Exhibit Q

Threatened and Endangered Species

Sunstone Solar Project
June 2023

Prepared for

PINE GATE RENEWABLES | GETTING SOLAR DONE.

Sunstone Solar, LLC

Prepared by

TETRA TECH

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Acronyms and Abbreviations

ASC	Application for Site Certificate
Applicant	Sunstone Solar LLC, a subsidiary of Pine Gate Renewables, LLC
Facility	Sunstone Solar Project
OAR	Oregon Administrative Rule
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statutes
Tetra Tech	Tetra Tech, Inc.
WAGS	Washington ground squirrel

1.0 Introduction

Sunstone Solar LLC, a subsidiary of Pine Gate Renewables, LLC (Applicant), proposes to construct and operate the Sunstone Solar Project (Facility), a solar energy generation facility and related or supporting facilities in Morrow County, Oregon. This Exhibit Q was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(q). This exhibit demonstrates that the Facility can comply with the Oregon Revised Statues (ORS) covering threatened and endangered species in the approval standard OAR 345-022-0070.

2.0 Analysis Area

In accordance with OAR 345-001-0010(35)(a) and as stated in the September 2022 Project Order, the analysis area for threatened and endangered species consists of the site boundary plus a 5-mile buffer. The site boundary is defined in detail in Exhibits B and C. The threatened and endangered species analysis area is shown on Figure Q-1.

3.0 Agency Consultation

Consultation with personnel from the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Energy (ODOE) regarding threatened and endangered wildlife species and biological surveys occurred on March 24, 2022. The Applicant introduced the Facility, described the anticipated schedule, and described the biological surveys proposed for 2022. ODFW concurred with the survey approach and noted that the Facility was well-sited from a wildlife perspective. ODFW also noted that Sand Hollow, which runs north-south through the site boundary, had the highest potential to support Washington ground squirrel (*Urocitellus washingtoni*; WAGS) colonies.

The Applicant and Tetra Tech, Inc. (Tetra Tech) met again with personnel from ODFW and ODOE on March 23, 2023, to discuss the 2022 survey reports and mitigation options for the Facility. Tetra Tech provided ODFW with the 2022 Wildlife Survey Report and the 2022 Habitat Categorization and Rare Plant Survey Report in advance of the meeting. ODFW concurred with the report findings and provided the following clarification related to threatened and endangered wildlife: WAGS surveys are valid for 3 years so, if construction begins within 3 years of surveys, only known colonies need to be surveyed to determine the current boundary to inform construction avoidance; because no WAGS colonies were found during surveys at the Facility, no additional surveys would be needed if construction were to commence prior to May 2025. Agency consultation is further described in Exhibit P. Tetra Tech provided the 2022 Habitat Categorization and Rare Plant Survey Report to personnel from the Oregon Department of Agriculture (ODA) on March 20, 2023 with a request for comments.

4.0 Identification of Species

OAR 345-021-0010(1)(q) Information about threatened and endangered plant and animal species that may be affected by the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0070. The applicant must include:

(A) Based on appropriate literature and field study, identification of all threatened or endangered species listed under ORS 496.172(2) and ORS 564.105(2) that may be affected by the proposed facility;

The Applicant identified threatened and endangered plant and animal species that might be affected by the Facility through initial desktop review followed by field surveys in 2022. The Applicant conducted the desktop review within the analysis area and performed field surveys within the site boundary for plants and within the site boundary and additional portions of the analysis area for wildlife, as described below. The Applicant conservatively included candidate species in this analysis in the event that they become listed during construction or operation of the Facility, although none were found to have potential to occur within the analysis area.

4.1 Desktop Review

Prior to conducting surveys in 2022, Tetra Tech conducted a desktop review to identify special status wildlife and plant species with the potential to occur in the analysis area. An initial review was conducted as part of their Critical Issues Analysis for the Facility in 2021 (Tetra Tech 2021), and an updated review was conducted in 2022 to verify and update the status and occurrences of these species. Species initially reviewed included federal and state endangered, threatened, proposed, and candidate species; species of concern; birds of conservation concern; state sensitive and sensitive critical species; and Oregon Conservation Strategy species. Tetra Tech also reviewed the results of a query to the Oregon Biodiversity Information Center, which provided locations of rare species and habitats within the Facility vicinity (ORBIC 2021). As described in Exhibit P, the Applicant reviewed a variety of sources and aerial imagery to preliminarily identify suitable habitat for special status wildlife within the site boundary. To identify state-listed species with potential to occur within the analysis area, the Applicant consulted ODFW's list of threatened, endangered, and candidate fish and wildlife species in Oregon (ODFW 2021) and the ODA list of threatened, endangered, and candidate plant species in Oregon (ODA 2022a). The Applicant then reviewed range and habitat information for these state listed and candidate species to determine their potential to occur with the analysis area (ORBIC 2019; Oregon Flora 2023a, 2023b; Wildlife Explorer 2022; StreamNet 2023).

The desktop review resulted in the identification of two state-listed species with the potential to occur within the analysis area, based on their known ranges, presence of suitable habitats in the area, and known/historical occurrences in the ORBIC database (Table Q-1). These species are the Washington ground squirrel (state endangered) and Laurence's milkvetch (*Astragalus collinus* var. *laurentii*; state threatened, federal species of concern). The ORBIC database query returned 5

historical records for WAGS within the site boundary and one record for Laurence's milkvetch north of the site boundary. No state-listed fish have the potential to occur within the analysis area (ORBIC 2021; StreamNet 2023).

Table Q-1. State Listed Species with Potential to Occur within the Analysis Area

Scientific Name	Common Name	Federal Status[1]	State Status[2]	Occurrence within Analysis Area	Potential Habitat within the Analysis Area
Mammals					
Urocitellus washingtoni	Washington ground squirrel	–	E	Yes (per ORBIC)	Yes
Plants					
Astragalus collinus var. *laurentii*	Laurence's milkvetch	SOC	T	Yes (per ORBIC)	Yes
1. SOC = Species of Concern.					
2. T = Threatened, E = Endangered.					

4.1.1 Washington Ground Squirrel

WAGS are a small ground squirrel associated with shrub-steppe habitats of the Columbia Basin Ecoregion (Verts and Carraway 1998). WAGS occur only in the Columbia Basin of eastern Washington and north-central Oregon. In Oregon, the WAGS range extends from Umatilla County, west through Gilliam and Morrow counties, to the John Day River. Concern for the long-term viability of WAGS populations led to their listing by ODFW as endangered in January 2000. The Applicant conducted a desktop review of potential WAGS habitat within the analysis area including a review of National Land Cover Database (Dewitz 2019) and Natural Resources Conservation Service geographic information systems soil data (NRCS 2006). This preliminary review was used to identify areas of suitable habitat for WAGS prior to field surveys. Areas considered unsuitable habitat for WAGS include active agricultural areas and developed areas.

4.1.2 Laurence's Milkvetch

Laurence's milkvetch is a 4- to 20-inch-tall taprooted perennial in the pea (*Fabaceae*) family and occupies sandy or rocky soils overlying basalt on dry slopes of the Columbia Plateau in northern Oregon (ODA 2022b). Laurence's milkvetch blooms from May to August and develops pendulant seed pods from late May to August that are required for identification (ODA 2022b). Threats to Laurence's milkvetch include habitat loss due to agricultural development, grazing, road maintenance activities, competition from exotic weeds, and seed predation by insects (ODA 2022b).

4.2 Field Surveys

As described below, the Applicant conducted field surveys in 2022 to evaluate the potential presence of state-listed species. Tetra Tech conducted a wetlands delineation within the site boundary on March 21 and 22, 2022 and found no wetlands or Waters of the State (see Exhibit J, Attachment J-1). As such, no field surveys were conducted for fish. No state-listed fish have the potential to occur within the analysis area (ORBIC 2021; StreamNet 2023).

4.2.1 Washington Ground Squirrel Surveys

Surveys for WAGS followed methodology generally consistent with the protocol developed in the *Status and Habitat Use of the WAGS on State of Oregon Lands, South Boeing, Oregon* (Morgan and Nugent 1999). The WAGS protocol requires two phases of surveys to increase the likelihood of detecting their presence. The first phase of surveys begins around April 1, with the next phase following at least 2 weeks later and completed by the end of May, to assure surveys are conducted prior to WAGS going into aestivation. The survey period corresponds to the time when juvenile squirrels emerge from the burrows and are most active, and thus when alarm calls are most frequent (Morgan and Nugent 1999). WAGS surveys are conducted by walking meandering transects spaced at approximately 165 feet. Biologists were assigned to document any sign of WAGS (burrows, scat, sign of fresh activity, sightings, and vocalizations) while walking the transects and stopping periodically to listen for squirrel calls.

Following the protocol of Morgan and Nugent (1999), surveys are conducted in the morning, beginning at least 1 hour after sunrise to allow for temperatures to increase sufficiently to support WAGS activity, and typically end in the early afternoon to avoid the late afternoon heat, which decreases the WAGS activity. Whenever potential WAGS sign is identified, the area immediately surrounding the sign is intensively searched for more sign by walking around the location in an outward spiral.

According to Morgan and Nugent (1999), a colony is defined by the observation of one or more WAGS observation types (auditory, visual or droppings), along with squirrel burrows of the accurate shape and size for WAGS. If a colony is found, the information recorded includes the locations of activity centers and the colony boundary using a sub-meter accuracy Global Positioning System unit, as well as habitat characteristics, approximate number of burrows, the time, weather, and observation types when a colony is first discovered, and representative photographs of burrows, scat, and habitat.

The second phase of surveys follows the same method, except that the transects are offset between the first phase of transects as to allow for higher likelihood of detection. Additionally, during the second phase of surveys, while approaching a potential burrow identified from the first phase of surveys, biologists approach the burrow perpendicular to that of the first phase to increase the likelihood of WAGS detection. The approach direction is changed to account for topography and prevailing winds, which may affect detectability of WAGS from a given direction.

On April 3, 6, 7, and 15, and again on May 3, 4, and 5, 2022, two to three biologists conducted WAGS surveys at the Facility. In the field, biologists verified and updated the status of active agricultural and developed areas identified during desktop review. These areas confirmed as not suitable for WAGS were excluded from field surveys. Biologists delineated suitable habitat using electronic tablets. Due to access restrictions, approximately 31 acres of the 755-acre WAGS Survey Area was not surveyed, primarily outside but within 1,000 feet of the site boundary (See Exhibit P, Attachment P-1). Areas not surveyed for WAGS due to access restrictions included an area in between crop circles northwest of the site boundary, an area between crop circles south of the site boundary, and an area owned by the State of Oregon adjacent to Highway 207 within the site boundary that abuts a quarry and existing substation. These areas were identified as having a low likelihood to support WAGS due to their disturbed conditions and isolated locations (see Exhibit P, Attachment P-1).

Biologists did not observe any active WAGS colonies within the WAGS Survey Area. A total of seven small burrows appropriate for use by small mammals and beetles were identified at three locations; however, no WAGS were detected calling nor was any scat found at burrows during the first or second phase of WAGS surveys.

4.2.2 Laurence's Milkvetch Surveys

Botanical field surveys were conducted using the Intuitive Controlled survey method, a standard and commonly accepted survey protocol (USFS and BLM 1998). This method incorporates meandering transects that traverse the project area and target the full array of major vegetation types, aspects, topographical features, habitats, and substrate types. While en route, the surveyors search for target species, and when the surveyors arrive at an area of high potential habitat (that was defined in the pre-field review or encountered during the field visit), they conduct a complete survey for the target species. Complete surveys include an examination of 100 percent of the habitat.

During surveys, Tetra Tech maintained a running list of vascular plant species encountered and made informal collections of unknown species for later identification. Identification was verified by the use of appropriate plant keys, in particular, *Flora of the Pacific Northwest* (Hitchcock and Cronquist 2018).

Tetra Tech conducted field surveys for rare plants within the site boundary on June 20 and 21, 2022, concurrently with habitat categorization surveys. A total of 42 vascular plant species were observed in the site boundary. Of the 42 species observed, 22 (52 percent) were non-native species. No Laurence's milkvetch plants were observed within the site boundary. Approximately 2 acres within the site boundary were not accessible at the time of surveys but were determined based on aerial photos and observations from adjacent, accessible areas to have a low likelihood of supporting Laurence's milkvetch based on the abundance of non-native species and lack of typical suitable habitat (see Exhibit P, Attachment P-1). Additionally, due to the abundance of non-native invasive species and noxious weeds as well as the existing disturbance in general, very little typical habitat for Laurence's milkvetch was observed within the site boundary overall.

5.0 Occurrence and Potential Adverse Effects

OAR 345-021-0010(1)(q)(B) For each species identified under (A), a description of the nature, extent, locations and timing of its occurrence in the analysis area and how the facility might adversely affect it;

5.1 Washington Ground Squirrel Surveys

WAGS are listed as a state endangered species under the Oregon Endangered Species Act (OESA). The desktop review identified 5 element occurrence records for WAGS within the site boundary (ORBIC 2021). ORBIC occurrences are buffered to protect the location of the rare plant or animal, so the exact location and extent of the colonies are unknown. All 5 occurrences within the site boundary are considered historical by ORBIC, although there are occurrences outside the site boundary but within the analysis area that are considered extant, with the most recent last observed date of 2013 (ORBIC 2021).

No active WAGS colonies were observed during surveys for the Facility. As WAGS were not observed during Facility surveys and are not known to currently occur within the site boundary, no potential adverse effects to this species are anticipated as a result of the Facility.

5.2 Laurence's Milkvetch Surveys

Laurence's milkvetch is listed as a state threatened species under OESA. The desktop review identified one element occurrence record for Laurence's milkvetch within the analysis area, approximately 0.8 miles north of the site boundary at its closest location (ORBIC 2021). However, the occurrence was last observed in 1976. As this species was not observed during Facility surveys and is not known to currently occur within the site boundary, no potential adverse effects to this species are anticipated as a result of the Facility.

6.0 Avoidance and Mitigation

OAR 345-021-0010(1)(q)(C) For each species identified under (A), a description of measures proposed by the applicant, if any, to avoid or reduce adverse impact;

Based on the results of desktop review and field surveys, no state listed or candidate species are expected to be affected by the Facility and therefore the Applicant does not propose avoidance and mitigation measures for threatened and endangered species. The potential for impacts to state listed and candidate species was minimized by siting the Facility primarily on moderately to highly disturbed habitat in a relatively developed landscape with access to existing transmission lines and away from known existing threatened and endangered species locations.

6.1 Wildlife

No state threatened, endangered, or candidate wildlife species were found or are expected to occur within the site boundary. Therefore, no mitigation measures are planned or required for the Facility.

6.2 Plants

No state-listed species were observed within the site boundary. Additionally, due to the abundance of non-native invasive species and noxious weeds, very little potential suitable habitat for listed plant species was observed within the site boundary. Therefore, because no state listed species are expected to be affected by the Facility, no mitigation measures are planned or required for the Facility.

7.0 Protection and Conservation Program Compliance

OAR 345-021-0010(1)(q)(D) For each plant species identified under (A), a description of how the proposed facility, including any mitigation measures, complies with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3);

There are no species with the potential to occur within the analysis area for which ODA has adopted a protection and conservation program. As a result, the Facility is not likely to impact any of ODA's recovery efforts, nor is the Facility likely to cause a significant reduction in the likelihood of survival or recovery of plants with a protection or conservation program under ORS 564.105(3).

8.0 Potential Impacts to Plants, Including Mitigation Measures

OAR 345-021-0010(1)(q)(E) For each plant species identified under paragraph (A), if the Oregon Department of Agriculture has not adopted a protection and conservation program under ORS 564.105(3), a description of significant potential impacts of the proposed facility on the continued existence of the species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species;

No state listed or candidate plant species are known or expected to occur within the analysis area; therefore, the Facility is not likely to cause a significant reduction in the likelihood of survival or recovery of any state listed or candidate plant species, and no mitigation measures are proposed by the Applicant.

9.0 Potential Impacts to Animals, Including Mitigation Measures

OAR 345-021-0010(1)(q)(F) For each animal species identified under (A), a description of significant potential impacts of the proposed facility on the continued existence of such species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and

No state listed fish or wildlife species are known or expected to occur within the site boundary; therefore, the Facility is not likely to cause a significant reduction in the likelihood of survival or recovery of any state listed or candidate animal species, and no mitigation measures are proposed by the Applicant.

10.0 Monitoring

OAR 345-021-0010(1)(q)(G) The applicant's proposed monitoring program, if any, for impacts to threatened and endangered species.

As no impacts to threatened and endangered species are anticipated from the Facility, no monitoring program for threatened and endangered species is planned or required. The Wildlife Monitoring Plan, Attachment P-5 to Exhibit P, describes the monitoring of WAGS that would occur if this species is identified incidentally at the Facility prior to construction.

11.0 Conclusion

Based on the information provided above, the Energy Facility Siting Council may conclude that the Facility will not cause a significant reduction in the likelihood of survival or recovery of listed threatened or endangered plant and animal species and therefore meets the Threatened and Endangered Species standard under OAR 345-022-0070.

12.0 Submittal Requirements and Approval Standards

12.1 Submittal Requirements

Table Q-2. Submittal Requirements Matrix

Requirement	Location
OAR 345-021-0010(1)(q) Information about threatened and endangered plant and animal species that may be affected by the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0070. The Applicant shall include:	–
(A) Based on appropriate literature and field study, identification of all threatened or endangered species listed under ORS 496.172(2) and 564.105(2) that may be affected by the proposed facility;	Section 4.0
(B) For each species identified under (A), a description of the nature, extent, locations and timing of its occurrence in the analysis area and how the facility might adversely affect it;	Section 5.0
(C) For each species identified under (A), a description of measures proposed by the Applicant, if any, to avoid or reduce adverse impact;	Section 6.0
(D) For each plant species identified under (A), a description of how the proposed facility, including any mitigation measures, complies with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3);	Section 7.0
(E) For each plant species identified under paragraph (A), if the Oregon Department of Agriculture has not adopted a protection and conservation program under ORS 564.105(3), a description of significant potential impacts of the proposed facility on the continued existence of the species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species;	Section 8.0
(F) For each animal species identified under (A), a description of significant potential impacts of the proposed facility on the continued existence of such species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and	Section 9.0
(G) The applicant's proposed monitoring program, if any, for impacts to threatened and endangered species.	Section 10.0

12.2 Approval Standards

Table Q-3. Approval Standard

Requirement	Location
OAR 345-022-0070 Threatened and Endangered Species	–
To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:	–

Requirement	Location
(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction, and operation of the proposed facility, taking into account mitigation:	–
(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or	Section 7.0
(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and	Section 8.0
(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction, and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.	Section 9.0

13.0 References

Dewitz, J. 2019. National Land Cover Database (NLCD) 2016 Products (ver. 2.0, July 2020): U.S. Geological Survey data release, https://doi.org/10.5066/P96HHBIE

Hitchcock, C. L., and A. Cronquist. 2018. *Flora of the Pacific Northwest; an Illustrated Manual.* Second Edition. Edited by D.E Giblin, B. S. Legler, P.F. Zika, and R.G. Olmstead. University of Washington Press. Seattle, WA.

Morgan, R.L., and M. Nugent. 1999. Status and Habitat Use of the Washington Ground Squirrel (*Spermophilus washingtoni*) on State of Oregon Lands, South Boeing, Oregon in 1999. Report to the Oregon Department of Fish and Wildlife.

NRCS (Natural Resources Conservation Service). 2006. Digital General Soil Map of U.S. Geospatial Data Presentation Form. Available online at: http://websoilsurvey.nrcs.usda.gov

ODA (Oregon Department of Agriculture). 2022a. Oregon Listed Plants by County, Interactive Map. Accessible online at: https://data.oregon.gov/dataset/Oregon-listed-plants-by-county-map-view/5g2r-qwyf

ODA. 2022b. Lawrence's milkvetch (*Astragalus collinus* var. *laurentii*) Fact Sheet. Available online at: https://www.oregon.gov/oda/shared/Documents/Publications/PlantConservation/AstragalusCollinusLaurentiiProfile.pdf.

ODFW. 2021. Threatened, endangered and candidate fish and wildlife species. Revised October 2021. Available online at: https://www.dfw.state.or.us/wildlife/diversity/species/docs/Threatened_and_Endangered_Species.pdf. Accessed December 2022.

Oregon Flora. 2023a. Oregon Flora Mapping Tool. Available online at: https://oregonflora.org/spatial/index.php. Accessed February 2023.

Oregon Flora. 2023b. Rare Plant Fact Sheets. Oregon State University. Corvallis, OR. Available online at: https://oregonflora.org/pages/rare-plant-factsheets.php. Accessed February 2023.

ORBIC (Oregon Biodiversity Information Center). 2019. Rare, Threatened and Endangered Species of Oregon. Institute for Natural Resources, Portland State University, Portland, Oregon. 130 pp.

ORBIC. 2021. Element Occurrence Record Digital Data Set for rare, threatened, or endangered species for the state of Oregon. ORBIC, Institute for Natural Resources. Portland State University, Portland, Oregon. Received June 2021.

StreamNet. 2023. Fish distribution data for Oregon. https://www.streamnet.org/ (Last accessed February 2023).

Tetra Tech (Tetra Tech, Inc.). 2021. Critical Issues Analysis for the Echo Solar Project. Prepared for Pine Gate Renewables. December 2021.

USFS and BLM (U.S. Forest Service and Bureau of Land Management). 1998. Survey Protocols for Survey and Manage Strategy 2 Vascular Plants. Version 2.0.

Verts, B.J., and L.N. Carraway. 1998. *Land Mammals of Oregon*. University of California Press, Berkeley, California. 668 pp.

Wildlife Explorer. 2022. Morrow County, Oregon Wildlife Species via Wildlife Viewer. Available Online at: http://oe.oregonexplorer.info/wildlife/wildlifeviewer/ (Accessed December 2022).

Figures

Sunstone Solar Project

Figure Q-1 Analysis Area for Threatened and Endangered Species

MORROW COUNTY, OR

- Site Boundary
- Analysis Area (5-mile Buffer)
- County Boundary
- State Highway
- County Highway
- Local Roads
- Existing UEC Transmission Line

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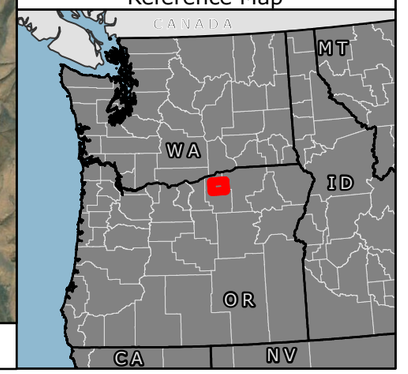
Reference Map



Morrow County
Umatilla County
Alpine Lane
Doherty Road
Melville Road
Grieb Lane
Bombing Range Road
Sand Hollow Road
74
207
578
735

1:100,000 WGS 1984 UTM Zone 11N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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