of both live and dead trees. Hibernacula have been documented in caves/mines in the Black Hills, and the species has been documented in other areas in the state during the summer months. White nose syndrome - a fungus affecting hibernating bats - is considered a significant threat to this species, but individuals may be harmed by other activities such as modifications to hibernacula, timber harvest, human disturbance, and collisions with wind turbines. A 4(d) rule has been published that exempts take of Northern long-eared bats in certain circumstances. For more information, see: https://www.fws.gov/Midwest/Endangered/mammals/nleb/index.html.

If Western or their designated representative determines that the project "may adversely affect" listed species in South Dakota, it should request formal consultation from this office. If a "may affect - not likely to adversely affect" determination is made for this project, it should be submitted to this office for concurrence. If a "no effect" determination is made, further consultation may not be necessary. However, a copy of the determination should be sent to this office.

Wetlands

According to National Wetlands Inventory maps, (available online at https://www.fws.gov/wetlands/) wetlands exist at the proposed construction area. If a project may impact wetlands or other important fish and wildlife habitats, the U.S. Fish and Wildlife Service (Service), in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible, then minimization of any adverse impacts, and finally replacement of any lost acres, in that order. Alternatives should be examined and the least damaging practical alternative selected. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted, and the methods of replacement should be prepared and submitted to the resource agencies for review.

Migratory Birds

Land use of the project area was not provided in your letter, but satellite imagery suggests hayland, pasture, and cropground exist within the project boundaries. Of concern within intact grasslands on the site are migratory birds and nesting habitat. In accordance with Executive Order 13186 regarding migratory bird protection, we recommend avoidance, minimization, and finally replacement of habitat to reduce the impacts to species protected by the Migratory Bird Treaty Act (MBTA). Impacts resulting from this project could include displacement, avoidance, and/or mortality of birds that reside in the area or migrate through it. We recommend evaluation of the proposed project area for migratory bird use prior to construction, followed by post-construction monitoring and evaluation of impacts. Results should be reported to this office. A mitigation plan that specifically addresses direct and indirect take of birds during and after

construction is also recommended, particularly if project impacts must occur within intact native grasslands. Such a plan could include prairie restoration, establishment of easements, or purchase of fee title lands. We can provide further guidance in this regard if the proposed project progresses.

Our Birds of Conservation Concern 2008 document identifies grassland nesting birds that may occur at your proposed project site. This document (available at the following website: https://www.fws.gov/migratorybirds/pdf/grants/BirdsofConservationConcern2008.pdf) is intended to identify species in need of coordinated and proactive conservation efforts among State, Federal, and private entities, with the goals of precluding future evaluation of these species for Endangered Species Act protections and promoting/conserving long-term avian diversity. Primary threats impacting grassland species that occur in South Dakota are habitat loss and fragmentation; these impacts are anticipated as a result of this proposed project.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed as a result of the proposed project even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or avian protection plans, and to implement those measures prior to/during construction, operation, or similar activities.

Eagles

Eagles are also protected by the MBTA as well as the Bald and Golden Eagle Protection Act (BGEPA). Golden eagles (*Aquila chrysaetos*) are year-round residents in western South Dakota, and may be found throughout the state in winter or during migration, while Bald eagles (*Haliaeetus leucocephalus*) occur throughout South Dakota in all seasons. The MBTA and BGEPA protect eagles from a variety of harmful actions and impacts. The Service has guidance regarding means to protect eagles:

- Our 2007 *National Bald Eagle Management Guidelines* are available online: https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf. We recommend reviewing these guidelines as they advise of circumstances where these laws may apply and assist you in avoiding potential violations.

- Our 2009 final rule (50 C.F.R. §§ 22.26 and 22.27) authorizing issuance of permits to

take bald and golden eagles, where the take is compatible with the preservation of the bald eagle and the golden eagle, is associated with and not the purpose of an otherwise lawful activity, has been avoided to the maximum degree practicable, and the remaining take is unavoidable. We recently amended the eagle permit regulations; see: https://www.gpo.gov/fdsys/pkg/FR-2016-12-16/pdf/2016-29908.pdf).

Power Lines

Your project includes construction of an overhead powerline, which are known to kill birds via electrocution and line strikes. Thousands of birds, including endangered species, are killed annually as they attempt to utilize overhead power lines as nesting, hunting, resting, feeding, and sunning sites. The Service recommends the installation of underground, rather than overhead, power lines whenever possible/appropriate to minimize environmental disturbances. For all new overhead lines or modernization of old overhead lines, we recommend incorporating measures to prevent avian electrocutions. The publication entitled *Suggested Practices for Avian Protection on Power Lines - The State of the Art in 2006* has many good suggestions including pole extensions, modified positioning of live phase conductors and ground wires, placement of perch guards and elevated perches, elimination of cross arms, use of wood (not metal) braces, and installation of various insulating covers. You may obtain this publication by contacting the Edison Electric Institute via their website at: http://www.eei.org/resourcesandmedia/products/Pages/products.aspx, or by calling 202-508-5000.

Please note that utilizing just one of the "Suggested Practices . . ." methods may not entirely remove the threat of electrocution to raptors. In fact, improper use of some methods may increase electrocution mortality. Perch guards, for example, may be only partially effective as some birds may still attempt to perch on structures with misplaced or small-sized guards and suffer electrocution as they approach too close to conducting materials. Among the most dangerous structures to raptors are poles that are located at a crossing of two or more lines, exposed above-ground transformers, or dead end poles. Numerous hot and neutral lines at these sites, combined with inadequate spacing between conductors, increase the threat of raptor electrocutions. Perch guards placed on other poles has, in some cases, served to actually shift birds to these more dangerous sites, increasing the number of mortalities. Thus, it may be necessary to utilize other methods or combine methods to achieve the best results. The same principles may be applied to substation structures.

Please also note that the spacing recommendation within the "Suggested Practices . . ." publication of at least 60 inches between conductors or features that cause grounding may not be protective of larger raptors such as eagles. This measure was based on the fact that the skin-to-skin contact distance on these birds (i.e., talon to beak, wrist to wrist, etc.) is less than 60 inches. However, an adult eagle's wingspan (distance between feather tips) may vary from 66 to 96 inches depending on the species (golden or bald) and gender of the bird, and unfortunately, wet feathers in contact with conductors and/or grounding connections can result in a lethal electrical surge. Thus, the focus of the above precautionary measures should be to a) provide more than 96 inches of spacing between conductors or grounding features, b) insulate exposed conducting features so that contact will not cause raptor electrocution, and/or c) prevent raptors from perching on the poles in the first place.

Additional information regarding simple, effective ways to prevent raptor electrocutions on power lines is available in video form. *Raptors at Risk* may be obtained by contacting EDM International, Inc. at 4001 Automation Way, Fort Collins, Colorado 80525-3479, Telephone No. (970) 204-4001, or by visiting their website at: https://www.edmlink.com/component/zoo/item/video-raptors-at-risk?Itemid=240.

In addition to electrocution, overhead power lines also present the threat of avian line strike mortality. Particularly in situations where these lines are adjacent to wetlands or where waters exist on opposite sides of the lines, we recommend marking them in order to make them more visible to birds. For more information on bird strikes, please see *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* which, again, may be obtained by contacting the Edison Electric Institute via their website at http://www.eei.org/resourcesandmedia/products/Pages/products.aspx, or by calling 202-508-5000.

Please note that, while marking of power lines reduces line strike mortality, it does not preclude it entirely. Thus, marking of additional, existing, overhead lines is recommended to further offset the potential for avian line strike mortality.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

The Service appreciates the opportunity to provide comments. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 227.

Sincerely,

Field Supervisor
South Dakota Field Office

cc: Matt Marsh, Western Area Power Administration, Billings, MT

From: Melissa Schmit
To: Morey, Hilary; Natalie_Gates@fws.gov
Subject: Wild Springs Solar - Meeting minutes and survey reports
Date: Tuesday, February 4, 2020 5:05:17 PM
Attachments: Geronimo_NGcompany_portrait_RGB_siglogo_6f818f61-5440-44a1-b0d4-4d220a25f043.png
linkedin_5f69119f-6c68-4b62-b53a-6c0b5186cb75.png
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EmailSigMovingUpdateOptions-01_cefb540f-33d6-4f49-9216-93cc699bfe69.png
Wild Springs Prairie Grouse Survey Report_06052017.pdf
Wild Springs Site Characterization Final_01092020.pdf
Wild Springs_USFWS_SDGFP_Mtg Minutes_01222020.pdf

Hilary and Natalie,
Thank you again for your time in January to discuss the Wild Springs Solar Project. I have attached for your review and records notes from our meeting, the 2017 prairie grouse lek survey report, and the site characterization report. Once the wetland delineation report and natural resource strategy report are finalized I will provide those as well. Please let me know if you have any questions on the attached and I look forward to continued coordination on this project.

Thank you,

GERONIMO ENERGY
a nationalgrid company

Melissa Schmit
Director, Permitting
E: melissa@geronimoenergy.com
P: 612-259-3095

8400 Normandale Lake Boulevard
Suite 1200,
Bloomington, MN 55437
952-988-9000

WE'VE MOVED!
Please update your records.

MEETING	**Wild Springs Solar Project Introduction and Review**
DATE/TIME	**January 22, 2020, 9:00 AM-11:00 AM CST**
LOCATION	**SDGFP Office, Pierre SD**
PARTICIPANTS	**Melissa Schmit (Geronimo Energy)**
	Todd Mattson (WEST)
	Natalie Gates (USFWS)
	Hilary Morey (SDGFP)

- Meeting with USFWS and SDGFP to provide an update on Wild Springs Solar and discuss wildlife survey efforts.
- Geronimo provided an overview of the Project including project schedule, land use permitting that would be required (conditional use permit through Pennington County, Facility Permit though the South Dakota Public Utilities Commission and an Environmental Assessment in coordination with WAPA due to proposed federal interconnection), and surveys completed to date.
    - Surveys completed: wetland delineations in 2017 and 2019, cultural resources survey in 2017 and 2019, lek surveys in 2017, ground-based raptor nest surveys in 2017 and 2019, site characterization study/habitat assessment in 2019.
    - Provided an overview of solar components and construction. Wild Springs will construct a 128 MW facility that will utilize below-ground DC and AC collection lines or above-ground DC cabling that will be strung below the panels on hanging brackets and below-ground AC collection to the project substation. The project will also include an onsite operation and maintenance facility co-located with the project substation and likely require 4 full-time staff.
    - Provided an updated project map that reflects an expanded project area which resulted from avoidance of prairie dog towns, wetlands, drainages, and cultural resources that were identified during field surveys and provided an overview of solar facilities.
    - At this point, Wild Springs anticipates the project will begin construction in late 2021 and be in commercial operations by the end of 2022.
- WEST provided an overview of avian studies that have been completed for solar facilities providing the distinction between wind energy and solar energy impacts to avian species.
    - Solar facilities have low levels of direct mortality and most impacts appear to be related to alteration of habitat.
    - Raptor and large bird avoidance may occur but small bird diversity and richness may increase.

- Impacts/bat mortality is not a concern for solar facilities as they do not collide with stationary objects. The only risk to bats is through the removal of roosting habitat. Wild Springs Solar will not result in tree removal and does not propose acoustic bat surveys.
- Extensive avian mortality monitoring has occurred at operating solar facilities in the southwestern U.S. Less than 4% of discovered fatalities could clearly be attributed to collision with solar panels.
- Because some water-associate or water-obligate birds have been found at a few solar sites in the desert southwest, there is a "Lake effect" hypothesis that these birds mistake solar panels to be large waterbodies. WEST is currently studying this issue in more detail in California, but thus far it appears to be limited to a relatively small number of individual birds at a few sites in the Mojave Desert near the Salton Sea (and large waterbird wintering or migratory stop over site); there have not been other reports of a "lake effect" at solar sites outside this region.

- WEST is preparing a Natural Resource Strategy for Wild Springs that outlines avoidance and minimization of impacts as well as best management practices for construction and operation activities. Wild Springs is avoiding cultural resources, wetlands, and a prairie dog town identified during field surveys. Avoidance of the prairie dog town eliminates the need for additional field surveys of species that may utilize the area.
- Discussion on existing conditions, wildlife, and landcover/vegetation:
  - Landcover confirmed with field reconnaissance is ~75% pasture/hay and fallow grassland areas and ~20% alfalfa, hay, and wheat. Remaining area is open water associated with delineated wetlands, and barren land and shrub/scrub associated with the WAPA substation parcel.
  - Wild Springs plans to minimize grading as the site conditions allow and will revegetate all areas of temporary construction disturbance with a native grass mix. This will stabilize the soil and create/maintain wildlife habitat.
  - SDGFP noted that big game would be excluded from the solar facility once it was constructed; SDGFP recommended that steps be taken to avoid trapping big game within the fence line during initial construction.
  - USFWS recommends that Wild Springs consider mitigation to offset impacts to grasslands.
    - Because of the lack of conclusive studies on how wildlife would be impacted by the project, Wild Springs proposes to conduct pre- and post-construction breeding bird surveys to determine if any displacement or change in avian use would occur.
    - It is possible some buffer areas around the facility could be protected from overgrazing, potentially enhancing some wildlife habitat at this site.

- Prairie dog use within and/or adjacent to the project facility should be carefully considered. Fencing or vegetation height could impact how prairie dogs use the area and, ideally, the need for prairie dog control would be minimized.

- Discussion on additional surveys:
  - Wild Springs plans to conduct the following surveys in 2020: additional round of ground-based raptor nest surveys, additional round of prairie grouse lek surveys, and a breeding bird survey.
  - In lieu of post-construction mortality surveys, Wild Springs proposes conducting breeding bird surveys once the project is operational and vegetation is established. These surveys would be designed to better assess the potential change in wildlife habitat value and function after the project is constructed.

- Next steps:
  - Geronimo will provide finalized survey reports for the project to USFWS and SDGFP and work on incorporating input from meeting into the Project's Natural Resource Strategy.
  - Natalie will provide SD species of habitat fragmentation concern list.
  - Hilary will provide information on known big game migration in the area.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Dakota Ecological Services
420 South Garfield Avenue, Suite 400
Pierre, South Dakota 57501-5408

IN REPLY REFER TO:
WILD SPRINGS
SOLAR PROJECT

March 9, 2020

Christina Gomer
Western Area Power Administration
Upper Great Plains Customer Service Region
2900 4th Avenue North
Billings, Montana 59101

Dear Ms. Gomer:

This letter is in response to your request dated February 11, 2020, for environmental comments regarding the proposed Wild Springs Solar Project, a photovoltaic ground-mounted solar energy system and associated facilities, potentially generating up to 128-megawatt (MW). The project is proposed on private lands south of New Underwood in Pennington County, South Dakota.

We previously provided a letter to the developer of this project, Geronimo Energy, dated July 3, 2017, that had been copied to your office; a second copy is enclosed for your convenience. That letter provides information regarding the species and resources of concern that may occur in the project area (federally listed species, eagles, migratory birds, Birds of Conservation Concern, wetlands) as well as some recommendations to reduce impacts to those resources. The comments in that July 3, 2017, letter still apply to this project, with exception of language regarding incidental take of migratory birds per the December 17, 2017, U.S. Department of Interior, Solicitor's Opinion, M-37050 (online: https://www.doi.gov/solicitor/opinions/). Note, that M-37050 addresses incidental take of migratory birds under the Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA), but incidental take does not include habitat impacts such as removal of habitat nor displacement of wildlife from habitat.

We also recently provided you with a report titled *South Dakota Species of Habitat Fragmentation Concern: Grassland Birds*. Species listed in that document are likely to be affected by activities on the landscape that reduce the size of contiguous grasslands into smaller and more isolated patches. Some of these species are likely to occur at the Wild Springs Solar project area and placement of solar panels effectively blanketing grassland habitat will likely be to the detriment of these sensitive species. Many are also currently recognized as species of concern by our agency and the State of South Dakota.

Activities that alter or destroy grassland bird nesting habitat may fall under the Service's 1981 mitigation policy, available online at: https://www.fws.gov/policy/a1npi89_02.pdf. This policy

assures consistent and effective mitigation recommendations that facilitate mitigation by Federal action agencies and developers early in the action process, thereby avoiding delays and assuring equal consideration of fish and wildlife resources with other project features and purposes. Our policy adopts the definition of the term "mitigation" as stated in the NEPA regulations which includes: "(a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments."

During a January 22, 2020, meeting with Geronimo representative Melissa Schmit regarding this project, we reiterated a primary recommendation in our July 3, 2017, letter: to avoid intact grassland areas as much as possible. Grasslands compose the dominant habitat type (75.5% per reports provided to us by Geronimo) within the Wild Springs Solar Project area; ideally project boundaries would be shifted or a new location would be chosen to reduce this impact. We continue to recommend measures to reduce the footprint of this project on grassland habitats.

Also during that meeting, we reiterated another recommendation: to offset the impacts to migratory birds, particularly grassland nesting species, expected to result from this development. Some information is available from other solar farms regarding environmental impacts, but few project are established in South Dakota at this time. The Wild Springs project, should it proceed, provides an opportunity in South Dakota to gather data that could inform the level of offsets needed to address anticipated change in avian diversity, density, and/or species composition. Incidental take of migratory birds would also be valuable information to understand that aspect of solar project effects in South Dakota, but the primary focus would be the impact of this site to birds via habitat impacts. Geronimo has provided some information indicating post-construction surveys will be completed; we recommend the resulting information be used to develop a habitat offset plan for the benefit of grassland birds.

Our emphasis on grassland birds and habitat offsets is reinforced by the recent finding that the majority of North American bird species are in decline, exhibiting a 29% reduction in abundance or a loss of 2.9 billion birds across almost all biomes since 1970 (Rosenberg et al. 2019). Among those, grassland nesting birds have experienced the greatest population losses: approximately 53% declines in populations across North America, equating to more than 700 million breeding individuals encompassing 31 species (Rosenberg et al. 2019). Conserving native prairie for the benefit of grassland nesting birds is an environmental priority in South Dakota.

If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service should be informed so that the above determinations can be reconsidered.

The Service appreciates the opportunity to provide comments. If you have any questions on these comments, please contact Natalie Gates of this office at (605) 224-8693, Extension 227.

Sincerely,

Natalie Gates

For Scott Larson
Field Supervisor
South Dakota Field Office

Literature Cited

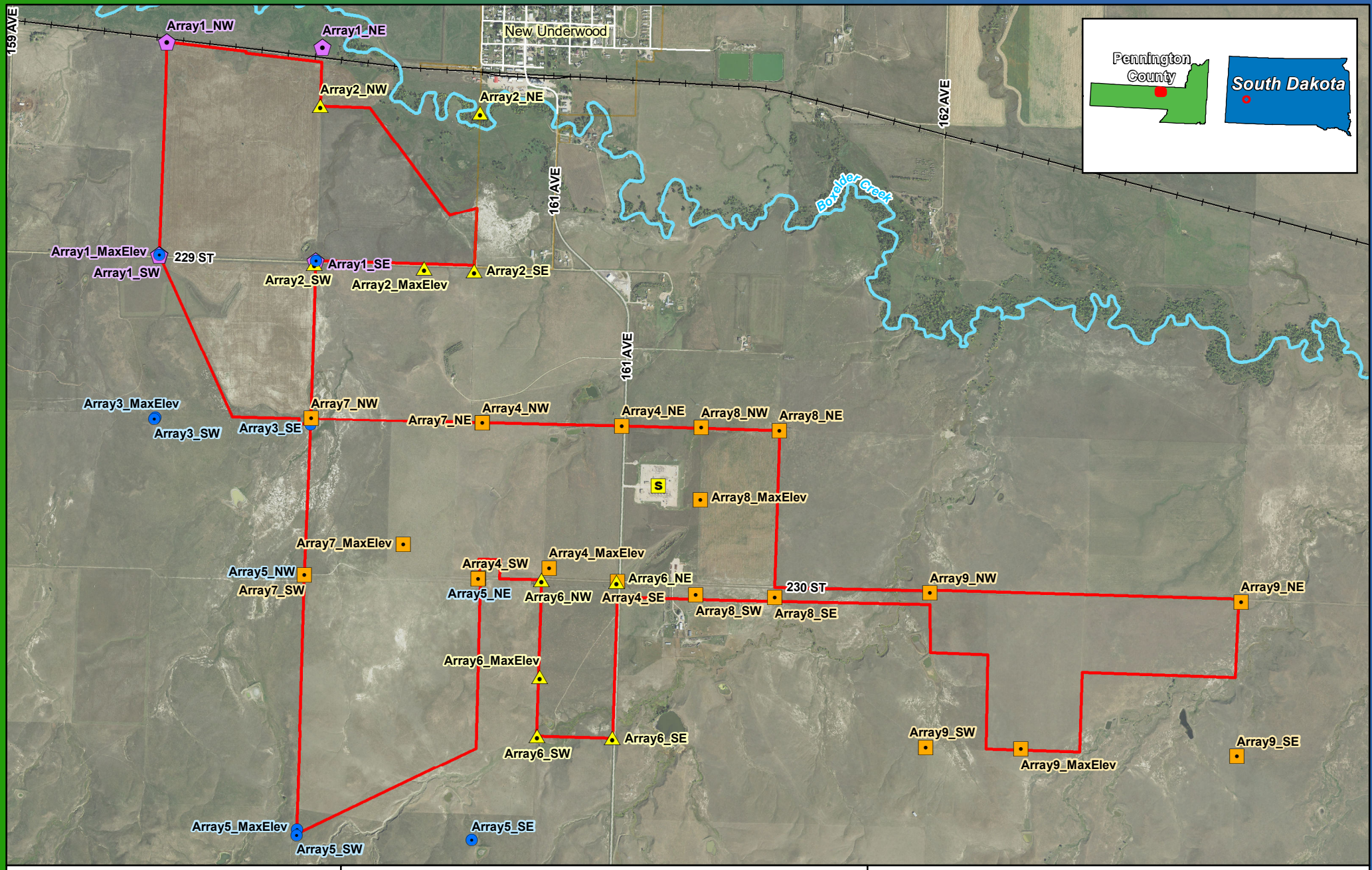
Rosenberg, K. V., A. M. Dokter, P. J. Blancher, J. R. Sauer, A. C. Smith, P. A. Smith, J. C. Stanton, A. Panjabi, L. Helft, M. Parr, and P. P. Marra. 2019. Decline of the North American Fauna. Science 10.1126/science.aaw1313.

Enclosure

cc: SDDGFP, Pierre, SD, Attn: Hilary Morey

Federal Aviation Administration

Wild Springs received Determinations of No Hazard (DNH) for 45 locations around the perimeter of the Project on March 17, 19, 23, and 25, 2020. Wild Springs includes a representative DNH letter and a map depicting DNH locations. All of the DNHs are available upon request.



WILD SPRINGS SOLAR

0 0.25 0.5 Miles

1:26,000

FAA Determinations of No Hazard
Wild Springs Solar Project
Pennington County, SD

- FAA DNH Date Received - 3/17/2020
- FAA DNH Date Received - 3/19/2020
- FAA DNH Date Received - 3/23/2020
- FAA DNH Date Received - 3/25/2020
- Existing Substation
- Land Control Area
- Perennial Stream (NHD)
- Railroad

Document Path: Z:\Clients\E_H\Geronimo\Wild_Springs\Permitting\Facility_Permit\Figures\Fig_Wild_Springs_FAA.mxd

Date: 4/23/2020

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2020-AGL-3567-OE

Issued Date: 03/17/2020

Melissa Schmit
Wild Springs Solar, LLC
7650 Edinborough Way Ste. 725
Edina, MN 55435

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Array1_MaxElev
Location:	New Underwood, SD
Latitude:	44-04-54.82N NAD 83
Longitude:	102-51-34.74W
Heights:	2887 feet site elevation (SE)
	16 feet above ground level (AGL)
	2903 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 09/17/2021 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

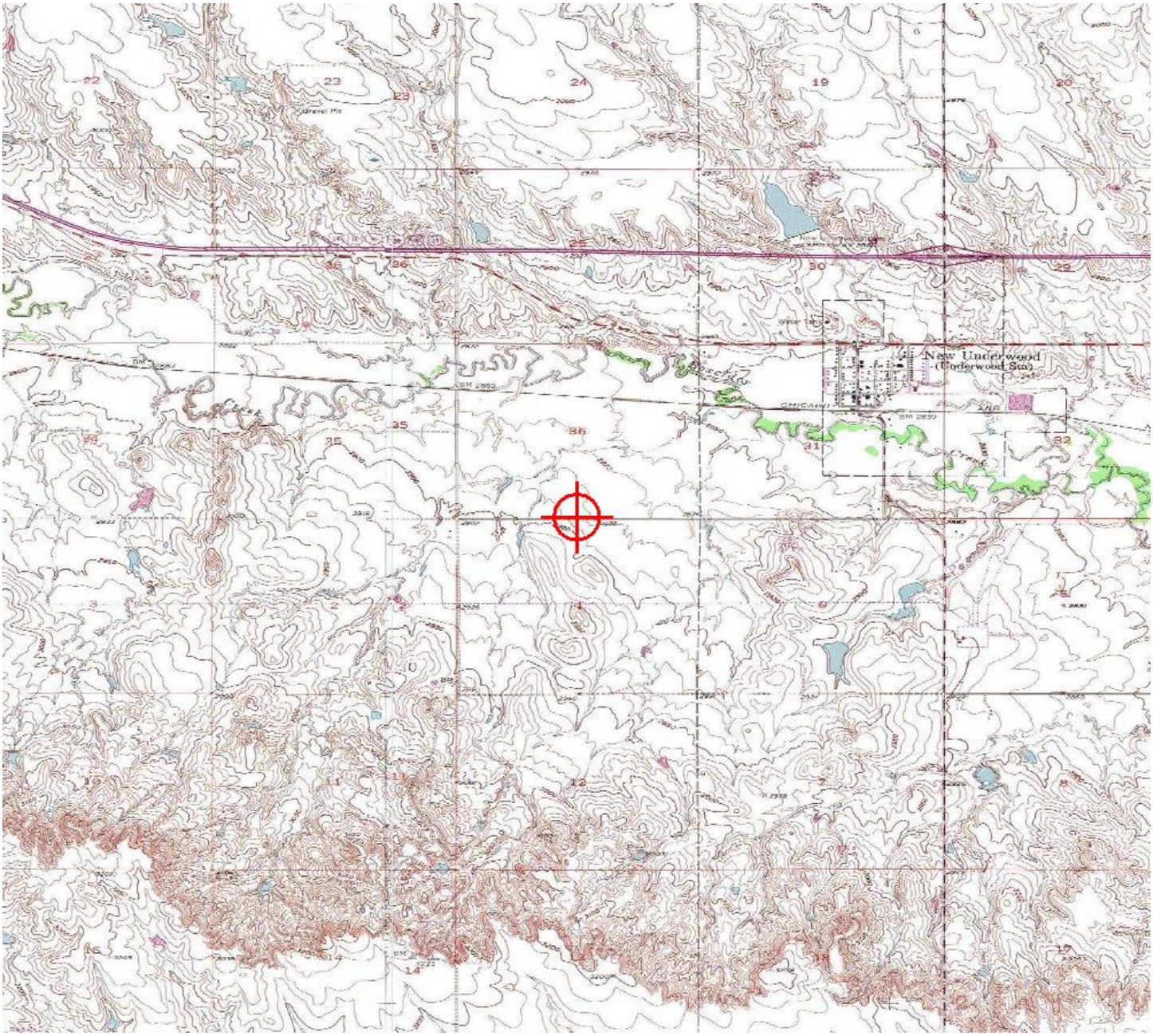
This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (847) 294-7458, or fred.souchet@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-AGL-3567-OE.

Signature Control No: 431256615-433766958 (DNE)
Fred Souchet
Specialist

Attachment(s)
Map(s)

TOPO Map for ASN 2020-AGL-3567-OE



U.S. Department of Agriculture, Natural Resource Conservation Service

February 5, 2020

From: Faulkner, Mitch - NRCS, Belle Fourche, SD
To: Melissa Schmit
Subject: RE: Wild Springs Solar - Seed Mixes
Date: Wednesday, February 5, 2020 2:07:28 PM
Attachments: image002.png
image004.png
image006.png
image008.png
image010.png
BASIC_ES_NewUnderwood_WildSprings.pdf
NewUnderwood_WildSprings.pdf
Seeding Tool_1 Acre.pdf
Seeding Tool_1480 Acres.pdf

Hello Melissa-
See attached the materials for the recommended seeding based on South Dakota NRCS standards and guidelines. I assumed that high rates of soil erosion were not an expectation and not an overriding concern. The attached recommendations are primarily based on restoring a plant community similar to the natural rangeland plant community found in that area. As discussed on Monday, I only included grass species, and did not include forbs.
I completed two seeding plans- One that shows the acres as calculated for the entire area you provided me, which is about 1,480 acres. It seems unlikely that the entire area will require re-seeding so I also did a "1 acre" plan. This would illustrate what each acre needing to be re-vegetated would require. If you need a specific acreage number plan (when that is determined based on actual disturbance) let me know.
Attached are four items:

1. NewUnderwood_WildSprings – Is a detailed soils report based on the map you sent me
2. Basic_ES_NewUnderwood_WildSprings- is a more generalized soil report based on the map you sent me and what I ended up using to design the seeding

The overriding outcome of this is that the area of interest is primarily a "Clayey" ecological site (about 2/3), with considerable amounts of the "Loamy" ecological site. The recommended seeding is designed primarily with this in mind. There are other minor sites in the area of interest too, but the seeding is also (at least mostly) broadly adapted to these soils too.

3. A seeding plan for 1,480 acres (that is the entire polygon)
4. A seeding plan for 1 acre for a reference – as I doubt the entire 1480 acre piece is going to be seeded- This can be applied across the total number of acres needing to be planted.

The seeding plans include a couple of important items for your project- with other forms mixed in that are less important to you - The first page is the seeding plan with species/PLS information, recommended seeding dates, preparation, etc. I assumed the seed across the area will be drilled. If it is to be broadcast, we recommend a 1.5X seeding rate.
The 4th page is a cost estimate- but this is only an estimate based on point in time estimated costs
The 6th page are the SD adapted varieties for each species in the seeding- The seeding sheet (page 1) outlines the origin requirements for common seed
Starting on the 7th page are some general guidelines NRCS commonly provides for seedings - One thing to keep in mind is that weed control before and after the seeding might be important on your site- as weed competition for soil moisture can be an important factor in our semi-arid climate. Also the best time to do this seeding is early spring prior to 5/15.

Let me know if you have any questions. I am in the office most of Thursday and all of Friday.

Thanks

Mitch Faulkner
Area Rangeland Management Specialist
USDA-NRCS
Belle Fourche, SD

From: Melissa Schmit <melissa@geronimoenergy.com>
Sent: Monday, February 3, 2020 1:32 PM
To: Faulkner, Mitch - NRCS, Belle Fourche, SD <mitch.faulkner@usda.gov>
Subject: Wild Springs Solar - Seed Mixes

Hi Mitch,
Thanks again for your time today. As we discussed I have attached a map of our proposed Wild Springs Solar project boundary for recommendations on low growing seed mixes for the project. Please let me know if you need any additional information and thank you for your help.

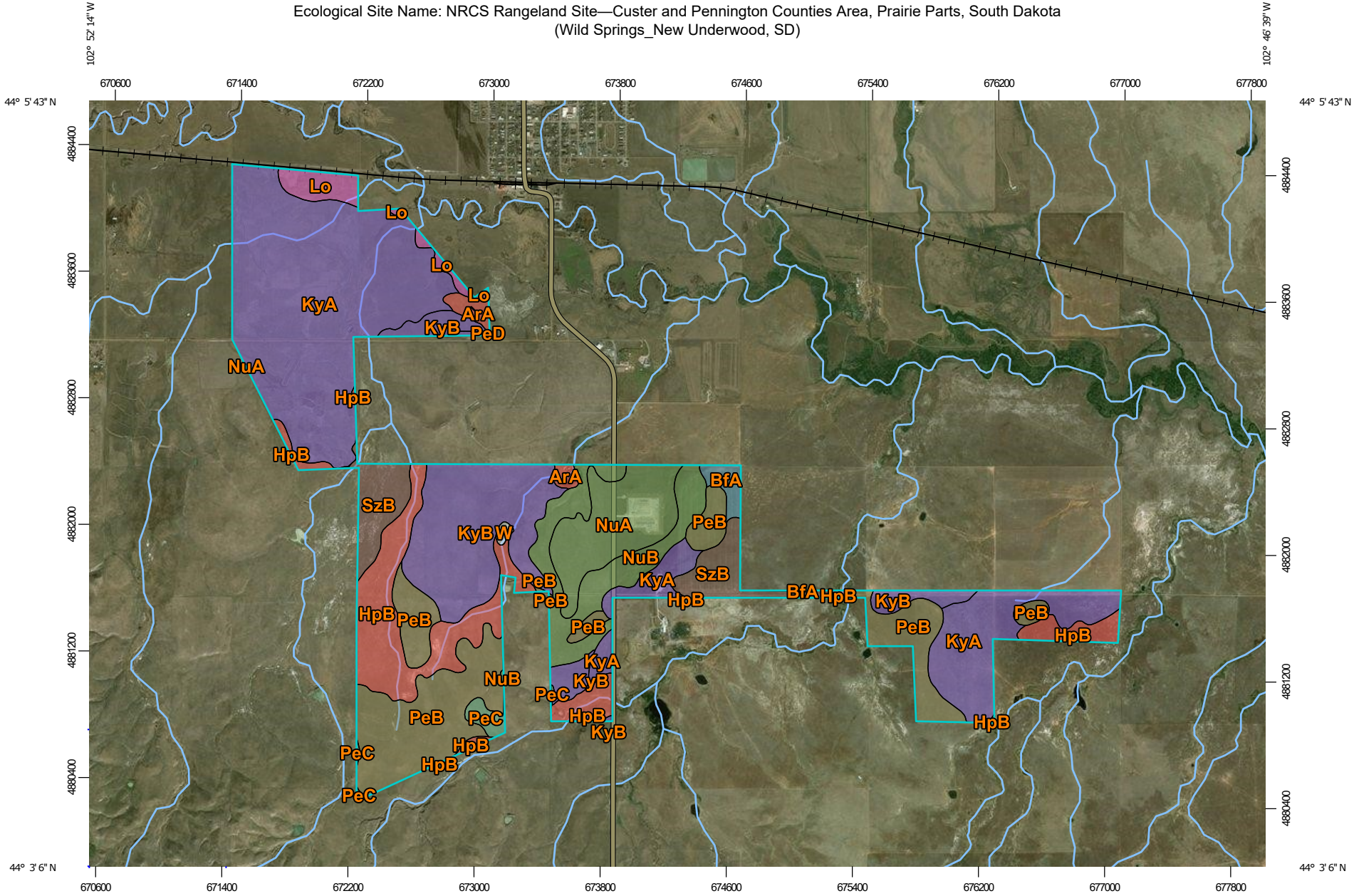
Regards,

GERONIMO ENERGY
a nationalgrid company

Melissa Schmit
Director, Permitting
E: melissa@geronimoenergy.com
P: 612-259-3095

8400 Normandale Lake Boulevard
Suite 1200,
Bloomington, MN 55437
952-988-9000

Ecological Site Name: NRCS Rangeland Site—Custer and Pennington Counties Area, Prairie Parts, South Dakota
(Wild Springs_New Underwood, SD)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Clayey
- Clayey 13-16" P.Z.
- Clayey 16-18" P.Z.
- Claypan
- Dense Clay
- Loamy 13-16" P.Z.
- Loamy Terrace
- Thin Claypan
- Not rated or not available

Soil Rating Lines
- Clayey
- Clayey 13-16" P.Z.
- Clayey 16-18" P.Z.
- Claypan
- Dense Clay
- Loamy 13-16" P.Z.
- Loamy Terrace
- Thin Claypan
- Not rated or not available

Soil Rating Points
- Clayey
- Clayey 13-16" P.Z.
- Clayey 16-18" P.Z.
- Claypan
- Dense Clay
- Loamy 13-16" P.Z.
- Loamy Terrace
- Thin Claypan
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Custer and Pennington Counties Area, Prairie Parts, South Dakota
Survey Area Data: Version 11, Sep 17, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 24, 2014—Mar 4, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Ecological Site Name: NRCS Rangeland Site

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ArA	Arvada loam, 0 to 3 percent slopes	Thin Claypan	15.3	1.0%
BfA	Beckton silt loam, 0 to 4 percent slopes	Claypan	12.9	0.9%
HpB	Hisle silt loam, 0 to 6 percent slopes	Thin Claypan	164.2	11.1%
KyA	Kyle clay, 0 to 2 percent slopes	Clayey 13-16" P.Z.	521.7	35.3%
KyB	Kyle clay, 2 to 6 percent slopes	Clayey 13-16" P.Z.	209.1	14.1%
Lo	Lohmiller silty clay	Loamy Terrace	28.3	1.9%
NuA	Nunn loam, 0 to 2 percent slopes	Loamy 13-16" P.Z.	98.9	6.7%
NuB	Nunn loam, 2 to 6 percent slopes	Loamy 13-16" P.Z.	98.8	6.7%
PeB	Pierre clay, 2 to 6 percent slopes	Clayey 16-18" P.Z.	235.9	16.0%
PeC	Pierre clay, 6 to 9 percent slopes	Clayey	11.0	0.7%
PeD	Pierre clay, 6 to 20 percent slopes	Clayey 13-16" P.Z.	1.8	0.1%
SzB	Swanboy clay, 0 to 3 percent slopes	Dense Clay	77.7	5.3%
W	Water		2.6	0.2%
Totals for Area of Interest			**1,478.3**	**100.0%**

Description

An ecological site name provides a general description of a particular ecological site. For example, "Loamy Upland" is the name of a rangeland ecological site. An "ecological site" is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. For example, the hydrology of the site is influenced by development of the soil and plant community. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service. Descriptions of those displayed in this map and summary table may also be accessed through the Ecological Site Assessment tab in Web Soil Survey.

Ecological sites and their respective unique set of characteristics are uniquely identified by the Ecological Site ID. The same Ecological Site Name may be assigned to multiple Ecological Site IDs. If you wish to display a map of unique ecological sites, it is recommended that you select the Ecological Site ID attribute from the choice list.

Rating Options

Class: NRCS Rangeland Site

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

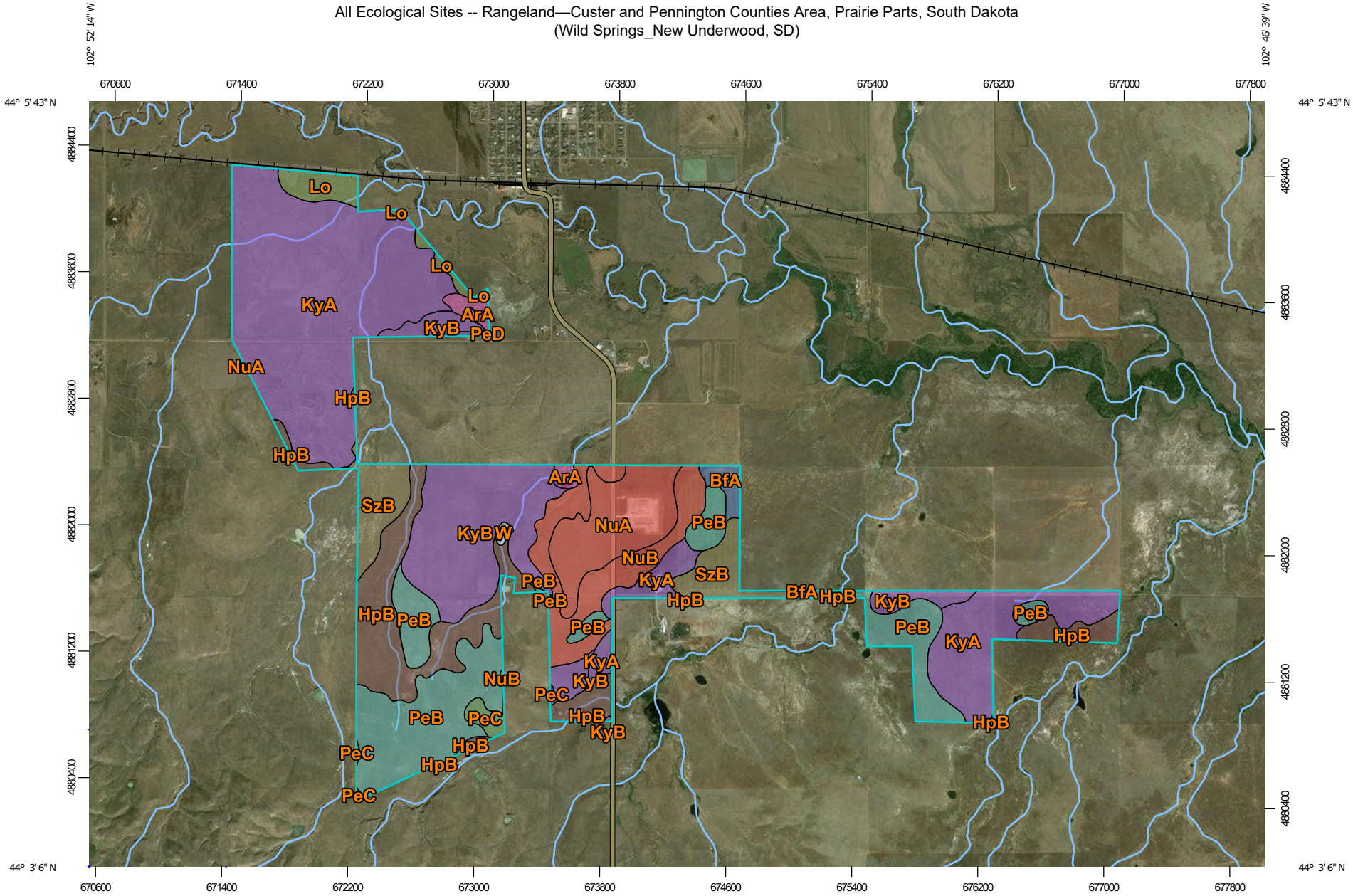
Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

All Ecological Sites -- Rangeland—Custer and Pennington Counties Area, Prairie Parts, South Dakota
(Wild Springs_New Underwood, SD)



Map Scale: 1:34,100 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 500 1000 2000 3000

Feet: 0 1500 3000 6000 9000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

R060AY010SD
R060AY011SD
R060AY013SD
R060AY015SD
R060AY018SD
R060AY022SD
R060AY040SD
R063AY011SD
R064XY046NE
Not rated or not available

Soil Rating Lines

R060AY010SD
R060AY011SD
R060AY013SD
R060AY015SD
R060AY018SD
R060AY022SD
R060AY040SD
R063AY011SD
R064XY046NE
Not rated or not available

Soil Rating Points

R060AY010SD
R060AY011SD
R060AY013SD
R060AY015SD
R060AY018SD
R060AY022SD
R060AY040SD
R063AY011SD
R064XY046NE
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Custer and Pennington Counties Area, Prairie Parts, South Dakota
Survey Area Data: Version 11, Sep 17, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 24, 2014—Mar 4, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

All Ecological Sites — Rangeland

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
ArA	Arvada loam, 0 to 3 percent slopes	Arvada (85%)	R060AY015SD — Thin Claypan	15.3	1.0%
		Kyle (4%)	R060AY011SD — Clayey 13-16" P.Z.		
			R060AY040SD — Clayey 16-18" P.Z.		
		Slickspots (4%)	R060AY999SD — Non-site		
		Beckton (3%)	R060AY013SD — Claypan		
		Lohmiller, rarely flooded (2%)	R060AY022SD — Loamy Terrace		
		Owanka (2%)	R060AY022SD — Loamy Terrace		
BfA	Beckton silt loam, 0 to 4 percent slopes	Beckton (90%)	R060AY013SD — Claypan	12.9	0.9%
		Arvada (5%)	R060AY015SD — Thin Claypan		
		Nunn (3%)	R060AY041SD — Loamy 16-18" P.Z.		
		Satanta (2%)	R060AY041SD — Loamy 16-18" P.Z.		
HpB	Hisle silt loam, 0 to 6 percent slopes	Hisle (90%)	R064XY046NE — Thin Claypan	164.2	11.1%
		Kyle (3%)	R060AY011SD — Clayey 13-16" P.Z.		
			R060AY040SD — Clayey 16-18" P.Z.		
		Pierre (3%)	R060AY040SD — Clayey 16-18" P.Z.		
		Samsil (3%)	R060AY017SD — Shallow Clay		
		Slickspots (1%)	R060AY999SD — Non-site		
KyA	Kyle clay, 0 to 2 percent slopes	Kyle (85%)	R060AY011SD — Clayey 13-16" P.Z.	521.7	35.3%

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
			R060AY040SD — Clayey 16-18" P.Z.		
		Hisle (5%)	R060AY015SD — Thin Claypan		
		Lohmiller, rarely flooded (5%)	R060AY022SD — Loamy Terrace		
		Swanboy (5%)	R060AY018SD — Dense Clay		
KyB	Kyle clay, 2 to 6 percent slopes	Kyle (85%)	R060AY011SD — Clayey 13-16" P.Z.	209.1	14.1%
			R060AY040SD — Clayey 16-18" P.Z.		
		Hisle (5%)	R060AY015SD — Thin Claypan		
		Pierre (5%)	R060AY040SD — Clayey 16-18" P.Z.		
		Swanboy (5%)	R060AY018SD — Dense Clay		
Lo	Lohmiller silty clay	Lohmiller (85%)	R060AY022SD — Loamy Terrace	28.3	1.9%
		Arvada (5%)	R060AY015SD — Thin Claypan		
		Haverson (5%)	R060AY022SD — Loamy Terrace		
		Kyle (4%)	R060AY040SD — Clayey 16-18" P.Z.		
		Herdcamp (1%)	R060AY002SD — Wet Land		
NuA	Nunn loam, 0 to 2 percent slopes	Nunn (90%)	R060AY010SD — Loamy 13-16" P.Z.	98.9	6.7%
			R060AY041SD — Loamy 16-18" P.Z.		
		Beckton (5%)	R060AY013SD — Claypan		
		Recluse (4%)	R060AY010SD — Loamy 13-16" P.Z.		
			R060AY041SD — Loamy 16-18" P.Z.		

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
		Hoven (1%)	R060AY019SD — Closed Depression		
NuB	Nunn loam, 2 to 6 percent slopes	Nunn (90%)	R060AY010SD — Loamy 13-16" P.Z.	98.8	6.7%
			R060AY041SD — Loamy 16-18" P.Z.		
		Beckton (5%)	R060AY013SD — Claypan		
		Recluse (4%)	R060AY010SD — Loamy 13-16" P.Z.		
			R060AY041SD — Loamy 16-18" P.Z.		
		Hoven (1%)	R060AY019SD — Closed Depression		
PeB	Pierre clay, 2 to 6 percent slopes	Pierre (85%)	R060AY040SD — Clayey 16-18" P.Z.	235.9	16.0%
		Kyle (4%)	R060AY011SD — Clayey 13-16" P.Z.		
			R060AY040SD — Clayey 16-18" P.Z.		
		Hisle (3%)	R060AY015SD — Thin Claypan		
		Hoven (2%)	R060AY019SD — Closed Depression		
		Lismas (2%)	R060AY025SD — Shallow Dense Clay		
		Samsil (2%)	R060AY017SD — Shallow Clay		
		Stetter (2%)	R060AY021SD — Clayey Overflow		
PeC	Pierre clay, 6 to 9 percent slopes	Pierre (85%)	R063AY011SD — Clayey	11.0	0.7%
		Hisle (4%)	R063AY015SD — Thin Claypan		
		Kyle (4%)	R063AY011SD — Clayey		
		Samsil (4%)	R063AY017SD — Shallow Clay		

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
		Lohmiller (3%)	R063AY022SD — Loamy Terrace		
PeD	Pierre clay, 6 to 20 percent slopes	Pierre (85%)	R060AY011SD — Clayey 13-16" P.Z.	1.8	0.1%
			R060AY040SD — Clayey 16-18" P.Z.		
		Kyle (6%)	R060AY011SD — Clayey 13-16" P.Z.		
			R060AY040SD — Clayey 16-18" P.Z.		
		Samsil (3%)	R060AY017SD — Shallow Clay		
		Hisle (2%)	R060AY015SD — Thin Claypan		
		Lismas (2%)	R060AY025SD — Shallow Dense Clay		
		Stetter (2%)	R060AY021SD — Clayey Overflow		
SzB	Swanboy clay, 0 to 3 percent slopes	Swanboy (85%)	R060AY018SD — Dense Clay	77.7	5.3%
		Kyle (7%)	R060AY011SD — Clayey 13-16" P.Z.		
			R060AY040SD — Clayey 16-18" P.Z.		
		Hisle (3%)	R060AY015SD — Thin Claypan		
		Slickspots (3%)	R060AY999SD — Non-site		
		Stetter (2%)	R060AY021SD — Clayey Overflow		
W	Water	Water (100%)		2.6	0.2%
Totals for Area of Interest				**1,478.3**	**100.0%**

SEEDING PLAN

Producer	Wild Springs	Conservation District:	Pennington	MLRA	60A
Program	CTA	Practice No.	550	Practice Name:	Range Planting
CI or Referral No.	NA	Contract #	NA		

Resource Concern (CPPE Impact) | Purpose:

PLANNED		
Tract	NA	Seedbed Preparation
Field	NA	Clean, smooth, weed free seedbed will be prepared
Acres	1.00	
Group or Site	Ecological Site	
Site (Web Soil Survey)	Cy Clayey	
Date to be Planted (TechNote4)	Early Spring Prior to 5/15	
Alternative planting dates		Protection Provided
Alternative planting dates		Clip weeds before they compete for moisture and light
Seeding Equipment	Special Grass Drill	
Companion Crop	None	

PLANNED

Species * **	max % or Rating	1/ Select Improved Variety (recommended) or select common seed (see note below)	Percent in Mixture 100	Pure Live Seeds (PLS) per square foot 22.50	Pure Live Seed (PLS) lbs/ac Needed	Acres to Seed	Pure Live Seed (PLS) lbs Required
Blue grama		SEE ATTACHED FOR VARIETIES	10.0	3.00	0.17	1.00	0.17
Green needlegrass			15.0	3.75	0.91	1.00	0.91
Little bluestem			5.0	1.25	0.19	1.00	0.19
Sideoats grama			10.0	2.50	0.61	1.00	0.61
Western wheatgrass			60.0	12.00	4.67	1.00	4.67

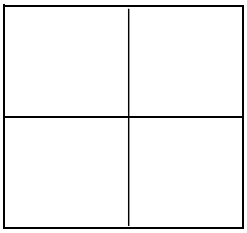
To meet SD NRCS Standards Please Note:

1/ Improved varieties recommended above have no restrictions on their origin.
1/ Origin of Common grass seed must be ND, SD, NE, MT, WY, MN, or IA. Exception: Smooth Bromegrass any locale.
1/ Common Native forbs and legumes will originate or be grown in (USA): ND, SD, NE, MT, IA, WY, ID, WA, OR, MN, WI, and (CAN): AB, BC, MB, ON, SK.
- Seed test must be completed according to SD Seed laws (see link below) and no more than 9 months prior to the date planted. Producer will provide all seed tags to NRCS
- Tetrazolium (TZ) tests may be used as a substitute for germination tests ONLY for Green Needlegrass and Western Wheatgrass

* Pubescent wheatgrass and Intermediate wheatgrass are the same species and can be substituted for one another at any time.
** Thickspike wheatgrass may be substituted for western wheatgrass if the later is not available but only west of the Missouri River. To calculate the amount needed multiply the western wheatgrass seeding rate by .72

SD Seed Laws https://sdlegislature.gov/Statutes/Codified_Laws/DisplaySt
Seed testing http://www.sdstate.edu/ps/seed-lab/index.cfm

LOCATION MAP



N

Tract: See Map Attached

S. Multiple

T. Multiple

R. Multiple

Planning Assistance By: Mitch Faulkner (Name) 2/5/2020 (Date)

Plan Meets SD Standards (if no explain) Yes ☑ No ☐

SEEDING APPLIED

Cooperator **Wild Springs** Conservation District **Pennington** MLRA **60A**

Program **CTA** Practice No. 550 Practice Name: Range Planting

CI or Referral No. **NA** Contract # NA Planning By: Mitch Faulkner

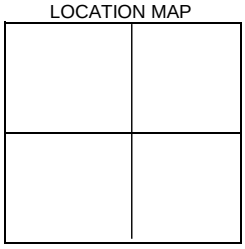
Resource Concern (CPPE Impact)	Purpose:

APPLIED		
Tract	NA	Seedbed Preparation
Field	NA	
Acres Planted		
Group or Site	Ecological Site	
Ecological Site	Cy	
Date Planted		
		Protection Provided
Seeding Equipment		
Companion Crop		

APPLIED

Seed Species	% of full rate planned	% of full rate Applied	Variety or Seed Source	1/ Origin	Test Date 2/ MM/YYYY	Percent Purity	Percent Germ. 3/	Pounds Bulk Seed Planted	Acres Certified	PLS Pounds Planted
Percent in Mixture										

LOCATION MAP



Tract See Map Attached

S. Multiple

T. Multiple

R. Multiple

Seeded By:

Certified By:
(Name and Date)

Recheck of Quantities By:
(Name and Date)

Applied Practice Meets SD Standards and Specifications

(if no explain below) Yes ☐ No ☐

Comments on Performance:

Complete the applied tab (species, acres, % germ, %purity, lbs bulk) that will be applied to the tract/field. Then fill in the Blue Cells on Table A and B on this sheet.

Table A. Species List from Applied *(for single or mixed species plantings)*					**Acres->**		**Drill Box ->**	
Tract / Field --->		***Data below is from the applied and applied2 sheets***					**Total Bulk Lbs. of seed Per Acre**	**Total Bulk Lbs. of seed needed for the entire acreage**
Species	**Variety**	**% of Full Rate Applied**	**Seeding Rate in *PLS Lbs. per acre***	**Seeds per Lb.**	**% Purity**	**% Germ.**		
Totals---->			**Total Bulk Seed per Acre--->**					

Table B. Seed Calculator for All Drills & Planters

Use this section to determine the grams of seed to collect from the seed tube(s) or opener(s)	**Distance between seed openers *(in inches)***	
	Circumference of Drive Wheel *(in inches)*	
	PLS Lbs. of Seed per Acre	
	Bulk Lbs. of Seed per Acre	
	Number of Drive Wheel Revolutions	
	Enter the number of seed tubes collected	
	Total Grams bulk Seed Required from the Seed Tube(s)	
This section indicates the number of seeds dropped based on inputs above	**Seeds per Lb. *(Bulk seed)***	
	Seeds dropped *per opener* per drive wheel revolution	
	Seeds per square foot. *(Bulk seed)*	
	Seeds per foot of row *(Bulk seed)*	

02/05/20

NRCS Cost Estimate For Planning

This cost estimate is based on an average costs of seed dealers **and doesn't necessarily reflect the actual cost shared amounts that will be in a conservation contract**. Seed costs can vary from dealer to dealer and prices can and have fluctuated drastically in response to supply and demand during the year. Please contact seed dealers to receive a timely quote for the kind and amount of seed you plan to plant.

Up to 6 Seed dealers were used to determine the average cost of species.
May 2, 2019 the costs were last updated.

Seeding Mixture		|--------- PER ACRE ----------|		|---------- 1 Total Acres ----------|	
Ecological Site		Planned	Estimated	Total	Total
Clayey - Cy	%	LBS PLS	Cost	PLS LBS	Estimated Cost
Blue grama	10.0	0.17	$2.00	0.17	$2.00
Green needlegrass	15.0	0.91	$9.23	0.91	$9.23
Little bluestem	5.0	0.19	$2.37	0.19	$2.37
Sideoats grama	10.0	0.61	$4.92	0.61	$4.92
Western wheatgrass	60.0	4.67	$24.74	4.67	$24.74

Totals	100.0	|--------- PER ACRE ----------|	|---------- 1 Total Acres ----------|
Estimated Cost --------->		**$43.25**	**$43.25**
Pure Live Seed Pounds --------->		6.54 PLS LBS	6.54 PLS LBS

PLS = Pure, Live Seed **LBS**. = Pounds
* Pubescent wheatgrass may be substituted for intermediate wheatgrass at any time.
** Thickspike wheatgrass may be substituted for western wheatgrass if the later is not available and only west of the Missouri River.
To obtain a seeding rate for thickspike wheatgrass multiply the western wheatgrass seeding rate by .72

Additional costs for establishing or reestablishing cover typically can include:

Seedbed preparation: As low as $10.00 per acre for a burn down on a clean field of soybean stubble to as high as $60.00 per acre for treatment of perennial vegetation with chemical and tillage. Fields with perennial vegetation and/or noxious weeds will cost more to prepare a clean, weed free seedbed and cropping for a couple years prior to seeding should be considered.

Seeding: Drills capable of planting fluffy grass seed which have good depth control can cost up to 20.00 per acre to rent. Additional costs can be incurred if a tractor and drill operator are hired.

Weed Control: Weeds will need to be controlled before they compete for moisture and light. Weed control is critical to the establishment of the seedlings. Clipping may need to be preformed up to 3 times during establishment. Herbicides may in some cases be an alternative to clipping. You must follow label guidelines and all state laws regarding herbicide application. Clipping costs typically can range from $8.00 to $25.00 per acre. Herbicide costs can typically range from $10.00 to $40.00 per acre for weed control.

Seeding Plan

Vendor Information Sheet

02/05/20

Producer & Phone #	**Wild Springs**	**Geronimo Energy**	Conservation District:	**Pennington**
NRCS Office & Phone #	**Rapid City FSO**		Planned Planting Date:	**Early Spring Prior to 5/15**
Planner	**Mitch Faulkner**			

Note to Vendor:

If any substitutions to species or varieties are considered please obtain prior approval by calling the producer and NRCS at the numbers above. If 1/ Improved Varieties recommended are not available they may be substituted with a different SD approved variety (see back of sheet) or with "common seed" (See Common Seed definition and origin requirements below). Please provide a seed tag to the producer for each bag purchased. As always follow state seed law concerning labeling. Thank You!

Seeding Mixture

Major Land Resource Area 60A
Ecological Site Cy

Common Name	Scientific Name	1/ Improved Variety	% of Mix	PLS Pounds per Acre	Acres	PLS Pounds **Total**
Blue grama	Bouteloua gracilis	SEE ATTACHED FOR VARIETIES	10.0	0.17	1.00	0.17
Green needlegrass	Nassella viridula		15.0	0.91	1.00	0.91
Little bluestem	Schizachyrium scoparium		5.0	0.19	1.00	0.19
Sideoats grama	Bouteloua curtipendula		10.0	0.61	1.00	0.61
Western wheatgrass	Pascopyrum smithii		60.0	4.67	1.00	4.67
Total			*100.0*	*6.54*	*1.00*	***6.54***

To meet SD NRCS Standards Please Note:

1/ Improved varieties recommended above have no restrictions on their origin.
1/ Origin of Common grass seed must be ND, SD, NE, MT, WY, MN, or IA. Exception: Smooth Bromegrass any locale.
1/ Common Native forbs and legumes will originate or be grown in (USA): ND, SD, NE, MT, IA, WY, ID, WA, OR, MN, WI, and (CAN): AB, BC, MB, ON, SK.
- Seed test must be completed according to SD Seed laws (see link below) and no more than 9 months prior to the date planted. Producer will provide all seed tags to NRCS
- Tetrazolium (TZ) tests may be used as a substitute for germination tests ONLY for Green Needlegrass and Western Wheatgrass

* Pubescent wheatgrass and Intermediate wheatgrass are the same species and can be substituted for one another at any time.
** Thickspike wheatgrass may be substituted for western wheatgrass if the later is not available but only west of the Missouri River.

SD Seed Laws http://legis.sd.gov/rules/DisplayRule.aspx?Rule=12:36

The seeding plan was developed from recommendations based on the NRCS Soil Survey and South Dakota Field Office Technical Guide.

Ecological Site **Clayey** **Cy**

This seeding is planned in Major Land Resource Area (MLRA) **60A**

Varieties/Cultivars that are approved for South Dakota Include:

Blue grama

Bad River	Birdseye	Common	

Green needlegrass

AC Mallard Ecovar	Common	Lodorm	

Little bluestem

Badlands Ecotype	Blaze	Camper	Central Iowa Germplasm
Common	Itasca	Northern Iowa Germplasm	Southern Iowa Germplasm

Sideoats grama

Butte	Central Iowa Germplasm	Common	Killdeer
Northern Iowa Germplasm	Pierre	Southern Iowa Germplasm	Trailway

Western wheatgrass

Arriba	Common	Flintlock	Rodan
Rosana	Walsh		

Perennial Vegetation Establishment

The following is an excerpt from RANGE TECHNICAL NOTE NO. 4 PERENNIAL VEGETATION ESTABLISHMENT GUIDE. For detailed information see Range Tech Note 4 at: http://www.nrcs.usda.gov/technical/efotg/

2. Seedbed Preparation

New Seedings

A seedbed will be prepared that is free of competing vegetation and is not subject to excessive erosion. A firm seedbed will be provided so the seed is placed at the designed depth. The seedbed should be firm enough so that the boot heel of an average adult penetrates the soil to a depth of approximately one-half inch.

The presence or absence of weed populations, especially noxious weeds, will impact seedbed preparations. Each field should be evaluated for weed pressure. Seeding on fields with significant weed populations will be delayed until weeds are controlled. This may mean a protective cover crop will need to be planted.

When planning a seeding, the previous two years of herbicide application should be considered. Any potential carryover problems should be addressed by delaying seeding, establishing a cover crop, and/or changing species to be planted. If a cover crop is necessary, refer to part 10 of this Technical Note.

Proper seedbed preparation should begin with the previous year's crop. Select a crop in the year prior to planting which is dissimilar to the species to be established. For example, soybean residue produces an excellent seedbed for grass species. Proper selection of crops the year prior to seeding will greatly enhance the success rate of the seeding and reduce seedbed preparation time. Several crops (notably rye, wheat, and alfalfa) are known to produce allelopathic chemicals which inhibit germination and new seedling establishment. Direct seeding into stubble or heavy residue of these allelopathic crops should be avoided (see below). Other commonly grown crops provide good cover and do not inhibit germination.

In the event that grass seeding follows allelopathic crops (e.g., rye, wheat, alfalfa), residue management becomes important. The degree of crop residue decomposition prior to the next crop affects this allelopathic response. Newly incorporated residues are highly allelopathic while a loss of allelopathy occurs as residues decompose. Therefore, stubble from these crops should be tilled (i.e., burying 25 to 50 percent of the residue) and allowed to overwinter before attempting to establish new seedings. In no-till situations, consider planting a cover crop that will form a canopy over the stubble. This will enhance residue decomposition. For additional information on no-till and cover crop methods, see below and section 10.

Seedbed Alternatives

No-Till Method – Seeding into standing stubble of a previous crop without further seedbed preparation. Excess straw or chaff should be removed prior to seeding. Use of harvest equipment, which spreads straw along a minimum of 80 percent of the header width, will prevent excess chaff problems. If weeds or excessive volunteering of previous crop are present, control with appropriate herbicide(s) in accordance with product label directions and current recommendations from SD State University (SDSU) Cooperative Extension Service. Herbicide recommendations are available at: http://www.sdstate.edu/ps/extension/weed-mgmt/weed-mgmt-pubs.cfm.

Cover Crop Method – Plant a cover crop (high residue producing crop) of oats, barley, flax, grain sorghum, millet, or sudangrass during the growing season before seeding perennial forages if existing cover is insufficient to control erosion. If the cover crop method is to be used, see part 10.

Clean-Till Method – Seed into a new, clean tilled, firmly packed seedbed. If erosion or potential climatic factors are a potential concern, a cover crop should be used. See part 10 if a cover crop is to be used.

Stand Renovation Seedings
It may be desirable to replace an existing stand of introduced grass or grasses and legumes that has declined in vigor or no longer meets objectives. If it is necessary to establish a stand into an existing stand without any tillage operations, then a no-till seedbed may be prepared utilizing herbicides to completely control the existing grasses or grasses and legumes.
Existing vegetation is controlled and the new seed is planted directly into the undisturbed sod of the old species.

Prior to attempting this method, excess litter should be removed if necessary, allowing seeding equipment to function properly. The existing stand may be hayed, grazed heavily, or prescribed burned to remove excessive litter. Herbicides are then applied to the regrowth.
Glyphospate applied to actively growing plants in the fall of the year is the herbicide method of choice for eradication of cool-season grasses.

A spring follow-up application may be required to gain complete control. If no lush fall growth is present, defer application until the spring. In either case, all existing vegetation should be destroyed prior to drilling the new seeding. The new seeding is drilled directly into the destroyed stand.

This method of seeding is generally not as successful as seeding into a fully prepared seedbed due to several issues relating to seed to soil contact. It should only be used to renovate stands of introduced grasses, when soil conditions, availability of equipment, program restrictions, and other constraints make the use of a fully prepared seedbed impractical. It should never be used to rejuvenate rangelands. Rangelands are generally best improved through management techniques such as prescribed grazing (please see the Natural Resources Conservation Service (NRCS) Conservation Practice Standard (CPS) Prescribed Grazing (528)).

Stand Enhancement Seedings
It is often the goal of management to attempt to establish new species of grasses and/or legumes directly into existing stands. Established growing stands of grasses or grass/legumes fully utilize all water, soil, and solar resources especially in western portions of SD. Attempting to establish new species into existing stands generally results in failure due to the existing vegetation out competing new seedlings for water and sunlight.
Therefore, establishing new species directly into existing growing stands is not recommended.

One exception is the enhancement of existing stands of introduced grasses through the addition of legumes. This practice is only recommended east of the Missouri River.
Competition from existing vegetation is reduced either through tillage or herbicides. If tillage is used, it should consist of one chisel followed by one or two diskings. Tillage should be a minimum of three inches deep. If herbicides are used, they should be applied at rates which will temporarily impede the growth of existing vegetation. Legumes are then drilled directly into the tilled or herbicide treated seedbed.

Reinforcement Seeding
Often when a new seeding is completed, portions fail to establish satisfactorily. Thin stands may exist across portions if not all of the stand. Areas of unsatisfactory plant populations may be improved by drilling seed directly into the existing thin portions of the stand. Weeds need to be controlled with herbicides prior to drilling. If excessive litter is present, it may have to be removed by mowing, raking, and removing the vegetation or through prescribed burning.

5. Seed Requirements
All seed must meet the requirements of SD State Seed Laws and Regulations. Information on state seed law is available at: http://legis.sd.gov/rules/DisplayRule.aspx?Rule=12:36 All seed; including homegrown seed, must be officially tested for purity and germination to enable PLS calculations for determining the proper seeding rate. Tests must be made within a nine-month period, exclusive of the test month, prior to seeding. Re-testing of seed is recommended within the nine month period if stored improperly (high humidity and/or high temperature). Information on sending seed to the seed lab at SD State University (SDSU) for testing is available at: http://www.sdstate.edu/ps/seed-lab/index.cfm.

Use certified seed when available.

Origin of nonvarietal ('common') grass seed of both native and introduced species is limited to North Dakota (ND), South Dakota (SD), Nebraska (NE), Montana (MT), Wyoming (WY), Minnesota (MN), and Iowa (IA).

Nonvarietal ('common') native forbs and legumes will originate or be grown in be grown in North Dakota (ND), South Dakota (SD), Nebraska (NE), Montana (MT), Wyoming (WY), Idaho (ID), Washington (WA), Oregon (OR), Minnesota (MN), Wisconsin (WI), and Iowa (IA); and Alberta (AB), British Columbia (BC), Manitoba (MB), Ontario (ON) , and Saskatchewan (SK), Canada.

Seed not coming from one of the acceptable states or provinces must be of adapted, named varieties.

Legume seed should be inoculated with the proper culture just prior to seeding in order to increase the potential for nitrogen fixation by the plant.

No noxious weed amounts are allowed on any seed tags.

6. Seeding Rates

All seeding rates will be based on PLS. Pure live seed can be calculated from information on the seed tag. By state law, seed tags must contain certain information. Specific information on seed tag requirements can be found at: http://legis.sd.gov/rules/DisplayRule.aspx?Rule=12:36
Pure live seed is derived by multiplying percent pure seed by the percent germination (plus percent hard seed, if present) and dividing by 100. For example, if a sample of Indiangrass has a purity of 96 percent and a germination of 74 percent, PLS would be calculated as follows:

(96 X 74)/100 = 71.04 percent PLS per pound of bulk seed

To calculate the pounds of bulk seed required, divide the PLS requirement for the seeding by the percent PLS (expressed as a decimal). For example, if 1,000 pounds of PLS of the above Indiangrass is required for the seeding, the amount of bulk seed to purchase and apply to the field is:
1,000 lbs. of PLS/0.7104 = 1,408 lbs. of bulk seed

9. Seeding Depth

Proper seeding depth is extremely important in successfully establishing native and introduced vegetation from seed. Native grasses, forbs, and shrubs need to be seeded at a shallow depth, as light plays a key role in the germination of many native species. Optimum seeding depths are one-quarter to three-quarter inch.

11. Management and Protection During Establishment

Grazing

Do not graze until stand is fully established. This period will be a minimum of one full growing season. If an adequate stand has not established during the first growing season, or if seedlings do not have well-developed root systems with adventitious roots above the sown seed, then deferment should be extended through the second growing season. Flash grazing treatments during the deferment period for weed control will be handled on a case-by-case basis provided no damage will be done to the seeded species.

Weed Control

During the establishment period, excessive amounts of competitive weeds will be controlled. Control weeds that compete with seedlings for sunlight and/or moisture during the growing season of the species planted. The first weed control operation will be needed early in seedling development or prior to weed seed maturity. Repeated weed control operations may be needed. Competitive weeds can be controlled either mechanically or chemically or by a combination of these methods.

Mechanical – When controlling competitive weeds by clipping or mowing, adjust the equipment to cut above the new seedlings and clip before the weeds set seed. If the clippings are dense enough to smother the new seedlings, promptly remove the clippings from the field.

Chemical – To control competitive weeds with herbicides use the appropriate herbicide(s) applied according to the manufacturer's label. The best control will generally be obtained when weeds are in the early stages of growth. Precautions should be taken to ensure that grass or legume seedlings are not injured by the selected herbicide(s). Please refer to SDSU Agricultural Weed Control Guides for specific herbicide recommendations on forage crops in SD: http://www.sdstate.edu/ps/extension/weed-mgmt/weed-mgmt-pubs.cfm.
Noxious weeds must be controlled in accordance with state law.

Insect Control
Insects can be a threat to seedlings. Contact the county Extension office for recommendations on control of specific insects affecting seeded species.

Caution
When using any pesticides (herbicides or insecticides,) please read and follow the manufacturer's label recommendations. The use of pesticides must be consistent with the label and in accordance with state and federal laws and regulations.

Ellsworth Air Force Base

February 21, 2020

From: Glen Kane
To: Melissa Schmit
Subject: Possible Spam (6.109):Re: Wild Springs Solar Project
Date: Friday, February 21, 2020 11:41:50 AM

Melissa

See the response from Ellsworth, SDEDA also wishes you great success.

Glen,

Ellsworth sees no impact on our present or future missions. We hope it is a success.

//signed - kv//
Kevin H. Vogel, GS-11, USAF ≡✪≡
Real Property Officer, 28th Civil Engineering Squadron Ellsworth AFB, SD (AFGSC)
DSN: 675-2672 Comm: (605) 385-2672

GLEN KANE
South Dakota Ellsworth Development Authority
Managing Director
Cell: (605) 390-7290

> On Feb 10, 2020, at 4:16 PM, Melissa Schmit <melissa@geronimoenergy.com> wrote:
>
> Hi Glen,
> As we discussed I have attached a map of the proposed Wild Springs Solar Project as well as a glare study completed for Ellsworth Air Force Base. The project is located in Pennington County south of New Underwood. It will be up to 128 MW and interconnect to the Western Area Power Administration New Underwood Substation. The Project's permanent facilities will include: solar modules, inverters and racking, fencing, access roads, a collection substation facility, an operations and maintenance facility, on-site underground or aboveground electrical collection lines, and up to two weather stations (up to 20 feet tall). The project layout has not been finalized however all facilities will be located within the project area boundary in the attached map. Please let me know if you have any questions and thank you in advance for your review.
>
> Thank you,
>
> <Geronimo_NGcompany_portrait_RGB_siglogo_6f818f61-5440-44a1-b0d4-4d220a25f043.png>
>
> <linkedin_5f69119f-6c68-4b62-b53a-6c0b5186cb75.png> <twitter_10d858e7-b6a8-4c63-b833-79368052be9b.png> <web_ff569476-cf6a-48ee-92fc-a6bd9ed5d068.png>
>
>
> Melissa Schmit
> *Director, Permitting*
> **E:** melissa@geronimoenergy.com
> **P:** 612-259-3095
>
> 8400 Normandale Lake Boulevard
>

Suite 1200,
Bloomington, MN 55437
952-988-9000

<EmailSigMovingUpdateOptions-01_cefb540f-33d6-4f49-9216-93cc699bfe69.png>

<WildSprings_NewUnderwood.pdf><WildSprings-EllsworthAFB_Final_01-06-20.pdf>

South Dakota Department of Environment and Natural Resources

October 21, 2019
February 5, 2020

RECEIVED
OCT 07 2019
SURFACE WATER PROGRAM

WILD SPRINGS SOLAR

October 4, 2019

John Miller
South Dakota Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

RE: Requesting Comments on Wild Springs Solar in Pennington County, South Dakota

Dear John Miller,

Wild Springs Solar, LLC (Wild Springs), a wholly owned subsidiary of Geronimo Energy, LLC, a National Grid Company, is gathering information and requesting agency comments for a proposed utility scale solar energy project in Pennington County, South Dakota.

Wild Springs proposed interconnection is the Western Area Power Administration (Western) transmission system and will therefore be subject to an environmental review in accordance with the National Environmental Policy Act (NEPA). Wild Springs will also be submitting a Facility Permit Application to the South Dakota Public Utilities Commission (PUC). Construction is anticipated to begin as early as spring 2021.

The planned output for the Project is up to 128 megawatts of nameplate solar energy capacity. The Project's permanent facilities will include:

- Solar modules, inverters and racking;
- Fencing;
- Access roads as required;
- Substation facility;
- On-site underground or aboveground electrical collection lines; and
- Up to two weather stations (up to 20 feet tall).

Wild Springs will interconnect to the New Underwood Substation located in Section 5 of Township 1 N, Range 11 E via a 115 kV transmission line. The exact transmission line routing to interconnect the project into the substation has not yet been determined; however, it will be located within the project boundary until it crosses over into the New Underwood Substation parcel.

The racking layout, access roads and electrical connections have not been finalized at this time. Table 1 provides the sections of land Wild Springs is evaluating for siting the solar energy project.

7650 EDINBOROUGH WAY, STE 725, EDINA, MN 55435| P 952.988.9000 | F 952.988.9001
www.geronimoenergy.com

WILD SPRINGS SOLAR

Table 1: Sections within the Wild Springs Project Boundary

State	County	Township	Range	Sections
SD	Pennington	1 N	10 E	1
SD	Pennington	1 N	11 E	5, 6, 7, 8
SD	Pennington	2 N	10 E	36
SD	Pennington	2 N	11 E	31

To facilitate your review, we have enclosed a map of the Wild Springs location and the associated project boundary.

The purpose of this letter is to inform your organization of the proposed Project, seek your input regarding any permits and approvals that may be required, and identify interests your organization may have in the Project site or associated study area. Any written agency comments provided in response to this letter will be incorporated into the permitting review process.

If you require further information or have questions regarding this matter, please contact me at 952-988-9000 or at melissa@geronimoenergy.com.

Sincerely,

Melissa Schmit
Permitting Manager

SURFACE WATER QUALITY DETERMINATION

It appears, based on the information provided, that this project will have little or no impact on the surface water quality in this area. This project is approved.

Approved By: Shannon Minerich
Date: 10-21-19
(605) 773-3351 FAX - (605) 773-5286
SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Enclosure:
Wild Springs Location Map

From: Minerich, Shannon
To: Melissa Schmit
Subject: Wild Springs Solar - project area expansion
Date: Wednesday, February 5, 2020 10:47:17 AM

Hi Melissa – SD DENR Surface Water Quality Program does not have any additional comments regarding your project area expansion (additional to those provided in October 2019). Thanks!

Shannon Minerich
SD DENR
Surface Water Quality Program

South Dakota Department of Transportation – Office of Air, Rail & Transit, Aeronautics Commission

February 5, 2020

Department of Transportation
Division of Secretariat
Office of Air, Rail & Transit
700 East Broadway Avenue
Pierre, South Dakota 57501-2586
OFFICE: 605/773-3574
FAX: 605/773-2804

February 5, 2020

Melissa Schmit
Geronimo Energy, LLC
8400 Normandale Lake Blvd, Ste 1200
Bloomington, MN 55437

Re: South Dakota Office of Aeronautics Comments on Wild Springs Solar in Pennington County, South Dakota-Project Update

Dear Melissa Schmit,

Our office has reviewed the Wild Springs Solar, LLC solar energy project to be constructed in Pennington County South Dakota as requested and find the proposed solar energy project would not pose an obstruction hazard to any South Dakota airports. However, this proposed project is in proximity to airport navigation facilities of one or more local airports and may impact the assurance of navigation signal reception. The FAA, in accordance with FAR Part 77.9, requests that you file a form 7460-1 which can be done electronically at https://oeaaa.faa.gov/oeaaa/external/portal.jsp.

Please note that South Dakota air navigation hazard laws have changed, and Tall Structure permits are no longer issued. Effective July 1, 2019 SDCL 50-9-1 now requires that FAA Determinations of No Hazard must be provided to the Aeronautics Commission prior to the start of construction. Please see South Dakota DOT Office of Aeronautics Services at: https://dot.sd.gov/transportation/aviation/office-of-aeronautics-services for further information. If you have any questions, please feel free to contact me at (605) 773-3764 or via email at thomas.koch@state.sd.us.

Sincerely,

Tom Koch
South Dakota Office of Aeronautics

South Dakota Game, Fish and Parks

April 17, 2017
July 7, 2017
October 22, 2019
January 22, 2020
February 25, 2020
April 3, 2020

Melissa Schmit

From: Kempema, Silka <Silka.Kempema@state.sd.us>
Sent: Monday, April 17, 2017 1:21 PM
To: Melissa Schmit
Subject: FW: Wild Springs Solar - Lek Surveys

From: Runia, Travis
Sent: Monday, April 10, 2017 8:50 AM
To: Solem, Alex (GFP); Kempema, Silka
Subject: RE: Wild Springs Solar - Lek Surveys

If using auditory surveys, they need to be sure to navigate to at least within ½ mile of all points on the landscape. Sharp-tails are difficult to hear from any further.

Travis

From: Solem, Alex (GFP)
Sent: Monday, April 10, 2017 8:15 AM
To: Kempema, Silka; Runia, Travis
Subject: RE: Wild Springs Solar - Lek Surveys

I personally wouldn't do a survey 3 consecutive days unless the weather was appropriate for one (i.e. not windy, rainy, or snowy). Obviously, weather can have a huge impact on how a survey goes. Maybe they were planning on accounting for weather but it didn't seem like it in the explanation of protocol. The survey occurring one hour before sunrise seems a little early, in my opinion. The birds could definitely be lekking, but you think it would be hard to see. Our traditional survey protocol states ½ hour before sunrise to about 1 ½ hours after sunrise. However, it's probably not that big of a deal because it's only going to get lighter.

I do like the fact they are doing some of the searching on foot. Sharp-tails can really be tough to find from the road because they are a lot quieter.

Alex Solem | *Upland Game Resource Biologist*
South Dakota Game, Fish and Parks
895 3rd Street SW | Huron, SD 57350
605.353.7319 | Alex.Solem@state.sd.us

From: Kempema, Silka
Sent: Friday, April 07, 2017 3:35 PM
To: Runia, Travis; Solem, Alex (GFP)
Subject: FW: Wild Springs Solar - Lek Surveys

Thoughts on lek survey protocols for a proposed solar project…?

From: Melissa Schmit [mailto:melissa@geronimoenergy.com]
Sent: Thursday, April 06, 2017 2:32 PM
To: Kempema, Silka
Subject: [EXT] Wild Springs Solar - Lek Surveys

Silka,
Thanks for your time today and initial thoughts on lek surveys for our Wild Springs solar project. I have attached a KMZ of the project boundary for your reference. As I mentioned, we are proposing three consecutive days of pedestrian surveys that will include auditory surveillance from adjacent roads and on foot surveillance from higher elevations within the project area. The surveys will occur one hour before sunrise and continue two hours after sunrise.

We are planning to conduct surveys this month, so any feedback on the proposed protocol and information on known leks near or within the project area would be greatly appreciated. Please let me know if you have any questions.

Regards,

Melissa Schmit

Senior Permitting Specialist
7650 Edinborough Way, Suite 725
Edina, MN 55435
Main: 952.988.9000
Direct: 612.259.3095
Cell: 952.237.3656
Geronimo Energy

SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

July 7, 2017

Ms. Melissa Schmit
Geronimo Energy, LLC
7650 Edinborough Way, Suite 725
Edina, MN 55435

RE: Wild Springs Solar Energy Project
Pennington County, South Dakota

Dear Melissa,

The South Dakota Department of Game, Fish and Parks, Division of Wildlife, has reviewed the above project involving the construction and operation of a proposed utility scale solar energy project in Pennington County, South Dakota. At this time, the transmission line route, racking layout, access roads, and electrical connections have not been finalized.

The proposed siting and operation of solar projects have the potential to directly and indirectly impact area wildlife. This may occur by altering habitats, influencing behavior patterns and directly killing individuals. To insure impacts remain at a minimum, we would recommend conducting at least two years of appropriately-timed pre-construction wildlife surveys to document current conditions and help assess any potential impacts to wildlife. If major impacts are predicted, development in the area should be avoided. If less serious impacts are anticipated, mitigation is recommended to reduce these impacts. Post-construction studies should be conducted to assess actual impacts, evaluate mitigation effectiveness and evaluate predictions. Bird and bat mortality surveys should be conducted at least two years post-construction.

A drive-by site visit of the project revealed that most of the study area appears to be farmed or hayed. However, if any remnant prairie tracts remain, we recommend avoidance of these areas. Remnant prairie tracts have high conservation value, especially those that contain a high diversity of both plant and animal species with non-native, invasive plant species being rare or absent. The project area should be surveyed for untilled tracts of native prairie and every effort should be made to not place solar panels, roads, collection lines, and facilities in these areas.

In North America, grassland birds have experienced consistent and long term declines (Peterjohn and Sauer 1999). Placement of a solar farm in the proposed project area may reduce habitat suitability for grassland birds by increasing habitat fragmentation and introducing invasive species. Some grassland bird species have been shown to favor large grassland patches and sensitivity to habitat fragmentation. We recommend properly timed, species-appropriate surveys for breeding grassland birds (songbirds and grouse) be conducted. Many privately owned areas, such as the project site, have not been surveyed for grassland songbirds or prairie grouse leks. It is my understanding that the first round of grouse surveys were conducted in April of 2017. Our agency would respectfully request a written summary of these survey findings when they become available. Post-construction surveys should monitor lek presence and document the number of grouse attending each lek.

We recommend that any new power lines or transmission lines be buried. If this is not possible, placement of above-ground transmission lines should be located along existing corridors such as within existing disturbed areas. Electrocution of birds that perch, roost, or nest on power lines continues to be a source of mortality, especially for eagles, hawks, and owls (Avian Power Line Interaction Committee 2006). The Avian Power Line Interaction Committee (APLIC) has developed two documents that provide useful information on how to reduce power line strikes and electrocutions:

Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 and *Mitigating Bird Collisions with Power Lines*

Both of these documents are available from the Edison Institute (http://www.aplic.org).

Several bat species, hoary, silver-haired, eastern red, and northern long-eared, are known to occur in South Dakota. We suggest pre-construction surveys of the area for potential bat habitat and species followed by post-construction mortality surveys.

A search of the Natural Heritage Database indicated that there are no known threatened, endangered or rare species in the project boundary, therefore we anticipate that the project as described will have no effect to listed or proposed protected species. However, please note that many places in South Dakota have not been surveyed for rare or protected species and the absence of a species from the database does not preclude its presence from your project area. If surveys indicate that state endangered, threatened, or rare species may occur in the project area, South Dakota Codified Law 34A-8-8 allows for only limited and specific authorized take of threatened and endangered species for scientific, zoological, or educational purposes. For more information, please visit https://gfp.sd.gov/licenses/other-permits/endangered-species-permit.aspx. If survey and monitoring activities include live trapping or the collection of wildlife species, you must first obtain a collection permit from our agency. If these activities include bats, specific sampling and collection protocols must be followed for a collectors permit to be issued. More information can be found at the following websites:

Scientific Collectors Permit –
https://gfp.sd.gov/licenses/other-permits/scientific-collectors.aspx

Bat Sampling and Collection Protocol Guidelines and Requirements –
https://gfp.sd.gov/wildlife/docs/bat-protocol.pdf

Our agency has concerns regarding direct and indirect impacts to wildlife and habitats in association with the proposed project. If development of this project continues to be pursued, a joint meeting with SDGFP and the U.S. Fish and Wildlife Service representatives is recommended to further discuss project details and wildlife concerns.

We appreciate the opportunity to provide comments. If you have any questions, please contact me at 605.773.6208.

Sincerely,

Leslie Murphy

Leslie Murphy
Environmental Review Coordinator
523 East Capitol Avenue
Pierre, SD 57501
Leslie.Murphy@state.sd.us

SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

Literature Cited

Avian Power Line Interaction Committee. 2006. Suggested Practices for Avian Protections on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC and the California Energy Commission, Washington, D.C. and Sacramento, CA.

Peterjohn, B.G, and J.R. Sauer. 1999. Populations status of North American grassland birds from the North American breeding bird survey. Studies in Avian Biology No. 19:27-44.

SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

22 October 2019

Mellissa Schmit
7650 Edinborough Way, Ste 725
Edina, MN 55435

RE: Wild Springs Solar Energy Project
Pennington County, South Dakota

Dear Melissa,

The South Dakota Department of Game, Fish and Parks, Division of Wildlife has reviewed the information provided in your letter dated 4 October 2019 regarding the Wild Springs solar energy project. This project would involve the construction and operation of a proposed utility scale solar energy project in Pennington County, South Dakota.

As in our letter dated 7 July 2017, we continue to have the same concerns and recommendations regarding the proposed project. In particular, we reiterate the conservation value of untilled grasslands. We also recommend a search of the South Dakota Natural Heritage Database since almost two years has passed since our last correspondence and new data are continually entered into the database.

The proposed siting and operation of solar projects have the potential to directly and indirectly impact area wildlife. This may occur by altering habitats, influencing behavior patterns and directly killing individuals. To insure impacts remain at a minimum, we would recommend conducting at least two years of appropriately-timed pre-construction wildlife surveys to document current conditions and help assess any potential impacts to wildlife. If major impacts are predicted, development in the area should be avoided. If less serious impacts are anticipated, mitigation is recommended to reduce these impacts. Post-construction studies should be conducted to assess actual impacts, evaluate mitigation effectiveness and evaluate predictions. Bird and bat mortality surveys should be conducted at least two years post-construction.

We recommend avoiding areas of untilled grasslands. The project area should be surveyed for untilled tracts of native prairie and every effort should be made to avoid placement of solar panels, roads, collection lines, and facilities in these areas.

In North America, grassland birds have experienced consistent and long term declines (Peterjohn and Sauer 1999). Placement of a solar farm in the proposed project area may reduce habitat suitability for grassland birds by increasing habitat fragmentation and introducing invasive species. Some grassland bird species have been shown to favor large grassland patches and sensitivity to habitat fragmentation. We recommend properly timed, species-appropriate surveys for breeding grassland birds (songbirds and grouse) be conducted. Many privately owned areas in South Dakota have not been surveyed for grassland songbirds or prairie grouse leks. We respectfully request a written summary of the first round of grouse surveys that were conducted in April of 2017, if they have not already been provided. Post-construction surveys should monitor lek presence and document the number of grouse attending each lek.

We recommend that any new power lines or transmission lines be buried. If this is not possible, placement of above-ground transmission lines should be located along existing corridors such as within existing disturbed areas. Electrocution of birds that perch, roost, or nest on power lines continues to be a source of mortality, especially for eagles, hawks, and owls (Avian Power Line Interaction Committee 2006). The Avian Power Line Interaction Committee (APLIC) has developed two documents that provide useful information on how to reduce power line strikes and electrocutions: 1) Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 and 2) Mitigating Bird Collisions with Power Lines. Both of these documents are available from the Edison Institute (http://www.aplic.org).

A least thirteen bat species occur in South Dakota, including the federal threatened Northern long-eared bat. We suggest pre-construction surveys of the area for potential bat habitat and bat activity levels using acoustic detectors. Avoiding bat habitat (especially water and wooded areas) and areas with high bat activity are recommended.

If surveys indicate that state endangered, threatened, or rare species may occur in the project area, South Dakota Codified Law 34A-8-8 allows for only limited and specific authorized take of threatened and endangered species for scientific, zoological, or educational purposes. For more information, please visit https://gfp.sd.gov/licenses/other-permits/endangered-species-permit.aspx.

If survey and monitoring activities include live trapping or the collection of wildlife species, you must first obtain a collection permit from our agency. If these activities include bats, specific sampling and collection protocols must be followed for a collectors permit to be issued. More information can be found at the following websites:

- Scientific Collectors Permit -https://gfp.sd.gov/licenses/other-permits/scientific-collectors.aspx
- Bat Sampling and Collection Protocol Guidelines and Requirements - https://gfp.sd.gov/wildlife/docs/bat-protocol.pdf

Our agency has concerns regarding direct and indirect impacts to wildlife and habitats in association with the proposed project. If development of this project continues to be pursued, a joint meeting with

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SDGFP and U.S. Fish and Wildlife Service representatives is recommended to further discuss project details and wildlife concerns. This may be especially pertinent before transmission line, rack and access road layout is finalized. We appreciate the opportunity to provide comments.

Sincerely,

Silka Kempema

Silka Kempema
Wildlife Biologist
523 East Capitol Ave
Pierre, SD 57501
Silka.Kempema@state.sd.us

From: Melissa Schmit
To: Morey, Hilary; Natalie_Gates@fws.gov
Subject: Wild Springs Solar - Meeting minutes and survey reports
Date: Tuesday, February 4, 2020 5:05:17 PM
Attachments: Geronimo_NGcompany_portrait_RGB_siglogo_6f818f61-5440-44a1-b0d4-4d220a25f043.png
linkedin_5f69119f-6c68-4b62-b53a-6c0b5186cb75.png
twitter_10d858e7-b6a8-4c63-b833-79368052be9b.png
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EmailSigMovingUpdateOptions-01_cefb540f-33d6-4f49-9216-93cc699bfe69.png
Wild Springs Prairie Grouse Survey Report_06052017.pdf
Wild Springs Site Characterization Final_01092020.pdf
Wild Springs_USFWS_SDGFP_Mtg Minutes_01222020.pdf

Hilary and Natalie,
Thank you again for your time in January to discuss the Wild Springs Solar Project. I have attached for your review and records notes from our meeting, the 2017 prairie grouse lek survey report, and the site characterization report. Once the wetland delineation report and natural resource strategy report are finalized I will provide those as well. Please let me know if you have any questions on the attached and I look forward to continued coordination on this project.

Thank you,

GERONIMO ENERGY
a nationalgrid company

Melissa Schmit
Director, Permitting
E: melissa@geronimoenergy.com
P: 612-259-3095

8400 Normandale Lake Boulevard
Suite 1200,
Bloomington, MN 55437
952-988-9000

WE'VE MOVED!
Please update your records.

MEETING	**Wild Springs Solar Project Introduction and Review**
DATE/TIME	**January 22, 2020, 9:00 AM-11:00 AM CST**
LOCATION	**SDGFP Office, Pierre SD**
PARTICIPANTS	**Melissa Schmit (Geronimo Energy)**
	Todd Mattson (WEST)
	Natalie Gates (USFWS)
	Hilary Morey (SDGFP)

- Meeting with USFWS and SDGFP to provide an update on Wild Springs Solar and discuss wildlife survey efforts.
- Geronimo provided an overview of the Project including project schedule, land use permitting that would be required (conditional use permit through Pennington County, Facility Permit though the South Dakota Public Utilities Commission and an Environmental Assessment in coordination with WAPA due to proposed federal interconnection), and surveys completed to date.
    - Surveys completed: wetland delineations in 2017 and 2019, cultural resources survey in 2017 and 2019, lek surveys in 2017, ground-based raptor nest surveys in 2017 and 2019, site characterization study/habitat assessment in 2019.
    - Provided an overview of solar components and construction. Wild Springs will construct a 128 MW facility that will utilize below-ground DC and AC collection lines or above-ground DC cabling that will be strung below the panels on hanging brackets and below-ground AC collection to the project substation. The project will also include an onsite operation and maintenance facility co-located with the project substation and likely require 4 full-time staff.
    - Provided an updated project map that reflects an expanded project area which resulted from avoidance of prairie dog towns, wetlands, drainages, and cultural resources that were identified during field surveys and provided an overview of solar facilities.
    - At this point, Wild Springs anticipates the project will begin construction in late 2021 and be in commercial operations by the end of 2022.
- WEST provided an overview of avian studies that have been completed for solar facilities providing the distinction between wind energy and solar energy impacts to avian species.
    - Solar facilities have low levels of direct mortality and most impacts appear to be related to alteration of habitat.
    - Raptor and large bird avoidance may occur but small bird diversity and richness may increase.

- Impacts/bat mortality is not a concern for solar facilities as they do not collide with stationary objects. The only risk to bats is through the removal of roosting habitat. Wild Springs Solar will not result in tree removal and does not propose acoustic bat surveys.
- Extensive avian mortality monitoring has occurred at operating solar facilities in the southwestern U.S. Less than 4% of discovered fatalities could clearly be attributed to collision with solar panels.
- Because some water-associate or water-obligate birds have been found at a few solar sites in the desert southwest, there is a "Lake effect" hypothesis that these birds mistake solar panels to be large waterbodies. WEST is currently studying this issue in more detail in California, but thus far it appears to be limited to a relatively small number of individual birds at a few sites in the Mojave Desert near the Salton Sea (and large waterbird wintering or migratory stop over site); there have not been other reports of a "lake effect" at solar sites outside this region.

- WEST is preparing a Natural Resource Strategy for Wild Springs that outlines avoidance and minimization of impacts as well as best management practices for construction and operation activities. Wild Springs is avoiding cultural resources, wetlands, and a prairie dog town identified during field surveys. Avoidance of the prairie dog town eliminates the need for additional field surveys of species that may utilize the area.
- Discussion on existing conditions, wildlife, and landcover/vegetation:
  - Landcover confirmed with field reconnaissance is ~75% pasture/hay and fallow grassland areas and ~20% alfalfa, hay, and wheat. Remaining area is open water associated with delineated wetlands, and barren land and shrub/scrub associated with the WAPA substation parcel.
  - Wild Springs plans to minimize grading as the site conditions allow and will revegetate all areas of temporary construction disturbance with a native grass mix. This will stabilize the soil and create/maintain wildlife habitat.
  - SDGFP noted that big game would be excluded from the solar facility once it was constructed; SDGFP recommended that steps be taken to avoid trapping big game within the fence line during initial construction.
  - USFWS recommends that Wild Springs consider mitigation to offset impacts to grasslands.
    - Because of the lack of conclusive studies on how wildlife would be impacted by the project, Wild Springs proposes to conduct pre- and post-construction breeding bird surveys to determine if any displacement or change in avian use would occur.
    - It is possible some buffer areas around the facility could be protected from overgrazing, potentially enhancing some wildlife habitat at this site.

- Prairie dog use within and/or adjacent to the project facility should be carefully considered. Fencing or vegetation height could impact how prairie dogs use the area and, ideally, the need for prairie dog control would be minimized.

- Discussion on additional surveys:
  - Wild Springs plans to conduct the following surveys in 2020: additional round of ground-based raptor nest surveys, additional round of prairie grouse lek surveys, and a breeding bird survey.
  - In lieu of post-construction mortality surveys, Wild Springs proposes conducting breeding bird surveys once the project is operational and vegetation is established. These surveys would be designed to better assess the potential change in wildlife habitat value and function after the project is constructed.

- Next steps:
  - Geronimo will provide finalized survey reports for the project to USFWS and SDGFP and work on incorporating input from meeting into the Project's Natural Resource Strategy.
  - Natalie will provide SD species of habitat fragmentation concern list.
  - Hilary will provide information on known big game migration in the area.

Brie Anderson

From: Melissa Schmit <melissa@geronimoenergy.com>
Sent: Tuesday, February 25, 2020 3:47 PM
To: Brie Anderson
Subject: FW: Wild Springs Solar - Meeting minutes and survey reports

Melissa Schmit
Director, Permitting
E: melissa@geronimoenergy.com
P: 612-259-3095

8400 Normandale Lake Boulevard
Suite 1200,
Bloomington, MN 55437
952-988-9000

WE'VE MOVED!
Please update your records.

From: Morey, Hilary <Hilary.Morey@state.sd.us>
Sent: Tuesday, February 25, 2020 2:59 PM
To: Melissa Schmit <melissa@geronimoenergy.com>; Natalie_Gates@fws.gov
Subject: RE: Wild Springs Solar - Meeting minutes and survey reports

Hi Melissa-

I visited with our big game staff out west regarding migration corridors. As of right now, we don't have any migration corridors defined for western South Dakota. They are going to be putting GPS collars on some big game animals in the near future, but that data probably won't be available for some time.

I looked through the meeting notes, and I don't have anything to add. I was wondering though if Todd could share his powerpoint? I am interested in the citations that he mentioned. Solar projects are new to GFP, so I'm trying to learn about them as we go. Thanks!

-Hilary

From: Melissa Schmit <melissa@geronimoenergy.com>
Sent: Tuesday, February 4, 2020 5:05 PM
To: Morey, Hilary <Hilary.Morey@state.sd.us>; Natalie_Gates@fws.gov
Subject: [EXT] Wild Springs Solar - Meeting minutes and survey reports

Hilary and Natalie,

Thank you again for your time in January to discuss the Wild Springs Solar Project. I have attached for your review and records notes from our meeting, the 2017 prairie grouse lek survey report, and the site characterization report. Once the wetland delineation report and natural resource strategy report are finalized I will provide those as well. Please let me know if you have any questions on the attached and I look forward to continued coordination on this project.

Thank you,

Melissa Schmit
Director, Permitting
E: melissa@geronimoenergy.com
P: 612-259-3095

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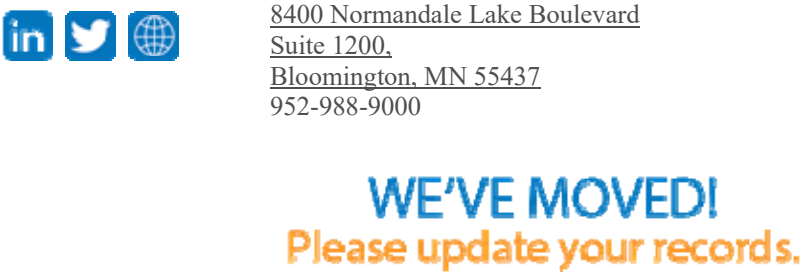


SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

April 3, 2020

Christina Gomer
Western Area Power Administration
2900 4th Avenue North
Billings, MT 59101

RE: Proposed Wild Springs Solar Project

Dear Christina,

Thank you for contacting the South Dakota Department of Game, Fish and Parks (SDGFP) regarding the above-mentioned project involving the construction of a 128 megawatt solar energy system, substation, underground transmission line, access roads and a maintenance and operation center in Pennington County, South Dakota. We have prepared the following comments and suggestions to be considered as part of the environmental assessment (EA) to be prepared by Western Area Power Administration.

Siting and operation of solar projects has the potential to directly and indirectly impact area wildlife. This may occur by altering habitats, influencing behavior patterns and directly killing individuals through collisions with project infrastructure. In particular, SDGFP is concerned about habitat alteration as a result of this proposed project, and effects on grassland dependent species. SDGFP has provided two letters (dated 7/7/17 and 10/22/19) to the project developer (Geronimo Energy LLC; hereafter the developer) stating our concerns regarding habitat alterations. We ask that these two letters from SDGFP are incorporated by reference.

In a January 22nd, 2020 meeting with the project developer, representatives of SDGFP and the US Fish and Wildlife Service South Dakota Ecological Services Office discussed the project and potential impacts to wildlife. During this meeting, SDGFP made the developer aware of concerns regarding alteration of grassland habitat, potential sensitive species that could occur in the project area, exclusion of big game from the project area and urged the developer to exclude prairie dog colonies from the project. We have included additional information related to these concerns below.

The developer is proposing to conduct one year of pre-construction breeding bird surveys at the project site. In our letter dated October 22 2019, SDGFP recommended completing two years of pre-construction surveys. Pre-construction survey data usually incorporates a small snap-shot in time but is used to assess risks for the life of a project (~30 years) therefore, it is important to perform surveys with a high degree of scientific rigor, and to capture temporal variation in wildlife use of the project area. SDGFP would prefer if a minimum of two years of pre-construction breeding bird surveys were completed within the project area.

If major impacts are predicted from these surveys, development in the area should be avoided. If less serious impacts are anticipated, mitigation is recommended to reduce these impacts. The developer proposed that post-construction wildlife use studies may be completed in-lieu of post-construction mortality monitoring. SDGFP believes that some level of post-construction mortality monitoring would still be useful to determine impacts to wildlife. We recommend that post-construction wildlife use studies be designed and conducted to assess impacts of the project, compare to predictions from pre-construction surveys, and to evaluate potential mitigation measures. We also recommend that post-construction surveys use methods that are directly comparable to pre-construction survey methods. Little research exists on the impacts of solar energy facilities sited in grassland and herbaceous habitat, and post-construction wildlife use studies would be valuable to assist with future project review and planning. Information on efforts to survey for and document sensitive species and habitats, as well as how risk will be avoided or mitigated should be included in the EA.

Landcover and Landuse

A desktop review of the project indicated that most of the proposed area is classified as grassland/herbaceous cover in the 2011 National Land Cover Database (https://www.mrlc.gov/). Remnant prairie tracts have high conservation value, especially those that contain a high diversity of both plant and animal species, and rare or non-existent invasive species. The project area could contain untilled native grasslands. Impacts to these habitats may be unavoidable, but SDGFP would still recommend the project area be surveyed for untilled tracts of native prairie and recommend efforts be taken not to place solar panels, roads, collection lines and facilities in these areas. The EA should provide information on the extent of grassland in the area, ways to avoid direct loss of grassland acres and ways to reduce degradation and fragmentation.

Rare and Protected Species

We have conducted a search of the SD Natural Heritage Database (NHD) within the project boundary. This database monitors species at risk, specifically those species that are legally designated as threatened or endangered or rare. Rare species are those that are declining and restricted to limited habitat or a jurisdiction, may be isolated or disjunct due to geographic or climatic factors that are classified as such due to lack of survey data. A list of monitored species can be found at http://gfp.sd.gov/natural-heritage-program.

No records of threatened, endangered or rare species were found in the project area. Many places in South Dakota have not been surveyed for rare or protected species and the absence of a species from the database does not preclude its presence from the project area. If surveys indicate that state endangered, threatened or rare species may occur in the project area, South Dakota Codified Law 34A-8-8 allows for only limited and specific authorized take of threatened and endangered species for scientific, zoological or educational purposes. For more information, please visit https://gfp.sd.gov.licenses/other-permits/endangered-species-permit.aspx.

Avian Species

In North America, grassland birds have experienced consistent and long-term declines (Peterjohn and Sauer 1999, Rosenberg et al. 2019). The USFWS publishes a list of bird species of habitat fragmentation concern (Bakker 2020). These species are those which research and literature indicate are negatively affected by loss and fragmentation of habitat. Fragmentation includes cutting habitats into smaller, more isolated blocks and the creation of barriers (such as the inclusion of trees in prairies, barren land in forested areas, wind turbines, roads, etc.). The effects of fragmentation on species of concern include avoidance of fragmented areas or decreased density, survival, and/or reproduction in fragmented habitats. Species of habitat fragmentation concern that may inhabit the project area include:

Burrowing owl (*Athene cunicularia*)
Upland Sandpiper (*Bartramia longicauda*)
Longbilled Curlew (*Numenius americanus*)
Western Meadow Lark (*Sturnella neglecta*)
Lark Bunting (*Calamospiza melanocorys*)
Sharp-tailed grouse (*Tympanuchus phasianellus*)
Grasshopper Sparrow (*Ammodramus savannarum*)
Northern Harrier (*Circus cyaneus*)
Sprague's Pipit (*Anthus spragueii*)
Chesnut-collared Longspur (*Calcarius ornatus*)
Savannah Sparrow (*Passerculus sandwichensis*)

Additionally, a search of the NHD indicated that there are nesting burrowing owl (*Athene cunicularia*) located west of the project. Although no records of burrowing owl were found in the immediate project area, the presence of prairie dog towns within and adjacent to the project boundary could provide suitable habitat for this species. In addition to being a species of habitat fragmentation concern, the burrowing owl is listed as a species of greatest conservation need in South Dakota. Burrowing owls nest in grasslands with few trees, and inhabit prairie dog towns larger than 25 acres (Griebel and Savidge 2007, Thiele et al. 2013). The breeding season in South Dakota is mid-May to early August. SDGFP suggests avoiding construction within 0.25 miles of an active burrowing owl nest, if any are identified during breeding bird surveys. These recommendations for burrowing owl nest avoidance measures should be included in the EA

Prairie Grouse

SDGFP generally recommends two years of prairie grouse lek surveys in a project area prior to development. Prairie grouse (sharp-tailed grouse and greater prairie chicken (*T. cupido*)) inhabit large intact blocks of native grassland. Development (roads, power lines, solar panels, buildings, etc.) in and around prairie grouse habitat can fragment otherwise suitable habitat and displace birds. Prairie grouse are indicators of high quality grassland habitat and a robust ecological community due to their specific habitat needs. The developers of the project completed an initial prairie grouse lek survey in 2017 and

plan to conduct an additional year of surveys in 2020. If prairie grouse leks are found during the 2020 surveys, we suggest a two mile no construction buffer during the lekking and subsequent nesting season (1 March to 30 June). Sharp-tail grouse are sensitive to noise, and construction near leks could cause birds to abandon leks. If the developer determines it is not feasible to cease construction within the two mile buffer during the lekking season, SDGFP asks that construction activities are limited to the period 3 hours after sunrise to 1 hour before sunset. These recommendations for sharp-tailed grouse lek avoidance measures should be included in the EA.

Avian Mortality and Powerlines

The developer proposes to use underground transmission lines, which will reduce impacts to avian species. We include the following information for the reviewers and developers to consider if any above-ground power lines will be a part of the project. Avian use of energized poles includes perching (for hunting and roosting), nesting, and resting (including shelter during inclement weather). Large birds (e.g. eagles, hawks) that use energized poles can be electrocuted if energized equipment is not insulated properly to minimize risks. Other avian species could potentially collide with the lines, including waterfowl, and sharp-tailed grouse, which do not generally perch on tall transmission lines. If any above-ground transmission lines are built in addition to the proposed underground transmission line, SDGFP recommends all new construction should follow or exceed Avian Power Line Interaction Committee (APLIC) construction design standards for avian-safe passage and use. See https://www.aplic.org/ for specific guidance on how to mitigate collision and electrocution risks to avian species. Ways to reduce or mitigate the impacts of power line strikes and electrocutions should be provided in the EA, including the suggestions from APLIC.

Mammals

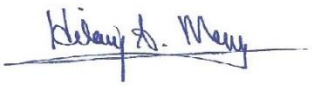
Swift fox (*Vulpes velox*) are listed as state threatened by SDGFP. Swift fox typically inhabit short grass to midgrass prairies with gently rolling topography. Swift fox will enlarge burrows of other burrowing animals (e.g. black tailed prairie dogs) or create their own dens in loose soils (Higgins et al. 2000). Habitat loss is the greatest threat to swift fox populations throughout its range. No records of swift fox occur within the project area, however swift fox can be difficult to detect. If a swift fox den is discovered during construction of the project, SDGFP recommends avoiding construction in the immediate area (0.25 mile buffer), if feasible.

During the January 2020 meeting, the developer indicated that prairie dog towns were identified in the project area. We recommend not siting project components within prairie dog colonies (if feasible) to reduce disturbance to swift fox and burrowing owl habitat, as well as to reduce the risk of collision for avian predators that may forage in prairie dog colonies. Collisions with vehicles associated with construction, operation, and maintenance activities are also a concern if swift fox are found in the project area. We recommend reducing speed limits within the project during construction, operation and maintenance activities. SDGFP requests that recommendations for avoiding risks to swift fox are included in the EA.

The project area is also home to populations of mule deer (*Odocoileus hemionus*), whitetail deer (*O.virginianus*) and antelope (*Antilocapra americana*). We do not anticipate this project to pose a significant impact to these species. However, the developer indicated that a security fence will be installed around the project boundary. We suggest a woven wire/chain link fence be at least 7-8' tall to exclude deer and antelope. We also request that biologists and/or construction crews assure big game animals (particularly fawns, depending on construction timing) are void of the facility before fencing is permanently closed. The wire should be installed tight to the ground, or possibly buried. For more information on building wildlife-friendly fencing please see: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_026389.pdf. SDGFP requests that recommendations for avoiding impacts to deer and antelope are included in the EA.

We appreciate the opportunity to provide comments on this project. Please keep SDGFP involved in all future correspondence. For any additional questions or information, please feel free to contact me at 605.773.6208 or Hilary.Morey@state.sd.us.

Sincerely,



Hilary Morey
Environmental Review Senior Biologist
523 East Capitol Avenue
Pierre, SD 57501
hilary.morey@state.sd.us

cc: Natalie Gates (USFWS)

Literature Cited

Bakker, K.K. 2020. South Dakota Species of Habitat Fragmentation Concern: Grassland Birds. Report developed for: U.S. Fish and Wildlife Service, South Dakota Ecological Services Field Office, Pierre, SD, 38 pp.

Griebel, R.L., and J.A. Savidge. 2007. Factors influencing burrowing owl reproductive performance in contiguous shortgrass prairie. Journal of Raptor Research 41:212-222.

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South Dakota Game, Fish and Parks – Natural Heritage Program

October 29, 2019
February 13, 2020

SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

October 29, 2019

Jonathan Knudsen
Area M Consulting
2023 Alameda Street
Roseville, MN 55113

Subject: SD Natural Heritage Data Request – Wild Spring

Dear Johathan,

I have conducted a search of the South Dakota Natural Heritage Database (SDNHD) for the above listed property. The SDNHP monitors species at risk. These species are those that are legally designated as threatened or endangered (legally protected) or rare. Rare species are those that are declining and restricted to limited habitat, peripheral to a jurisdiction, isolated or disjunct due to geographic or climatic factors or that are classified as such due to lack of survey data. A list of monitored species can be found at http://gfp.sd.gov/wildlife/threatened-endangered.

The search of the property resulted in no documented threatened, endangered, or rare species within the property location.

Please note that many places in South Dakota have not been surveyed for rare or protected species and the absence of a species from the database does not preclude its presence.

If you have any questions, please feel free to contact me.

Sincerely,

Casey Heimerl

Casey Heimerl
Wildlife Biologist/Database Manager
523 E Capitol Ave
Pierre, SD 57501
Phone: 605-773-4345
Email: Casey.Heimerl@state.sd.us

SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

February 13, 2020

Jonathan Knudsen
Area M Consulting
2023 Alameda Street
Roseville, MN 55113

Subject: SD Natural Heritage Data Request – Wild Spring Amended

Dear Jonathan,

I have conducted a search of the South Dakota Natural Heritage Database (SDNHD) for the above listed property. The SDNHP monitors species at risk. These species are those that are legally designated as threatened or endangered (legally protected) or rare. Rare species are those that are declining and restricted to limited habitat, peripheral to a jurisdiction, isolated or disjunct due to geographic or climatic factors or that are classified as such due to lack of survey data. A list of monitored species can be found at http://gfp.sd.gov/wildlife/threatened-endangered.

The search of the property resulted in no documented threatened, endangered, or rare species within the property location.

Please note that many places in South Dakota have not been surveyed for rare or protected species and the absence of a species from the database does not preclude its presence.

If you have any questions, please feel free to contact me.

Sincerely,

Casey Heimerl

Casey Heimerl
Wildlife Biologist/Database Manager
523 E Capitol Ave
Pierre, SD 57501
Phone: 605-773-4345
Email: Casey.Heimerl@state.sd.us

South Dakota State Historic Preservation Office

April 21, 2020

south dakota
STATE HISTORICAL SOCIETY
DEPARTMENT OF EDUCATION

April 21, 2020

Mr. David W. Kluth
Department of Energy
Western Area Power Administration
Federal Building
200 4TH St SW
Huron, SD 57350-2475

SECTION 106 PROJECT CONSULTATION
Project: 191207002G – Wild Springs Solar Project
Location: Pennington County
(WAPA)

Dear Mr. Kluth:

Thank you for the opportunity to comment on the above referenced project pursuant to 54 U.S.C. 306108 (Section 106) of the National Historic Preservation Act of 1966 (as amended). The South Dakota Office of the State Historic Preservation Officer (SHPO) concurs with your determination regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On April 14, 2020, we received your letter and the report titled "Level I and Level III Cultural Resources Inventory for the Wild Springs Solar Project," by Garrett L. Knudsen and Jonathan R. Knudsen. On April 20, 2020, we requested additional clarification concerning the scope of the proposed project, which you provided on the same day. According to the report, site 39PN3777 was recorded during the survey of the project area of potential effects. Since the project has been modified to avoid impacting newly recorded site 39PN3777, we concur with the determination of "No Historic Properties Affected" for this undertaking. If site 39PN3777 cannot be avoided by all ground disturbing activities, the site should be evaluated for listing in the National Register of Historic Places and the determination of effect reassessed.

Activities occurring in areas not identified in your request will require the submission of additional documentation pertaining to the identification of historic properties as described in 36 C.F.R. § 800.4.

If historic properties are discovered or unanticipated effects on historic properties are found after the agency official has completed the process outlined by 54 U.S.C. 306108 (Section 106) of the National Historic Preservation Act, the agency official shall avoid, minimize, or mitigate the adverse effects to such properties and notify the SHPO and Indian tribes that might attach

religious and cultural significance to the affected property within 48 hours of the discovery, pursuant to 36 C.F.R. § 800.13.

Concurrence of the SHPO does not relieve the agency official from consulting with other appropriate parties as described in 36 C.F.R. § 800.2(c).

Should you require additional information, please contact Paige Olson at Paige.Olson@state.sd.us or (605)773-6004.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

P. Olson

Paige Olson
Review and Compliance Coordinator

Geronimo Energy – Basin Electric Power Cooperative Power Purchase Agreement Press Release

February 18, 2020

FOR IMMEDIATE RELEASE: February 18, 2020

Contact: Lindsay T. Smith
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Geronimo Energy and Basin Electric Power Cooperative Announce Power Purchase Agreement for 128 MW South Dakota Solar Project

Geronimo Energy (Geronimo), a National Grid company, and Basin Electric Power Cooperative (Basin Electric) announced today the execution of a Power Purchase Agreement (PPA) for the Wild Springs Solar Project (Wild Springs). Wild Springs is a 128 megawatt (MW) clean solar energy project located in Pennington County, South Dakota, approximately 20 miles east of Rapid City. Wild Springs is anticipated to begin operations in 2022. Using the EPA's greenhouse gas equivalencies calculator, the project is estimated to offset carbon dioxide emissions by 190,000 metric tons annually.

Once operational, Wild Springs will be the largest solar project in South Dakota. It will be located in the service area of West River Electric Association, Inc. (West River Electric), which is a distribution electric cooperative member of Basin Electric. In total, Basin Electric is a not-for-profit wholesale power provider to 141 member cooperative systems in nine states. In South Dakota, Basin Electric transmits its power supply to two generation and transmission (G&T) cooperatives, Rushmore Electric Power Cooperative (Rushmore Electric) and East River Electric Power Cooperative. Those two G&T cooperatives then transmit the power supply to their respective distribution cooperatives, with Rushmore Electric being the G&T provider to West River Electric. West River Electric and the state's 27 other distribution co-ops power the homes, farms and businesses within their service areas.

"For the first time in its history, Basin Electric will buy solar generation on a large scale to serve our members. The board's decision to add solar generation to our resource portfolio is to continue with our all-of-the-above strategy, as well as solar generation becoming a more economic energy source. We are excited about adding solar to our already diverse generation mix," stated Paul Sukut, CEO and General Manager of Basin Electric Power Cooperative.

"Our cooperative network is always looking to ensure we have a mix of power resources to meet the needs of our membership and renewable energy is an important part of that strategy," said Rushmore Electric General Manager, Vic Simmons. "This project with Geronimo Energy is an important strategic step as we look to the future in continuing our strong history of providing safe, affordable and reliable power."

"We're excited that West River's service area will be home to the Wild Springs Solar Project," said West River Electric Association CEO/General Manager, Dick Johnson. "This solar energy project will benefit

our cooperative family, as well as our local communities. As not-for-profit co-ops that are owned by our members, everything we do goes back to the people we serve."

The project has been supported by local and state community members and will bring significant economic benefits to the local area. Current estimations for the project's economic benefits total over $17 million throughout the first 20 years of operation, including positive impacts in new tax revenue, construction jobs, new full-time jobs, and charitable funds through the project's Education Fund. The Wild Springs Education Fund alone will offer approximately $500,000 in donations to the local school districts connected to the project above and beyond all tax revenue and local spending benefits.

"Historically, there has been a misconception that solar in the northern regions of the United States wasn't feasible," stated David Reamer, President for Geronimo Energy. "Both Geronimo and Basin Electric recognized that the addition of solar to its overall generation fleet not only offers customers a clean, economic option for their electricity, but it also diversifies a utility's portfolio."

Geronimo's South Dakota operating project portfolio includes the recently completed Crocker Wind Farm, a 200 MW wind project located in Clark County, South Dakota. Geronimo also successfully developed the operational Pierre Solar Project, a joint effort with the City of Pierre and Missouri River Energy Services, located on City property in Hughes County, South Dakota.

About Geronimo Energy
Geronimo Energy, a National Grid (NYSE: NGG) company, is a leading North American renewable energy development company based in Minneapolis, Minnesota, with satellite offices located throughout multiple states in the regions where it develops, constructs, and operates. As a farmer-friendly and community driven company, Geronimo develops projects for corporations and utilities that seek to repower America's grid by reigniting local economies and reinvesting in a sustainable future. Geronimo has developed over 2,400 megawatts of wind and solar projects that are either operational or currently under construction, resulting in an investment of over $4 billion in critical energy infrastructure and the revitalization of rural economies. Geronimo has a vast development pipeline of wind and solar projects in various stages of development throughout the United States. Please visit www.geronimoenergy.com to learn more.

About Basin Electric Power Cooperative
Basin Electric is a consumer-owned, regional cooperative headquartered in Bismarck, North Dakota. It generates and transmits electricity to 141 member rural electric systems in nine states: Colorado, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, South Dakota, and Wyoming. These member systems distribute electricity to about 3 million consumers. Find out more at www.basinelectric.com.

Rushmore Electric Power Cooperative

October 8, 2019

Rushmore Electric Power Cooperative

1715 Cambell Street

PO Box 2414

Rapid City, SD 57709-2414

605-342-4759

October 8, 2019

Mr. Justin Pickar
Geronimo Energy
7650 Edinborough Way, Ste. 725
Edina, MN 55435

Dear Mr. Pickar, Justin

Rushmore Electric Power Cooperative and the eight-member distribution cooperatives we represent are excited to see the Wild Springs Solar Project become a reality. When a project like this is being considered, we always hear about the jobs, taxes, and economic development it will bring to the area. We seldom hear what this means to the electric system in a technical sense. Most people take for granted that the lights will come on when the switch is moved. They pay a bill and life is good. To deliver this instant system takes a lot of behind the scenes efforts.

It is true that contractually a solar project or wind farm may be sold far outside South Dakota's borders. So why does it make a difference to the local systems? Electrons don't care who has contractually bought them. They will flow over the path of least resistance to the nearest load. For the cooperatives in western South Dakota, today, there is no local generation. The electrons that serve us come from the dams on the Missouri River, from the Laramie River Station in Wheatland, WY, and through the DC Tie at Rapid City from the Dry Creek Plant in Gillette, WY. Nothing is local and is dependent on the 115 KV and 230 KV transmission systems to deliver the power and the voltage needed. I reference voltage as well as power because we are at the end of the system in western SD and voltage support is often as critical as having enough power to serve the load.

The Wild Springs Solar Project will supply a local source for power and voltage to our systems. Our total cooperative load in western SD is around 300 MW. This 125 MW project will never leave the area even though it is being contracted to Basin Electric who will add it to a portfolio of generation in five states and paid for by cooperatives from nine states.

We look forward to working with Geronimo Energy as Wild Springs Solar delivers both real and unseen benefits to the cooperatives in western South Dakota.

Sincerely,

Vic Simmons
CEO/General Manager