

Appendix B

Site Screening Report

Solid Waste Management Facility Site Screening Report (DRAFT)

Prepared for
Deschutes County Department of Solid Waste



February 2024

ParametriX

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Solid Waste Management Facility Site Screening Report

Prepared for

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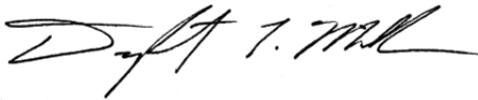
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Certification

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.



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EXPIRES: 12/31/2024

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Acronyms and Abbreviations

ACSC	Area of Critical State Concern
BCC	Board of County Commissioners
BGEPA	Bald and Golden Eagle Protection Act
bgs	below ground surface
BLM	Bureau of Land Management
BOCC	Board of County Commissioners
CCAA	Candidate Conservation Agreement with Assurances
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIP	Capital improvement Programs
DCC	Deschutes County Code
DCZO	Deschutes County zoning ordinance
DEQ	Department of Environmental Quality
DOGAMI	Department of Geology and Mineral Industries
DSL	Department of State Lands
EFU	Exclusive Farm Use
EFUHR	Exclusive Farm Use - Horse Ridge
EIS	Environmental impact statement
ESEE	Economic, social, environmental and energy
E/V ratio	Excavation-to-volume ratio
FAA	Federal Aviation Administration
FIRM	Flood insurance rate maps
GIS	Geographic Information System
GSG	Greater sage grouse
HDPE	high-density polyethylene
MBTA	Migratory Bird Treaty Act
MSWLF	Municipal Solid Waste Landfill
NRCS	Natural Resources Conservation Service

Acronyms and Abbreviations (Continued)

OAR	Oregon Administrative Rules
ODFW	Oregon Department of Fish and Wildlife
OHV	off highway vehicle
ORBIC	Oregon Biodiversity Information Center
OWRD	Oregon Water Resources Department
SBMH	Sensitive Bird and Mammal Habitat
SM	Surface Mining
SWAC	Solid Waste Advisory Committee
SWMF	Solid Waste Management Facility
SWMP	Solid Waste Management Plan
TCP	Traditional Cultural Places
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WA	Wildlife Area

1. Summary

1.1 Background

In 2019, Deschutes County adopted a Solid Waste Management Plan (SWMP) which included a 20-year roadmap and recommended strategies for continued cost-effective and reliable solid waste management. The SWMP evaluated alternatives for managing the county's waste including new technologies and the option to transport waste outside the county to other solid waste management facilities. It was ultimately decided with the support of the public that the County would site, develop, and operate a new solid waste management facility (SWMF) within Deschutes County. A new SWMF within the county would be the most affordable and the environmentally responsible solution.

Knott Landfill, Deschutes County's current solid waste management facility is expected to be at capacity by 2029. The goal is to have a solid waste management facility sited, developed and operational prior to Knott Landfill reaching capacity in 2029.

1.2 Purpose

The overall purpose of this project is to follow the recommendation of the Deschutes County SWMP to site a new landfill within Deschutes County. A new landfill would meet all regulatory requirements and any new state and local requirements that supersede previous regulations for environmental protection. The new landfill will have capacity to satisfy the County's waste projection for at least 100 years.

Phase I of this project has established the basic requirements, developed countywide screening criteria based on regulatory requirements, environmental considerations, and engineering considerations, and applied these criteria comprehensively throughout the county. The Siting Criteria Technical Memo was completed in July 2022 and the established criteria have been utilized to narrow the areas under consideration. The content of this memo has been incorporated into Section 2 of this report.

Phase II of this siting study identifies and evaluates potential landfill sites. This report does not complete landfill site selection, but describes the methodology and process for selecting the top two candidate sites to be studied and compared further in the subsequent Final Site Evaluation. After selection of the preferred site in Summer 2024 based on the outcomes of this comparative study, the next step in the SWMF siting and development process (Phase III) would be site acquisition by the county and preparation of environmental review documentation. Following environmental review, land use, solid waste and other permits must be approved before a new landfill could be developed.

1.3 Scope

The Phase II site evaluation process identified and screened potential landfill sites based on established and agreed-upon criteria. The potential sites were identified based on mapping exclusionary areas and a set of minimum requirements. Sites that were identified were evaluated through the broad screening process first. Sites that were selected after broad screening underwent further evaluation in the focused screening process. At each step, unsuitable or less favorable sites based on the established criteria were dropped and more detailed information was developed on the remaining sites.

The broad and focused site evaluation process examined various characteristics of each site, weighted these characteristics relative to specific criteria, and produced a representative score for each site. The broad site evaluation relied predominately on existing data sources to generate a weighted score for each site. These scores are used to compare different sites and help select which potential sites should be carried into the next stage of site screening.

The criteria are based on regulatory requirements, engineering considerations, and environmental factors. The siting criteria are broken into three categories: Site Characteristics & Engineering, Natural Environment, and Land Use. The weights applied to the criteria are based on the judgment of a panel of experts considering all aspects of landfill site selection and development. To avoid any potential bias, the evaluation criteria were developed, and weights assigned before any specific sites were identified.

The focused site evaluation produced more detailed, site-specific information on site engineering, hydrogeology, the natural environment, and land use. Site visits were taken to better understand the on-site conditions, surroundings, and potential visual impacts of focus screen sites. A preliminary cost analysis was performed in the focused site evaluation to rank development and operational costs for each of the potential landfill sites. The proximity of residences to proposed sites was also evaluated by quantifying and comparing the number of residences within 1 mile and 2 miles from the outer boundaries of each site at the focused screening level.

1.4 Results and Recommendations

Based on the countywide screening and delineation of exclusionary areas conducted in Phase I of this study, 31 sites were identified. These 31 sites were evaluated in the broad screening and scores were assigned for each of the established criteria. Of the 31 identified sites, 13 were removed from consideration due to fatal flaws or practical flaws. These fatal flaws included proximity to drinking water wells or well protection areas, having faults or liquefaction risk, having migratory birds or endangered species on-site, or depth to groundwater, among other factors. Practical flaws include owner unwillingness to sell, inadequate workable site area, and other conditions that would make development of a landfill less feasible.

The Broad Site Screening evaluated the 31 sites and recommended 12 sites for further focused evaluation. The focused site screening evaluated these 12 sites and identified two finalist sites for further study in Phase III Final Site Evaluations. Both sites are east of Bend off Highway 20. The Roth East site is located about 25 miles east of Bend in the Millican Valley on the south side of Highway 20 and the Moon Pit site is located about 16 miles east of Bend on the north side of Highway 20.

2. Evaluation Methodology

2.1 Overview

The consultant team has developed siting criteria based on County, state, and federal regulations, the County's 1990s siting criteria, the team's experience siting landfills in the Pacific Northwest, and specific natural environment characteristics of Deschutes County. These site selection criteria were further refined to address crucial considerations to avoid and minimize adverse impacts to natural and cultural resources and maintain consistency with County land use codes and existing infrastructure and scenic resources. Selection criteria have been developed in the following categories:

- Site characteristics/engineering
- Natural environment
- Land use

Each of the categories (Level I) is further broken down into subcategories (Level II) and specific siting criteria (Level III). These criteria are assigned scores ranging from 0 (fatal flaw) to 5 (highly favorable). The use of criteria and scoring provides an objective, repeatable way to measure and compare different sites. A 0 score (fatal flaw) for a criterion is an exclusionary condition, which would remove a site from consideration even if it scores high under other criteria.

Knowing what is important to siting a new landfill and evaluating the characteristics of potential sites is not enough to make a final decision on the best sites. The decision-making process also considers and balances the relative importance, or weight, of each criterion. This can be demonstrated by asking the question, "How important is each criterion?" This question is more difficult to answer with rigor and accuracy because it is one of judgment and opinion. Although regulations specify minimum conditions that must be met, the characteristics of specific features or the appeal of exceeding basic requirements depends on experience and judgment.

The evaluation process compared potential landfill sites. The fundamental purpose was to combine the criteria (what is important), weights (how important), and measurements (scores) for each site to produce a single representative value. The values for each site were then used to decide which prospective landfill sites should continue to be considered.

The U.S. Environmental Protection Agency's Decision Maker's Guide To Solid Waste Management was utilized to inform the siting effort. The manual provides guidance for considerations when siting a new solid waste management facility. The manual also provides a framework (Figure 2-1) that provides a sequential guide for the development of a solid waste management facility, from planning through closing the facility. An emphasis on transparency and collaboration between technical experts, public officials and the citizens throughout the siting process was heavily prioritized.

Throughout the siting process, the County remained committed to ongoing community outreach and engagement. Information about the siting process and new facility were shared through the project webpage, monthly Solid Waste Advisory Committee (SWAC) meetings, Board of County Commissioner (BOCC) updates, community group briefings and events, and direct mailings.

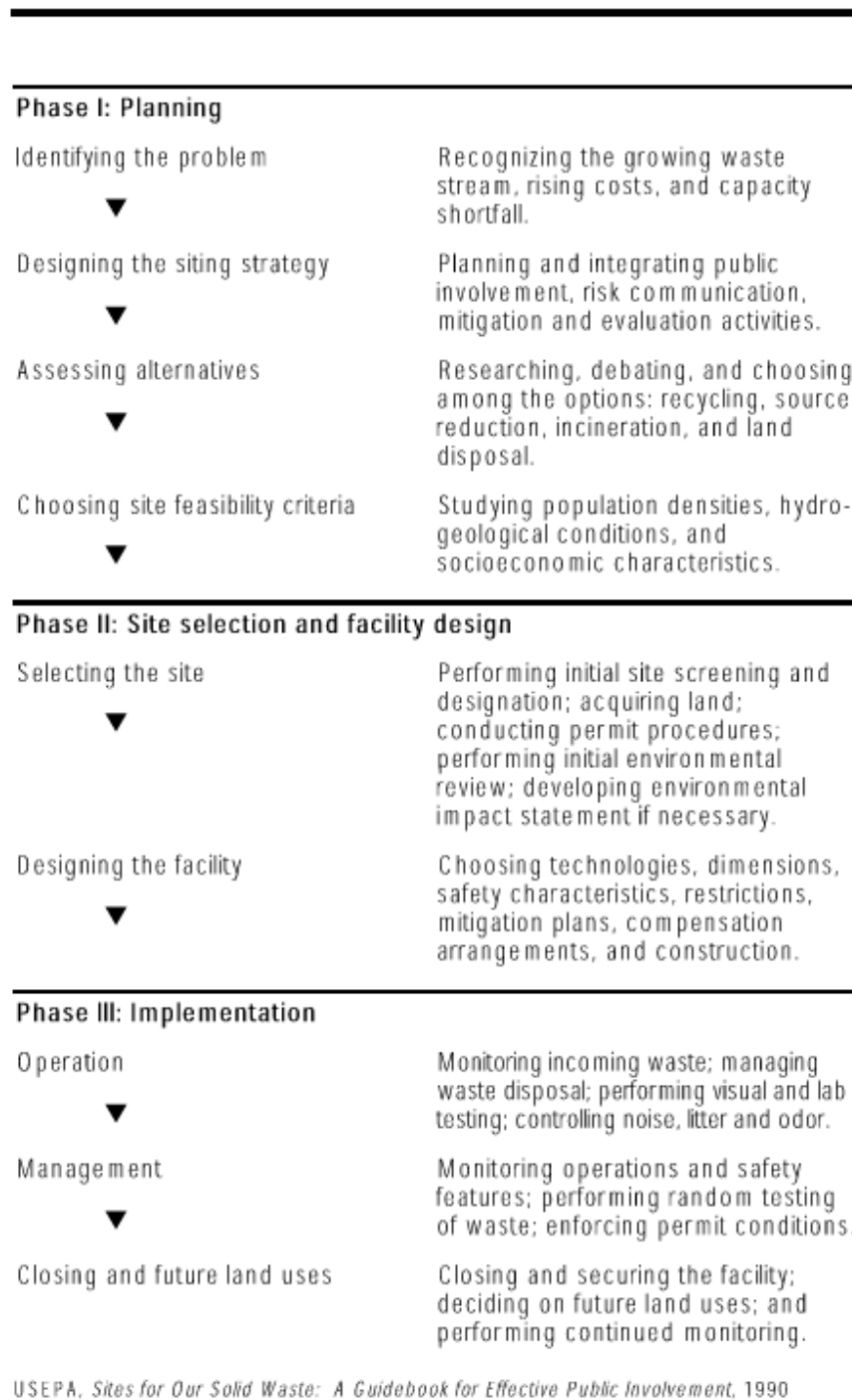


Figure 2-1. Three-Phase Siting Framework

The project team engaged the Deschutes County SWAC and the BOCC during siting criteria development. This engagement included public SWAC meetings on April 21 and May 17, 2022, and public BCC meetings on June 13 and June 22, 2022. Further, the County maintains an active website for providing public information on the site selection process, including siting criteria development.

2.2 Evaluation Technique

Various techniques allow decision makers to make complex decisions involving multiple factors. For this study, a point distribution method was also used to develop criteria weights within a hierarchical framework. The functional hierarchical structure for this study is presented in Table 2-1 and Figure 2-2. The top of the hierarchy is a single, overall objective—in this case, selecting the best landfill site. Each level below contains groups of considerations that can be compared. At the first level in the hierarchy, no issue is left out. Next, the hierarchy subdivides these basic considerations into their constituent parts, with greater specificity at each subsequent level. The complete hierarchy contains the full set of considerations (criteria) important to the decision.

As noted, the siting criteria developed for this project were organized using this hierarchy. Each essential consideration shown in the first level of Table 2-1 and Figure 2-2 is divided into its components, some of which may, in turn, have their own components. For example, the first-level Site Characteristics/Engineering consideration is composed of six second-level considerations, including Groundwater Protection/Hydrogeology, which is further composed of four third-level criteria, Depth to Groundwater, Proximity to Drinking Water Wells, Proximity to Wellhead Protection Areas, Site Hydrogeologic Framework. At each level and for each group, the question can be asked, "How important are these criteria compared to each other?" The hierarchy thus defines and focuses each set of comparisons. This simplifies the process of establishing values for all criteria by grouping similar considerations.

When all factors have been compared, this method produces weights for each group of considerations. For each site, these weights were multiplied by the scores for each criterion at the lowest level of each branch of the hierarchy. The resulting values were carried vertically up the hierarchy, with the appropriate weights applied at each level. The final value for a site reflects both the objectively measured conditions on the site and the importance weighting of the combined criteria. Since the weights for all criteria are normalized to 100 percent, the final site scores have the same range as the criteria scores, from one to five. The ability of the scoring and weighting process to produce a single value for each site does come at the expense of a more detailed understanding of each site because the criteria focus on common characteristics that can be compared between sites. Consequently, this process does not include the unique characteristics of each site. Therefore, for the focused site evaluation, brief summaries were prepared to describe the three first-level considerations for each site. These summaries supplement the criteria scoring and weighting and more fully describe the unique characteristics of each site.

2.3 Evaluation Process

2.3.1 Criteria Hierarchy and Weights

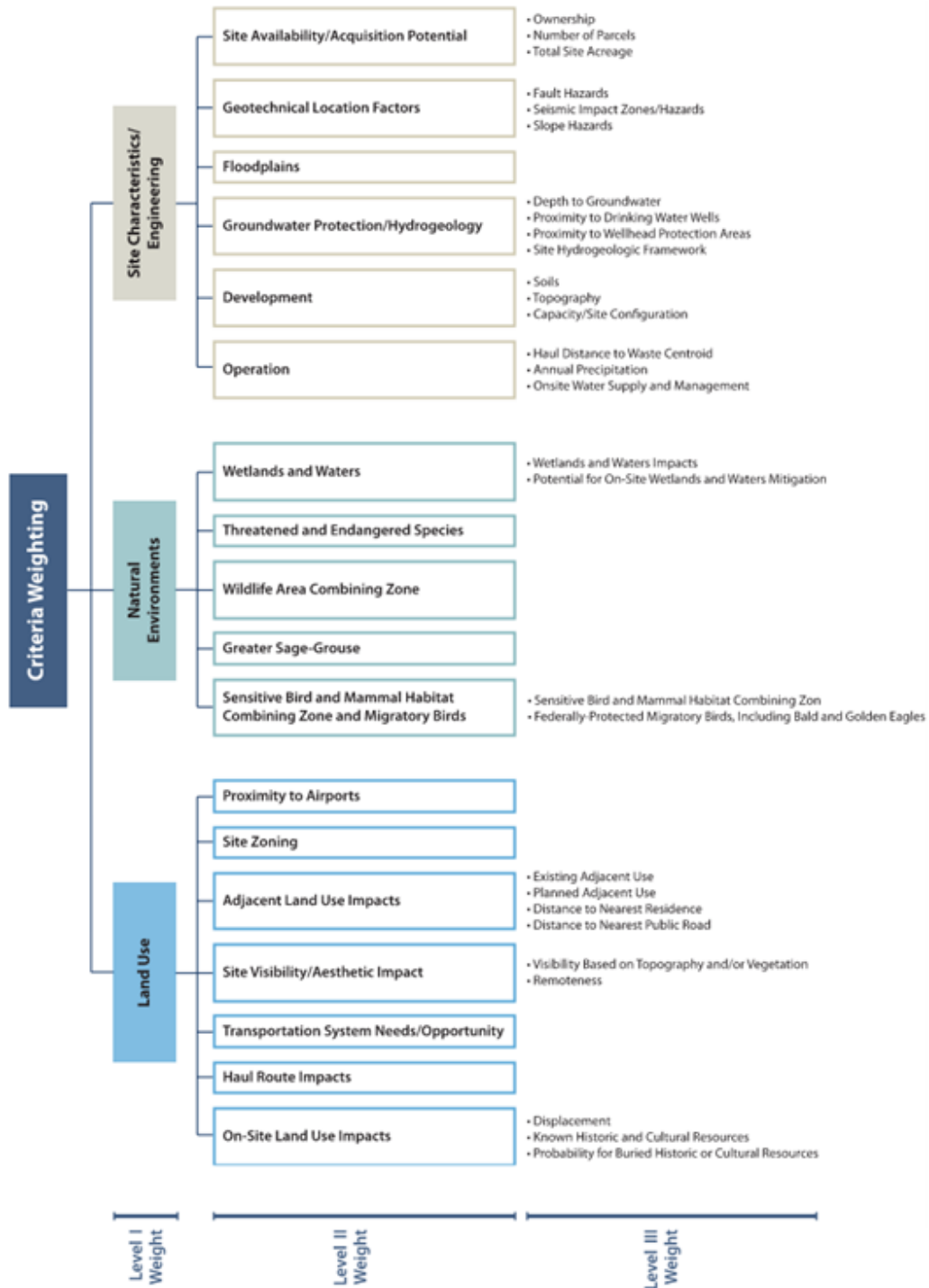


Figure 2-2. Siting Critical Hierarchy

Table 2-1. Criteria Weighting

Criteria	Level I Weight	Level II Weight	Level III Weight
Site Characteristics/Engineering	35%		
Site Availability/Acquisition Potential		40%	
Ownership			40%
Number of Parcels			20%
Total Site Acreage			40%
Geotechnical Location Factors		10%	
Fault Hazards			15%
Seismic Impact Zones/Hazards			20%
Unstable Areas – Mass Movement			25%
Unstable Areas – Poor Foundation			40%
Floodplains		5%	
Groundwater Protection/Hydrogeology		20%	
Depth to Groundwater			25%
Proximity to Drinking Water Wells			30%
Proximity to Wellhead Protection Areas			15%
Site Hydrogeologic Framework			30%
Development		15%	
Soils			45%
Topography			30%
Distance from Arterials			10%
Capacity/Site Configuration			15%
Operation		10%	
Haul Distance to Waste Centroid			50%
Annual Precipitation			25%
On-site Water Supply and Management			25%
Natural Environments	35%		
Wetlands and Waters		10%	
Wetlands and Waters Impacts			50%
Potential for On-Site Wetlands and Waters Mitigation			50%
Threatened and Endangered Species		20%	
Wildlife Area Combining Zone		10%	
Greater Sage-Grouse Area Combining Zone		40%	
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds		20%	
Migratory Birds, Including Bald and Golden Eagles			50%
Sensitive Bird and Mammal Habitat Combining Zone			50%
Land Use	30%		
Proximity to Airports		15%	
Site Zoning		20%	
Adjacent Land Use Impacts		20%	
Existing Adjacent Use			25%
Planned Adjacent Use			25%
Distance to Nearest Residence			25%
Distance to Nearest Public Road			25%
Site Visibility/Aesthetic Impact		10%	
Visibility Based on Topography and/or Vegetation			50%
Remoteness			50%
Transportation System Needs/Opportunity		5%	
Haul Route Impacts		5%	
On-Site Land Use Impacts		25%	
Displacement			40%
Known Cultural Resources			30%
Potential for Buried Archaeological Sites			30%

2.3.2 Site Evaluation

The site evaluation process has two discrete stages. The first stage includes developing the criteria hierarchy and weights, whereas the second stage evaluates potential landfill sites using those criteria scores and weights. To keep the process as objective as possible, the consultant team did not view any potential landfill sites until the first stage was fully completed. The purpose of this staging is to avoid any possible bias in the criteria hierarchy and weights that would tend to favor a particular site. During the second stage, sites were evaluated in two approaches: an initial, broad site evaluation followed by a focused site evaluation.

2.3.3 Evaluation Criteria

2.3.3.1 Site Characteristics/Engineering

The criteria in this group evaluate how well a site would function as a landfill and what types of engineering issues or constraints would be involved in its development. The basic suitability of a site is very important, especially during the broad site evaluation. If a site has fundamental engineering problems, then other impacts or constraints are irrelevant.

Site Availability/Acquisition Potential

Ownership

Regulatory Requirements/Policies

No regulatory requirements directly relate to the site characteristics/acquisition potential criterion.

Description of Criterion and Criteria Scoring Categories

The Ownership criterion is intended to evaluate the potential ease of site acquisition (see Table 2-2). Sites currently owned by the County are the most preferred properties. Private ownership is also desirable because it provides opportunities for a negotiated acquisition or condemnation. Other kinds of potential ownership include state, municipal (including districts), and federal land. Federal property is generally undesirable due to the long acquisition/transfer process that can take over 10 years to complete. However, Bureau of Land Management (BLM) properties may be identified as surplus and available for trade. The County had preliminary discussions with BLM, and they were in support of applying use restrictions to lands under their jurisdiction that are adjacent to a potential landfill site.

Table 2-2. Ownership Criteria

Scoring	Criterion
5	Deschutes County
4	State or Municipal
3	Private
2	Federal Surplus Properties
1	Federal

Data Sources

Information on site ownership was obtained from the County Geographic Information System (GIS).

Number of Parcels

Regulatory Requirements/Policies

No regulatory requirements directly relate to the number of parcels criterion.

Description of Criterion and Criteria Scoring Categories

It would be most desirable to locate the landfill on a parcel or parcels of land owned by a single owner (see Table 2-3). The ease of acquisition, availability of information, communication, and mitigation would most likely vary, depending upon the number of property owners involved. The time involved in obtaining rights of entry for preliminary investigations could also be significant during the siting process. This category compares the various sites relative to the ease with which the required parcel(s) for the landfill site could be acquired.

Table 2-3. Number of Parcels Criteria

Scoring	Criteria Categories
5	1 or multiple parcels under a single owner
3	2 to 3 owners
1	4 or more owners

Data Sources

Information on site ownership and number of parcels was obtained from the County GIS System.

Total Site Acreage

Regulatory Requirements/Policies

No regulatory requirements directly relate to the total site acreage criterion.

Description of Criterion and Criteria Scoring Categories

Site selection, acquisition, development, and closure measures are time-consuming, uncertain, and costly. Therefore, development of a larger site offering more capacity lowers the cost per ton of landfilled waste compared to a smaller site (see Table 2-4). Preliminary calculations indicated that the disposal area footprint will need to be a minimum of 250 acres to provide a 100-year disposal capacity for Deschutes County residents. The County prefers a minimum 500-foot-wide buffer between the disposal area and adjacent properties. Ideally, a 250-acre property would be surrounded and buffered by BLM or other public land with use restrictions in place. Properties bisected by large utility/access easements (powerlines, irrigation canals, roads) were evaluated to determine if the infrastructure impacts the landfill active area or can be relocated to buffers or off site. In addition, it is advantageous for the new facility to have areas for recycling, composting, and material recovery.

Table 2-4. Total Site Acreage Criteria

Scoring	Criteria Categories
5	Site size > 550 acres
4	Site size = 450 to 550 acres
3	Site size = 350 to 450 acres
2	Site size = 250 to 350 acres
1	Site size < 250 acres

Data Sources

Information on total site acreage were obtained from the County GIS System.

Geotechnical Location Factors

Regulatory Requirements/Policies

Per Oregon Administrative Rules (OAR) 340-090-0030, the proposed solid waste management facility shall comply with location restrictions in Code of Federal Regulations (CFR) Title 40, Part 258, Subpart B, which includes requirements relating to Fault Areas (258.13), Seismic Impact Zones (258.14) and Unstable Areas (254.15). The Oregon Department of Environmental Quality (DEQ) Solid Waste Landfill Guidance document requirements in Sections 1.6-1.8 elaborate further on geologic hazards considerations, based on the federal 40 CFR 258.13-15.

Description of Criterion and Criteria Scoring Categories

Geologic hazards considerations were adopted from the DEQ Solid Waste Landfill Guidance document requirements in Sections 1.6-1.8, which refer to 40 CFR 258.13-15. Geologic hazards will be identified by publicly available GIS layers through Oregon Department of Geology and Mineral Industries (DOGAMI) HazVu (see Data Source 1 below). The following geologic hazards were adopted for screening purposes for potential landfill sites:

- Fault hazards
- Seismic hazards
- Slope hazards

Fault Hazards

For the purpose of this criterion, faults of Holocene age were considered for weighing fault hazards (see Table 2-5). Fault hazards include proximity to a Holocene fault recognized within the U.S. Geological Survey (USGS) Quaternary Faults and Fold database (Data Source 2) and the potential for fault rupture within the site.

Table 2-5. Fault Hazard Criteria

Scoring	Criteria Categories
5	Mapped Holocene or Quaternary Fault >5 miles from site
3	Mapped Holocene or Quaternary Fault >0.5 miles from site

Scoring	Criteria Categories
1	Mapped Holocene or Quaternary Fault >200 feet from site
0	Mapped Holocene Fault <200 feet from site

Seismic Impact Zones and Hazards

For the purpose of this criterion, seismic hazards shall be recognized as areas subjected to earthquake-induced soil liquefaction, ground-shaking amplification, potential for slope failure, settlement, or surface faulting. Relative seismic hazard were identified by historic seismicity, proximity to Holocene, and mapped liquefaction hazards. A seismic impact zone shall be preliminarily characterized by an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth’s gravitational pull (g), will exceed 0.10g in 250 years (see Table 2-6).

Table 2-6. Seismic Impact Zones and Hazard Criteria

Scoring	Criteria Categories
5	Moderate shaking and low/no liquefaction hazard
3	Moderate shaking and moderate liquefaction hazard
1	Strong shaking and moderate liquefaction hazard
0	Strong shaking and high liquefaction hazard

Slope Hazards

Unstable Areas – Mass Movement

Slope hazards were preliminarily identified using DOGAMI open-file report O-16-02 (Data Source 3) and SLIDO: Statewide Landslide Information Layer for Oregon (Data Source 4).

Table 2-7. Mass Movement Criteria

Scoring	Criteria Categories
5	Low to no susceptibility
3	Moderate susceptibility
1	High susceptibility
0	Very high susceptibility

Unstable Areas – Poor Foundation

Poor foundation areas were preliminarily identified using DOGAMI Bulletin 71 (Data Source 5). A registered geologist licensed in the State of Oregon correlated lava tubes to their associated geologic unit by review of publicly available geologic maps during broad and focused screenings. Due to the low resolution of available data and limited coverage of this bulletin, scoring was limited to (5) no lava tubes are not present, or (1) yes/unknown lava tubes are present. The coverage of Bulletin 71 is for select lava tubes primarily located south of Bend and does not provide countywide coverage. As such, determining the presence of lava tubes within a geologic unit did not eliminate a site from the selection process (i.e., no fatal flaw scoring), but will contribute to scoping for site-specific

explorations and lidar analysis during detailed site investigations of the final 3 to 5 sites (see Table 2-8).

Table 2-8. Poor Foundation Criteria

Scoring	Criteria Categories
5	Lava tubes not present within mapped geologic unit
1	Lava tubes present within mapped geologic unit or unknown due to data limitations

Data Sources

Information on geotechnical location factors were obtained from the following sources noted for each hazard type:

1. DOGAMI. Oregon HazVu: Statewide Geohazards Viewer. <https://www.oregongeology.org/hazvu/>
2. USGS. Quaternary Faults and Folds Database of the United States. <https://www.usgs.gov/programs/earthquake-hazards/faults>
3. DOGAMI. Landslide Susceptibility Overview Map of Oregon. Open-file report O-16-02. https://www.oregongeology.org/pubs/ofr/O-16-02_report.pdf
4. DOGAMI. SLIDO: Statewide Landslide Information Layer for Oregon. <https://gis.dogami.oregon.gov/maps/slido/>
5. DOGAMI. Bulletin 71. Geology of Selected Lava Tubes in The Bend Area, Oregon. <https://www.oregongeology.org/pubs/B/B-071.pdf>

Floodplains

Regulatory Requirements/Policies

State and federal rules (40 CFR 258.11) require that “owners or operators of new MSWLF units . . . located in 100 year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.”

Description of Criterion and Criteria Scoring Categories

Locating a landfill in a floodplain can potentially be a very serious threat to public health. The hazard from floods is due primarily to potential erosion, washout of waste from the site, and reducing the water storage capacity of a watershed basin. A flood zone may require extraordinary protection measures to ensure containment of material such as solid waste and leachate that could potentially affect the environment. Table 2-9 shows the criteria scoring.

Table 2-9. Floodplain Criteria

Scoring	Criteria Categories
5	No apparent flood hazard
3	Active area located within the 500-year floodplain but outside the 100-year floodplain

1	Active area located in a 100-year floodplain, and demonstrations can be made according to the requirements of federal rule mitigating projected impacts
0	Active area located in a 100-year floodplain, and demonstrations mitigating projected impacts cannot be made according to the requirements of federal rule

Data Sources

Information on floodplains and flood hazards were obtained from flood insurance rate maps (FIRM) and flood boundary and floodway maps published by the Federal Emergency Management Agency, as well as from floodplain maps available through other agencies, such as the U.S. Army Corps of Engineers (USACE), USGS, the U.S. Natural Resources Conservation Service, BLM, and state and local agencies.

Groundwater Protection/Hydrogeology

These criteria evaluate the ability of the local geology to provide groundwater protection and the potential for impacts to existing drinking water wells. These are among the most tightly regulated locational factors under state and federal laws.

Depth to Groundwater

Regulatory Requirements/Policies

OAR 340-094-0030 (4) states the following regulatory requirement related to this criterion:

(4) Sensitive Hydrogeological Environments. In addition to the requirements of 40 CFR, Part 258, Subpart B, no person shall establish or expand a landfill in a gravel pit excavated into or above a water table aquifer or other sensitive or sole source aquifer, or in a wellhead protection area, where the Department has determined that:

(a) Groundwater must be protected from pollution because it has existing or potential beneficial uses (OAR 340-040-0020); and (b) Existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater.

In the criteria and scoring presented below for depth to groundwater, the intent of OAR 340-90-030(4)(a) is being applied to prioritize sites that have a greater depth to groundwater.

Description of Criterion and Criteria Scoring Categories

Deeper groundwater aquifers are afforded greater protection from leachate contamination because the soil has some ability to absorb and disperse the leachate (see Table 2-10). It also provides a greater flexibility for placement of liner and leachate collection systems, as these systems must be above the seasonal high groundwater aquifer elevation.

Table 2-10. Depth to Groundwater Criteria

Scoring	Criteria Categories
5	Groundwater aquifer anticipated to be deeper than 500 feet below ground surface
3	Groundwater aquifer anticipated to be between 300 and 500 feet below ground surface
1	Groundwater aquifer anticipated to be between 100 and 300 feet below ground surface

Scoring	Criteria Categories
0	Groundwater aquifer anticipated to be less than 100 feet below ground surface

Data Sources

Oregon Water Resources Department (OWRD) well logs, USGS water supply papers and reports, college research papers, and field reconnaissance were used to estimate groundwater depths.

Proximity to Drinking Water Wells

Regulatory Requirements/Policies

Section 1.9 (Sensitive Hydrogeologic Environments) of DEQ’s Solid Waste Landfill Guidance cites OAR 340 90 030(4), which says the following:

(4) Sensitive Hydrogeological Environments. In addition to the requirements of 40 CFR, Part 258, Subpart B, no person shall establish or expand a landfill in a gravel pit excavated into or above a water table aquifer or other sensitive or sole source aquifer, or in a wellhead protection area, where the Department has determined that:

- (a) Groundwater must be protected from pollution because it has existing or potential beneficial uses (OAR 340 040 0020); and
- (b) Existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater.

In the criteria and scoring presented below for proximity to drinking water wells, the intent of OAR 340 90 030(4)(a) is being applied to maximize the distance to the nearest existing water supply well(s).

Description of Criterion and Criteria Scoring Categories

Proximity to existing water supply wells increases the potential to impact the yield of the well as well as its susceptibility to impacts if leachate did migrate away from the site (see Table 2-11). Providing a buffer is required in the landfill siting rules.

Table 2-11. Proximity to Drinking Water Well Criteria

Scoring	Criteria Categories
5	Nearest well greater than 1 mile from the site
3	Nearest well between 1 mile and 0.5 mile from the site
1	Nearest well between 0.5 mile and 0.25 mile from the site
0	Nearest well less than 0.25 mile from the site

Data Sources

OWRD well logs, USGS water supply papers and reports, college research papers, and field reconnaissance were used to locate groundwater supply wells.

Proximity to Wellhead Protection Areas

Regulatory Requirements/Policies

OAR 340-094-0030 (4) states the following regulatory requirement related to this criterion:

(4) Sensitive Hydrogeological Environments. In addition to the requirements of 40 CFR, Part 258, Subpart B, no person shall establish or expand a landfill in a gravel pit excavated into or above a water table aquifer or other sensitive or sole source aquifer, or in a wellhead protection area, where the Department has determined that:

(a) Groundwater must be protected from pollution because it has existing or potential beneficial uses (OAR 340-040-0020); and (b) Existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater.

In the criteria and scoring presented below for proximity to wellhead protection areas, the intent of OAR 340 90 030(4)(a) is being applied to prioritize sites that are located outside any known wellhead protection areas.

Description of Criterion and Criteria Scoring Categories

Wellhead protection areas are used for public water supply systems (public and private) to identify the source area and the geologic pathway associated with the groundwater that will eventually migrate from the source area to a given well. Wellhead protection areas are modeled based on several hydrogeologic factors and well yields and can vary considerably in size. See Table 2-12 for the scoring criteria.

Table 2-12. Proximity to Wellhead Protection Area Criteria

Scoring	Criteria Categories
5	Outside of any known wellhead protection areas
3	Within a drinking water source area but outside of 2-year time of travel zone
0	Within a drinking water source area and a 2-year time of travel zone

Data Sources

DEQ Facility Profiler and Oregon Health Division Drinking Water Protection Program Source Area databases were used to identify wellhead protection and source area boundaries.

Site Hydrogeologic Framework

Regulatory Requirements/Policies

OAR 340-094-0030 (4) states the following regulatory requirement related to this criterion:

(4) Sensitive Hydrogeological Environments. In addition to the requirements of 40 CFR, Part 258, Subpart B, no person shall establish or expand a landfill in a gravel pit excavated into or above a water table aquifer or other sensitive or sole source aquifer, or in a wellhead protection area, where the Department has determined that:

(a) Groundwater must be protected from pollution because it has existing or potential beneficial uses (OAR 340 040 0020); and (b) Existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater.

In the criteria and scoring presented below for geologic-hydrogeologic properties, the intent of OAR 340 90 030(4)(b) is being applied to prioritize sites with geologic and hydrogeologic properties that provide natural groundwater protection from pollution.

Description of Criterion and Criteria Scoring Categories

The interaction and juxtaposition of subsurface geology with the primary aquifer can provide varying degrees of protection to the groundwater resource. If the geology is highly porous or fractured with little to no low permeability zones, the groundwater is more susceptible to impacts from surface activities. See Table 2-13 for the scoring criteria.

Table 2-13. Site Hydrogeologic Framework Criteria

Scoring	Criteria Categories
5	Multiple layers of low permeability geologic units above aquifer
3	Fractured or porous geologic units with limited low permeability units above aquifer
0	Fractured or porous geologic units with no known low permeability units above aquifer

Data Sources

OWRD well logs, USGS water supply papers and reports, and college research papers were used to characterize hydrogeologic conditions.

Development

For the Development criteria category, potential sites were evaluated in terms of three subcategories, including Soils, Topography, and Capacity/Site Configuration. Other important considerations related to development include weather factors (i.e., prevailing winds, precipitation); access to utilities, such as electricity, communications, and natural gas; and potential for renewable energy development (solar, wind, renewable natural gas). These factors were considered later in terms of the relative construction and operations costs between the top three sites.

Soils

Regulatory Requirements/Policies

For landfills developed in Oregon, liner systems are required to meet the requirements of OAR 340-094-0060 and 40 CFR Part 258, Subpart D. The lower layer is typically a geosynthetic clay liner placed over a prepared subgrade of silt to sand sized soil. The upper component of the liner system is typically a 60-millimeter, high-density polyethylene (HDPE) geomembrane. At least 1 foot of drainage material (gravel) is typically placed over the HDPE bottom liner to provide for leachate collection and liner protection.

OAR 340-094-0060 and 40 CFR Part 258, Subpart D require a final cover that has a permeability that is less than the bottom liner system. For landfills located east of the Cascades, in areas where precipitation is less than 12 inches per year, an alternative final cover is typically constructed that includes 4 to 6 feet of on-site, low-permeable soils.

Description of Criterion and Criteria Scoring Categories

Soil and other on-site earth materials are used in landfill construction and operation for bottom liners, caps, final cover, daily and intermediate cover, berms, and roads. The availability of these materials on-site influences the cost of site development and operation. Fine-grained materials (silt and clay) are useful for liners and final covers, while coarse-grained materials (sand and gravel) are useful for landfill gas control systems and leachate collection systems.

Underlying soils influence groundwater protection at a particular site. Sites underlain by silt and clay soil generally rate higher than other sites because of the low permeability of these soils. Sites containing only sand and gravel rate lower because these sites would need extensive engineering to provide a similar level of groundwater protection. Sites with both coarse- and fine-grained materials could rate higher than either of those mentioned above, depending on the quantities and the order in which the different layers of material are found at the site (stratigraphy). Coarse-grained materials layered above fine-grained materials are desirable because the upper layer could be excavated for roads and daily cover, leaving the fine-grained materials in place for groundwater protection.

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) has delineated over 100 different soil types in the planning area. These soil types, which can be grouped into seven major associations, are distributed throughout the County. A description of these associations, with additional information on the potential for available fine- and coarse-grained soil types, is provided below. The potential for fine- and coarse-grained soil materials is also rated by categories, which include excellent, very good, good, and poor. These seven associations are described as follows:

Gosney-Rock Outcrop-Descamp Complex. Moderately deep and shallow, somewhat excessively drained, stony loamy sand and loamy sand that formed in ash; found on lava plains. Depth to bedrock ranges from 10 to 20 inches with rapid permeability. Water capacity is about 1 inch. This soil unit has poor to good potential for fine-grained material and good to very good potential for coarse-grained material.

Dester Gravelly Loamy Sand, 0 to 3 Percent Slopes. Moderately deep and very deep, excessively drained to well-drained soils. Gravelly loamy sand and gravelly clayey loam that formed in ash over old alluvium; found on lava plains. Depth to bedrock ranges from 20 to 40 inches with moderately slow permeability. Water capacity is about 5 inches. This soil unit has poor to good potential for fine-grained material and good to very good potential for coarse-grained material.

Beden Sandy Loam, Dry, 1 to 8 Percent Slopes. Shallow, well-drained soils that formed in residuum with ash on the surface; found on lava plains. Sandy loam with lesser amounts of clay loam that formed in ash over residuum derived from basalt or welded tuff. Depth to bedrock ranges from 10 to 20 inches with moderately slow permeability. Water capacity is about 3 inches. This soil unit has poor to good potential for fine-grained material and good to very good potential for coarse-grained material.

Dester Sandy Loam. Moderately deep and very deep, excessively drained to well-drained soils. Sandy loam, clay loam, and gravelly clayey loam that formed in ash over old alluvium; found on lava plains. Depth to bedrock ranges from 20 to 40 inches with moderately slow permeability. Water capacity is about 5 inches. This soil unit has poor to good potential for fine-grained material and good to very good potential for coarse-grained material.

Wanoga-Femkle-Rock Outcrop Complex. Moderately deep and shallow, well-drained soils. Sandy loam underlain by weathered tuff that formed in ash; found on hills. Depth to bedrock ranges from 20 to 40 inches with moderately rapid permeability. Water capacity is about 4 inches. This soil unit

has poor to good potential for fine-grained material and good to very good potential for coarse-grained material.

Shanahan Loamy Coarse Sand, Low, 0 to 3 Percent Slopes. Very deep, somewhat excessively drained soils that formed in ash and pumice over colluvium and older alluvium. Loamy coarse sand and coarse sand with depth to bedrock at 60 inches or more with moderately rapid permeability. Water capacity is about 7 inches. This soil unit has poor potential for fine-grained material and very good to excellent potential for coarse-grained material.

Stukel-Rock Outcrop-Deschutes Complex. Moderately deep and shallow, well-drained sandy loam that formed in volcanic ash; found on lava plains. Depth to bedrock ranges from 10 to 20 inches with moderately rapid permeability. Water capacity is about 2 inches. This soil unit has poor potential for fine-grained material and very good potential for coarse-grained material.

See Table 2-14 for the scoring criteria.

Table 2-14. Soils Criteria

Scoring	Criteria Categories
5	Active area can provide all the required drainage layer material, all well-graded daily and intermediate cover soils, and all final cover topsoil
4	Active area can provide 50% of the required drainage layer material, 100% of the well-graded daily and intermediate cover soils, and 100% of the final cover topsoil
3	Fine-grained soils only, greater than 40 feet thick, all dry-weather daily and intermediate cover soils, and all final cover topsoil are available as fine-grained soils
2	Fine-grained soils only, greater than 20 feet thick, all dry-weather daily and intermediate cover soils, and all final cover topsoil are available as fine-grained soils
1	Rock is predominant at ground surface over majority of site

Data Sources

A digital soils coverage based on NRCS/DOGAMI soil types was included in the GIS data obtained from Deschutes County, and soil-related characteristics were used in developing several other screening criteria. At the site-specific level, the GIS data were used to produce detailed maps of potential site areas for evaluation of soil characteristics of all types.

Topography

Regulatory Requirements/Policies

No regulatory requirements relate to this criterion, except for site topography with severe slopes that may be unstable (see the unstable areas criterion).

Description of Criterion and Criteria Scoring Categories

The topography of a potential landfill site is important because of its effect on-site access, material movement, and the excavation-to-volume (E/V) ratio. Site access is also important in refuse delivery and movement of borrow soil. The E/V ratio refers to the volume of on-site soil that must be excavated for every equivalent volume of in-place compacted refuse.

For example, a flat site might have a poor E/V ratio because an equivalent volume of soil must be excavated for every unit volume of refuse placed, if the site cannot be mounded. On this site, access for truck movement would be excellent. Conversely, a typical hillside or upland site may have a good E/V ratio because a smaller volume of soil must be excavated for the placement of refuse. However, that same site may have poor access because of uneven topography, steep haul grades, or an excessive number of small drainages that must be bridged. See Table 2-15 for the scoring criteria.

Table 2-15. Topography Criteria

Scoring	Criteria Categories
5	E/V ratio excellent (site has slopes and relief that greatly benefit site capacity)
3	E/V ratio good (site has slopes and relief that benefit site capacity)
1	E/V ratio poor (site has slopes and relief that do not benefit site capacity)

Data Sources

At the broad level, data sources to determine topography include USGS and DOGAMI GIS mapping and general field reconnaissance at potential site areas. During focused evaluations, the conceptual site plan was used to evaluate excavation needs and possible site access routes.

Capacity and Site Configuration

Regulatory Requirements/Policies

The Deschutes County Solid Waste Management Plan states that a new landfill facility should be sited, designed, and operated such that it has at least a 100-year life, based on assumed future waste stream rate projections, in-place density, and total daily cover volume.

Description of Criterion and Criteria Scoring Categories

Landfill capacity will primarily depend on the projected waste stream for Deschutes County over a 100-year period. In addition, the waste density (weight per unit volume) after it has been landfilled and the amount of daily cover used determines the total volume needed to deposit 100 years of waste. The landfill shape is a function of many criteria described in this report, including siting and design criteria; borrow sources; buffers; aesthetics; and topographic, geologic, and hydrogeologic conditions. Based on the factors noted above, a minimum site capacity of 50 million cubic yards is required. A typical landfill of this size requires a site area of approximately 350 to 600 acres, depending upon average landfill depth and buffer requirements. Larger sites with fewer barriers to footprint expansion also provide design flexibility and the opportunity for additional landfill capacity. Consequently, the criteria categories consider both size and use efficiency. See Table 2-16 for the scoring criteria.

Table 2-16. Capacity and Site Configuration Criteria

Scoring	Criteria Categories
5	The active area can provide a minimum capacity of 50 million cubic yards, is unrestricted by physical or natural features, requires an average depth of less than 50 feet, has a maximum height that is less than the nearest high point, and is in a configuration that matches the surrounding terrain

Scoring	Criteria Categories
4	The active area can provide a minimum capacity of 50 million cubic yards, is restricted by a physical or natural feature on one boundary, requires an average excavated depth of less than 50 feet, has a maximum height that is less than the nearest high point, and is in a configuration that matches the surrounding terrain
3	The active area can provide a minimum capacity of 50 million cubic yards, is restricted by a physical or natural feature on more than one boundary, requires either an average excavated depth greater than 50 feet or a maximum height greater than the nearest high point, and is in a configuration that matches the surrounding terrain
2	The active area can provide a minimum capacity of 50 million cubic yards, is restricted by a physical or natural feature on more than one boundary, requires an average excavated depth greater than 50 feet, has a maximum height greater than the nearest high point, and is in a configuration that does not match the surrounding terrain
1	The active area cannot provide a minimum capacity of 50 million cubic yards, is restricted by physical or natural features on more than one boundary, and is in a configuration that does not match the surrounding terrain

Data Sources

Information on topography to be obtained from the County GIS System. During focused screening, a conceptual site plan was developed for each site, including initial evaluation of footprint size, depth of excavation, and final grading.

Operation

Haul Distance to Waste Centroid

Regulatory Requirements/Policies

No regulatory requirements directly relate to the haul distance to waste centroid criterion.

Description of Criterion and Criteria Scoring Categories

Due to the cost of labor, fuel, and vehicle maintenance, the distance between the waste source and the landfill has a significant effect on disposal costs. In addition, greater travel distances increase air quality and greenhouse gas emissions impacts. It is desirable, therefore, to locate the landfill closer to the waste generation source. Note that a site closer to the waste centroid is likely to score lower on some criteria due to closer proximity to residents. See Table 2-17 for the scoring criteria.

Table 2-17. Haul Distance to Waste Centroid Criteria

Scoring	Criteria Categories
5	Less than 10 miles from waste centroid
3	Between 10 and 20 miles from waste centroid
2	Between 20 and 30 miles from waste centroid
1	More than 30 miles from waste centroid

Data Sources

At the broad level, County GIS maps and general field reconnaissance at potential site areas were used to determine the haul distance to waste centroid.

Annual Precipitation

Regulatory Requirements/Policies

No regulatory requirements in the OARs directly relate to the annual precipitation criterion.

Description of Criterion and Criteria Scoring Categories

The amount of precipitation in a given landfill location generally determines the amount of leachate generated and operational costs at the site. The greater the amount of leachate, the more effort required for processing or disposing of this material and the greater the possibility that leachate from the site could affect the surrounding environment. In terms of annual precipitation, the most desirable site has the least precipitation. Further, sites that have low precipitation generally have less snow in the winter, which improves site access and on-site operations. See Table 2-18 for the scoring criteria.

Table 2-18. Annual Precipitation Criteria

Scoring	Criteria Categories
5	10 inches or less of precipitation annually
4	Between 11 and 15 inches of precipitation annually
3	Between 16 and 20 inches of precipitation annually
2	Between 21 and 25 inches of precipitation annually
1	More than 25 inches of precipitation annually

Data Sources

Precipitation data were obtained from the National Oceanic and Atmospheric Administration's National Weather Service.

On-Site Water Supply and Management

Regulatory Requirements/Policies

No regulatory requirements in the OARs directly relate to on-site water supply and management for facility development and operations. An on-site groundwater supply well can be installed, which would have an exempt use of groundwater provision not exceeding 5,000 gallons per day (gpd). Water needs beyond this amount would require a water right or permit. While it is difficult to forecast regulatory impacts or restrictions that may result from future climate change initiatives that affect water rights and availability, the need to expand or procure future water rights resulted in lower scoring due to potential challenges associated with those additional needs.

Description of Criterion and Criteria Scoring Categories

If the future landfill site will need a water permit from the OWRD, new groundwater uses are required to mitigate their impacts on surface flows per the Deschutes Groundwater Mitigation Program. If a water permit is required, the landfill's consumptive use must be identified. Sites with existing water

rights were valued higher than those lacking existing water rights that can be used for landfill operations. The scoring also accounts for the potential obligation to obtain available mitigation credits in certain zones of impact. See Table 2-19 for the scoring criteria.

Table 2-19. On-Site Water Supply and Management Criteria

Scoring	Criteria Categories
5	Water right permits exist and are sufficient for landfill water needs
3	Water right permits exist, but require expansion and/or mitigation to meet landfill water needs
1	No water right permits exist, and mitigation is required for landfill water needs

Data Sources

Water rights permit information and Deschutes Groundwater Mitigation Program requirements were obtained from the OWRD website and Water Right Information System database.

2.3.3.2 Natural Environment

County lands contain sensitive cultural resources and a diversity of flora, fauna, and habitats that the County and other state and federal agencies have identified for protection. The County’s land use code affords protections to these resources while balancing the community’s needs for infrastructure development. The criteria address key considerations for avoidance and minimization of impacts to essential, irreplaceable, and limited natural and TECHNICAL MEMORANDUM (CONTINUED) Deschutes County 553-2509-009 Site Selection Criteria 18 July 8, 2022 cultural resources. Natural resources for consideration include state and federal threatened and endangered species and species of concern; riparian and wetland areas; Oregon spotted frog; shrub-steppe habitat; greater sage-grouse habitat; sensitive bird and mammal sites; game species range; and open spaces and scenic views. The relative importance of these criteria increases during focused evaluation, where the conceptual site plan and more detailed field investigations allow the potential for mitigation to be assessed.

Wetlands and Waters

Regulatory Requirements/Policies

According to OAR 340-094-0030(2), “No person shall establish, expand, or modify a landfill in a floodplain in a manner that will allow the facility to restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human life, wildlife or land or water resources.” Per 40 CFR Part 258.12, landfills are subject to Section 404 of the Clean Water Act compliance through USACE, Oregon Department of State Lands (DSL) removal fill rules (OAR Division 85), and Section 401 of the Clean Water Act for state water quality standards through Oregon DEQ. Under this rule, the project must ensure that endangered or threatened species are not jeopardized, toxic effluent standards are not violated, and landfill operations do not result in a substantial loss of wetland area. Also, the project must attempt to achieve no net loss of wetlands and waters (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland and water impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of

existing degraded wetlands/waters or creation of man-made wetlands). This rule also presumes that practicable alternatives to the proposed landfill that do not involve wetlands and waters must be evaluated.

Description of Criterion and Criteria Scoring Categories

The Wetlands and Waters criterion provides a broad-based screening of potential sites that may have wetlands and waters. See Table 2-20 for the scoring criteria.

Table 2-20. Wetlands and Water Criteria

Scoring	Criteria Categories
5	No wetlands identified
3	Less than 0.5 total acre of wetlands identified
1	More than 0.5 total acre of scattered wetlands identified
0	More than 0.5 acre of wetlands identified and significant impacts cannot be avoided ¹

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.

The more-focused criterion provides a screening of potential sites that may have wetlands and waters. A focused-level site evaluation criterion would identify and characterize wetlands in the project area. More thorough study will be required during the individual-level site evaluation to delineate any wetlands in the area. This procedure was designed to consider major thresholds for determining USACE and DSL jurisdiction and associated permitting and mitigation requirements identified in Section 404 of the federal Clean Water Act and in DSL’s removal fill rules. See Table 2-21 for the scoring criteria.

Table 2-21. Focused Wetlands and Water Criteria

Scoring	Criteria Categories
5	No wetlands or waters identified in the active area
3	Artificial wetlands greater than 1 acre (e.g., fed by irrigation or stock watering), isolated wetlands, or ephemeral waters are present
2	Potential for wetland impacts up to 0.5 acre and stream impacts up to 300 linear feet
0	Potential for wetland impacts exceeding 0.5 acre, stream impacts exceeding 300 linear feet, or impacts to aquatic resources of special concern ¹

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.

Data Sources

A countywide screening of wetlands, conducted during the general site area identification, used the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory; DSL wetlands and waters concurrence and permit records database; DSL Local Wetland Inventory mapping; Deschutes County GIS data for water feature class; NRCS hydric soil mapping; and historic and current aerial photographs. The information gathered was used to locate potential wetlands. Field reconnaissance was not conducted to further characterize wetland and water areas.

Threatened and Endangered-Listed Species

Regulatory Requirements/Policies

According to OAR 340-094-0030(3), “No person shall establish, expand or modify a landfill in a manner that will cause or contribute to the actual or attempted (a) harassing, harming, pursuing, hunting, wounding, killing, trapping, capturing, or collecting of any federally listed endangered or threatened species of plants, fish, or wildlife; or (b) direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of endangered or threatened species using that habitat.”

Per 40 CFR 258.12(a)(2)(iii), a landfill project cannot “jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973.” Furthermore, if under federal regulations (40 CFR 258) it is determined that operation of a landfill at a site would cause or contribute to the taking of any endangered species of plant, fish, or wildlife listed as such (pursuant to Section 4 of the Endangered Species Act), the site would be removed from consideration. According to this criterion, a site that has the least impact on threatened and endangered species receives the highest score.

Description of Criterion and Criteria Scoring Categories

Locations reportedly used by threatened or endangered species or designated as critical habitat are excluded from landfill development. At the broad level, the threatened and endangered-listed species criterion measures the proximity of a potential landfill site to known threatened, endangered, and candidate species or critical habitat locations. At the broad level, the criteria categories are shown in Table 2-22.

Table 2-22. Threatened- and Endangered-Listed Species Criteria

Scoring	Criteria Categories
5	No occurrence of federal/state threatened, endangered, or candidate species within 3 miles of the site
2	Known occurrence of federal/state threatened, endangered, or candidate species between 1 and 3 miles from the site
1	Known occurrence of federal/state threatened, endangered, or candidate species within 1 mile from the site
0	Known occurrence of federal/state threatened or endangered species on area adjacent to site, in the site buffer, or on site ¹

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.

For the focused evaluation, the type of species and the use of the site is evaluated to determine whether mitigation appeared possible. This may require discussions with federal and state agencies. See Table 2-23 for the scoring criteria.

Table 2-23. Focused Threatened- and Endangered-Listed Species Criteria

Scoring	Criteria Categories
5	Federal/state threatened or endangered species or designated critical habitat exist between 1 and 3 miles from the site, with no impacts expected
3	Impacts to federal/state threatened or endangered species or designated critical habitat present in the site vicinity can be avoided
1	Impacts to federal/state threatened or endangered species or designated critical habitat present in the area can be mitigated
0	Impacts to federal/state threatened or endangered species or designated critical habitat cannot be avoided or mitigated ¹

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.

Data Sources

Portland State University’s Oregon Biodiversity Information Center (ORBIC) and USFWS’s Information for Planning and Consultation databases provide data on threatened and endangered species. Information in the databases may only be a relative indicator of the actual presence of threatened or endangered species. For example, a nest site of an endangered species may have a uniform buffer area assigned around the nest as habitat because the actual use of the area by the species is unknown. Therefore, the mapped data may not show the actual location or extent of the habitat. For the focused evaluation, site-specific encroachment on critical habitat was evaluated in general, relative to the timing of on-site activity and the patterns and type of use specific to the species using the site. For the purposes of this study, specific information on the location of threatened and endangered species is restricted; therefore, it was generalized before being presented to the public.

Wildlife Area Combining Zone

Regulatory Requirements/Policies

The purpose of the Deschutes County Code (DCC) Chapter 18.88 Wildlife Area Combining Zone (WA zone) is to conserve important wildlife areas in Deschutes County; to protect an important environmental, social, and economic element of the area; and to permit development compatible with the protection of the wildlife resource. Landfills in WA zones must be permitted conditionally by the underlying zone (per DCC 18.128.120). Provisions of DCC 18.88 shall apply to all areas identified in the Comprehensive Plan as a winter deer range, significant elk habitat, antelope range, or deer migration corridor. Lands within 100 feet of wetlands, floodplains, or riparian areas or those mapped as “Existing High Use Migration Areas” or “Important Connective Areas Through Existing Developed Areas” on the 1997 Oregon Department of Fish and Wildlife (ODFW) map submitted to the South County Regional Problem Solving Group may also be considered for WA zone conditional use permitting. Unincorporated communities are exempt from the provisions of DCC 18.88.

Description of Criterion and Criteria Scoring Categories

Areas designated by the County as WA zones must meet zoning code criteria for conditional use. This includes consideration of the proximity of a potential landfill site to a WA zone and the designated overlay type. The sites furthest from known WA zones receive the highest scores. At the broad level, this criterion establishes the presence of WA zones in relation to the site as shown in Table 2-24.

Table 2-24. Wildlife Area Combining Zone Criteria

Scoring	Criteria Categories
5	No WA zone within 3 miles of the site
3	WA zone within 3 miles from the site
1	WA zone on-site

At the focused level, this criterion evaluates the habitat characteristics and potential for impacts and mitigation, as shown in Table 2-25.

Table 2-25. Focused Wildlife Area Combining Zone Criteria

Scoring	Criteria Categories
5	No WA zone within 3 miles of the site
4	No WA zone within 0.25 mile to 3 miles of the site
3	Site is within 0.25 mile of a WA zone, but there are no apparent impacts
2	Impacts to WA zone will occur but can be mitigated on-site
1	Impacts to WA zone will occur but can be mitigated off site
0	Impacts to WA zone will occur and cannot be mitigated ¹

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.

Data Sources

Data sources used to assess this resource include Deschutes County WA zone GIS data, provisions of DCC 18.88, and the 1997 ODFW map submitted to the South County Regional Problem Solving Group.

Greater Sage-Grouse Area Combining Zone

Regulatory Requirements/Policies

The greater sage-grouse (GSG) has been the focus of sustained conservation efforts for the last two decades, narrowly avoiding a listing designation under the Endangered Species Act in 2015. ODFW is closely involved with ongoing multi-stakeholder conservation efforts for the species throughout Eastern Oregon, including with Deschutes County and USFWS. Accordingly, private and other nonfederal landowners are strongly encouraged to participate in a Candidate Conservation Agreement with Assurances program. Voluntary conservation efforts of this nature are recognized by the State of Oregon as a critical part in recovering the breeding populations of GSG. Beyond voluntary efforts, it remains necessary to provide a regulatory framework that offers fairness, predictability, and certainty for all involved parties. Engagement on the part of county governments throughout the GSG’s range is critical to Oregon’s efforts to address possible impacts from future development.

Deschutes County’s GSG Combining Zone code (DCC 18.89; GSG zone) is consistent with ODFW’s GSG conservation strategy rules (OAR 635-140) and the Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (2011). These rules and guidelines are intended to advance GSG population and habitat protection through a mitigation hierarchy by establishing mitigation standards for impacts from certain types of development actions in GSG habitat.

The mitigation hierarchy approach is comprised of a three-step process—avoidance, minimization, and compensatory mitigation—and is applied to three distinct GSG habitat conditions:

6. Core area (DCC18.89.080)
7. Low-density habitat (DCC 18.89.090)
8. General habitat (DCC 18.89.100)

The County may approve a large-scale development proposal that does not meet the avoidance test for significant GSG habitat if the County determines that the overall public benefits of the proposal outweigh the damage to significant GSG habitat. However, the project must still comply with the mitigation hierarchy and the applicant must show that the overall public benefits outweigh the damage to the significant GSG habitat (DCC 18.89.110).

Description of Criterion and Criteria Scoring Categories

Areas designated by ODFW and the County as core GSG habitat are presumably excluded from landfill development because alternative sites may be available outside of core areas. Depending on the severity of impact and mitigation obligations, select sites in low density or general habitat may be permissible through agency coordination to develop effective conservation measures and best management practices for the construction and operational phases of the project. Projects outside of these habitats would not need to account for GSG zone requirements for siting. Table 2-26 includes key considerations to landfill development siting in different GSG zones.

Table 2-26. Considerations for Siting Landfills in Greater Sage-Grouse Zones

Habitat Designation	Mitigation Hierarchy			Risk and Fatal Flaw Siting Considerations
	Avoidance	Minimization	Mitigation	
Core Area	a Alternatives analysis b Satisfy 3 criteria: 1. Not technically feasible to locate elsewhere 2. Dependent on a unique geographic or physical feature(s) 3. Provides important economic opportunity, infrastructure	a Minimize habitat impacts and fragmentation b Micrositing, construction best management practices (BMPs) c Avoid, if possible, impacts in high population richness areas within core area d Costs	a Fully offset impacts to any core area b Comply with ODFW conservation rules for GSG	High risk/potential fatal flaw Large-scale development must not increase County’s metering or disturbance thresholds Requires alternative analysis for preferred alternative in core area Subject to ODFW approval and mitigation recommendations Extensive mitigation may be required
Low Density	a Alternatives analysis b Satisfy 2 criteria: 1. Not technically feasible to locate elsewhere 2. Dependent on a unique geographic or physical feature(s)	a Locate to minimize impacts to habitat b Micrositing, construction BMPs		Moderate to low risk Confirmation from ODFW that there are no threats to significant GSG habitat or use Subject to ODFW approval and mitigation recommendations
General Habitat	General habitat (within 3.1 miles of an occupied or occupied-pending lek) require consultation with County and ODFW to verify avoidance and minimization measures			
Outside of Habitat	Greater than 3.1 miles from known leks; impacts avoided			No risk

The GSG criterion measures the proximity of a potential landfill site to GSG zones. The sites furthest from known GSG zones receive the highest scores. At the broad level, this criterion establishes the presence of GSG zones in relation to the site as shown in Table 2-27.

Table 2-27. Proximity of Greater Sage-Grouse Zone Criteria

Scoring	Criteria Categories
5	No GSG zones within 3.1 miles of the site
3	Low-density or general habitat GSG zone within 3.1 miles from the site
2	Core area GSG zone within 3.1 miles from the site
1	Low-density area or general habitat GSG zone on site ¹
0	Core area GSG zone on site ²

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.
² Within core area GSG zones, mitigation is not feasible, and the site is not suitable for landfill siting.

At the focused level, this criterion evaluates the habitat characteristics and potential for impacts and mitigation, as shown in Table 2-28.

Table 2-28. Focused Proximity of Greater Sage-Grouse Zone Criteria

Scoring	Criteria Categories
5	No GSG zones within 3.1 miles of the site
4	GSG zones within 3.1 miles of the site, but there are no apparent impacts
3	GSG zones within 3.1 miles of the site, and there may be indirect impacts
2	Impacts to low-density or general habitat GSG zones will occur, but can be mitigated on site ¹
1	Impacts to low-density or general habitat GSG will occur and cannot be mitigated ¹
0	Impacts to core area GSG zone will occur ²

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.
² Within core area GSG zones, mitigation is not feasible, and the site is not suitable for landfill siting.

Data Sources

Data sources used to assess this resource include the provisions of DCC 18.89; the Sage-Grouse Conservation Partnership’s (Sage-Con) 2015 Sage-Grouse Action Plan; County, state, and Sage-Con GIS mapping layers for landscape planning and development siting; and coordination with ODFW to verify criteria development and assessment.

Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds

Regulatory Requirements/Policies

The purpose of DCC Chapter 18.90 Sensitive Bird and Mammal Habitat (SBMH) Combining Zone is to ensure that sensitive habitat areas identified in the County's Goal 5 sensitive bird and mammal inventory as critical for the survival of the northern bald eagle, great blue heron, golden eagle, prairie falcon, osprey, great grey owl, and the Townsend's big-eared bat are protected from the effects of conflicting uses or activities that are not subject to the Forest Practices Act. This objective shall be achieved by implementation of the decision resulting from the economic, social, environmental and energy analysis (ESEE) for each inventoried sensitive habitat area. Landfill sites permitted in the SBMH zone are subject to conditional use permitting, site plan review for SBMH conditions, and the provisions of the ESEE decision. Approval of the site plan will be conditioned to ensure protection of SBMH resources and will include construction and operational best management practices that avoid or minimize impacts to SBMH resources. When there is a conflict between the site-specific ESEE analysis and the provisions of DCC Title 18, the site-specific ESEE analysis shall control.

The USFWS administers the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA), which are strict liability statutes that prohibit the unauthorized taking of migratory birds and bald and golden eagles within the United States. For these statutes, "take" occurs when any person or entity pursues, hunts, shoots, wounds, kills, traps, captures, or collects a migratory bird or eagle. Additionally, under the BGEPA, anyone who disturbs, agitates, or bothers an eagle to a substantial degree also commits "take." Bald eagles were delisted under the Endangered Species Act in 2007 but are still afforded federal protection under these acts.

The USFWS has provided National Bald Eagle Management Guidelines, which are not federal regulations but provide information for people or entities who engage in recreation or land use activities on how to avoid impacts to eagles prohibited by BGEPA and MBTA. The guidelines are crafted to reflect the current way that federal and state managers interpret these laws. Additionally, if a permit is required under these laws, USFWS recommends that eagle nest surveys out to 2 miles from the boundary of the area be conducted in association with an incidental take permit to provide sufficient information to evaluate project impacts to nearby nesting eagles.

Description of Criterion and Criteria Scoring Categories

The SBMH areas are those identified in the Deschutes County Comprehensive Plan Resource Element inventory and site-specific ESEE for each sensitive bird or mammal site. The SBMH areas to be protected by the provisions of DCC 18.90 is defined as the area:

- Within a radius of 1,320 feet (0.25 mile) of a golden eagle, bald eagle, prairie falcon nest, or a Townsend's big-eared bat hibernating or nursery site.
- Within a radius of 300 feet of a great blue heron rookery or osprey nest.
- Within a radius of 900 feet of a great grey owl nest site.

Established nest buffer distances to known eagle nests are defined in the National Bald Eagle Management Guidelines. In general, golden eagle nest locations are buffered by a sensitive habitat area that extends out for a radius of 2 miles. Bald eagle nests are buffered by a 0.25-mile radius. Any construction activities during the nesting season within these distances or direct impact to active or alternate nests would require coordination with USFWS and possibly permitting under these rules. The USFWS does not provide set buffer distances to protect nests of migratory birds under the MBTA but would be consulted during permitting to verify nest buffers recommended for the project—

typically 100 feet or less for non-raptor species and 300 feet or less for raptors other than bald and golden eagles.

The sites furthest from known SBMH and migratory bird areas receive the highest scores. At the broad level, this criterion establishes the presence of SBMH and migratory bird areas in relation to the site as shown in Table 2-29.

Table 2-29. Proximity of Sensitive Bird and Mammal Habitat Zone and Migratory Bird Criteria

Scoring	Criteria Categories
SBMH	
5	No SBMH zone within 0.5 mile of the site
3	SBMH zone less than 0.5 mile from the site
0	SBMH zone on the site ¹
Migratory Birds	
5	No migratory bird nests within 2 miles of the site
3	Bald or golden eagle nests within 2 miles of the site
1	Bald or golden eagle nests or nests of other migratory birds within 0.25 miles of the site
0	Bald or golden eagle nests or nests of other migratory birds on the site ¹

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.

At the focused level, the SBMH and migratory birds criterion evaluates the habitat characteristics and potential for impacts and mitigation, as shown in Table 2-30.

Table 2-30. Focused Proximity of Sensitive Bird and Mammal Habitat Zone and Migratory Bird Criteria

Scoring	Criteria Categories
SMBH	
5	No SBMH zone within 3 miles of the site
4	No SBMH zone within 0.25 mile to 3 miles of the site
3	Site is within 0.25 mile of a SBMH zone, but there are no apparent impacts
2	Impacts to SBMH zone will occur but can be mitigated on-site
1	Impacts to SBMH zone will occur but can be mitigated off site
0	Impacts to SBMH zone will occur and cannot be mitigated ¹
Migratory Birds	
5	No migratory bird nests within 2 miles of the site
4	Nesting migratory birds within 2 miles of the site, but there are no apparent impacts
3	Nesting migratory birds within 2 miles of the site, and there may be indirect impacts that can be mitigated
1	Nesting migratory birds on-site, and direct impacts may occur, but can be mitigated
0	Impacts to migratory birds will result in take that cannot be mitigated ¹

¹ This is exclusionary if the owner or operator cannot demonstrate compliance with the regulations.

Data Sources

Data sources used to assess this resource include the Deschutes County Comprehensive Plan Resource Element inventory data and site-specific data gathered from various sources, including the County’s SBMH zone GIS data, provisions of DCC 18.90, Portland State University’s ORBIC dataset, ODFW’s inventory records of sensitive species, and USFWS’ recent inventory for bald and golden eagles in Deschutes County.

2.3.3.3 Land Use

Land use criteria evaluate the potential impacts to activities on or near a landfill site and conformity with the zoning designation. Many landfill impacts could be addressed by site design and other mitigation methods.

Proximity to Airports

Regulatory Requirements/Policies

According to OAR 340-094-0040 10(b), “No permittee of a landfill disposing of putrescible wastes that may attract birds and which is located within 10,000 feet (3,048 meters) of any airport runway used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport used by only piston-type aircraft shall allow the operation of the landfill to increase the likelihood of bird/aircraft collisions.” These rules have been further refined by the Federal Aviation Administration Advisory Circular (Section 4.2.1.2) from February 21, 2020, defining the distance from the end of an airport runway, which is how it was applied.

Description of Criterion and Criteria Scoring Categories

Deschutes County lands located at least 5 miles from any airport runway would be more desirable sites, as they would pose a negligible risk of bird/aircraft collisions. Lands less desirable for this criterion are those located between 10,000 feet and 5 miles from an airport and to a lesser degree 5,000 to 10,000 feet from an airport used by only piston-type aircraft. Any potential site within 5,000 feet of any airport would increase the likelihood of bird/aircraft collisions to an unacceptable degree and would be a fatal flaw. See Table 2-31 for the scoring criteria.

Table 2-31. Proximity to Airports Criteria

Scoring	Criteria Categories
5	Site where property line is located at least 5 miles from the property line of any airports
3	Site where property line is located at least 10,000 feet from the property line of any airports
1	Site where property line is located 5,000–10,000 feet from the property line of an airport used by only piston-type aircraft
0	Lands within 5,000 feet of any airport

Data Sources

Deschutes County GIS data were used to determine proximity of potential sites to airports.

Site Zoning

Regulatory Requirements/Policies

Site zoning considers compatibility of the site with the Deschutes County zoning ordinance (DCZO). Landfills are allowed to be located as a conditional use on non-high value farmland zoned Exclusive Farm Use (EFU; DCZO 18.16.031) or on land zoned Forest Use (F-2; DCZO 18.40.030). Sites located in any other zones will need to be rezoned to EFU and then permitted through the “conditional use” process. The zone change process is anticipated to be difficult and time consuming. Sites zoned Surface Mining (SM; DCZO 18.52) are functionally well suited to landfill disposal sites, so although locating a landfill on a site zoned SM would require a zone change and conditional use review, the criterion recognizes the beneficial co-use and/or reuse of a mining site by scoring SM sites higher than other zones that would require a zone change but lower than non-high value farmland EFU or F 2 sites. Related to zoning are state designated protection areas and, specifically, the Metolius Area of Critical State Concern (ACSC) (ORS 197.416).

Description of Criterion and Criteria Scoring Categories

Deschutes County lands zoned EFU (non-high value farmland only) or F-2 would be more desirable sites. Lands zoned SM are less desirable based on required entitlements process. Lands zoned in all other zones are not desirable and are given the lowest, non-fatal flaw, rating. Due to the prohibition on large development projects in the Metolius ACSC, this area would be characterized as a fatal flaw. See Table 2-32 for the scoring criteria.

Table 2-32. Site Zoning Criteria

Scoring	Criteria Categories
5	Lands zoned EFU (non-high value farmland only) or F-2
3	Lands zoned SM
1	Lands in all other zones
0	Lands in Metolius ACSC

Data Sources

Deschutes County GIS-based zoning maps were used to determine current zoning for potential sites.

Adjacent Land Use Impacts

Regulatory Requirements/Policies

No state or federal siting requirements limit the development of a landfill next to a certain type of land use beyond the local zoning ordinance. Landfill siting must consider the local County limits as well as overall existing land use adjacent to a proposed site or in a position to view the proposed site. Because some types of land uses are more sensitive to landfill development and operation, these types of considerations are critical.

Deschutes County includes proximity standards for conditional use approval of a new landfill disposal site in DCZO 18.128.120. New landfill sites must be located at least 0.25 mile from any existing residential dwelling or public road (except the access road). This screening process considers that a distance of at least 1 mile to the nearest residential dwelling is preferable. Anticipated impacts to adjacent land uses include nuisances such as additional dust, noise, and

odors related to landfill operations. These are expected to impact property values differently, depending on the use.

In addition, though not required by regulation, the criteria consider the following adjacent land uses as more compatible with a landfill: rural, agriculture, forest, mining, and institutional. The following adjacent land uses are considered less compatible with a landfill: residential, school, retail, hotel, park, and recreational. Agricultural zoning that allows higher residential density would be considered “residential” and, therefore, would be less compatible. The criteria consider existing and planned future adjacent land uses.

Description of Criteria and Criteria Scoring Categories

The Adjacent Land Use Impacts has four criteria, which are each scored separately per Table 2-33.

Table 2-33. Adjacent Land Use Impact Criteria

Scoring	Criteria Categories
Existing Adjacent Use	
5	Rural, agriculture, forest, mining, institutional, or similar
1	Residential, school, retail, hotel, park, recreational, or similar
Planned Adjacent Use	
5	Rural, agriculture, forest, mining, institutional, or similar
1	Residential, school, retail, hotel, park, recreational, or similar
Distance to Nearest Residence	
5	Greater than 1 mile from edge of landfill footprint to nearest residential dwelling
3	Greater than 0.25 mile from edge of landfill footprint to nearest residential dwelling
1/0	Less than 0.25 mile from edge of landfill footprint to nearest residential dwelling (broad/focused screening scores)
Distance to Nearest Public Road	
5	Landfill footprint greater than 0.25 mile
1	Landfill footprint less than 0.25 mile

Data Sources

Deschutes County GIS, supplemented by field visits as needed, were used to evaluate existing and planned land uses and distances to residences and roads.

Site Visibility/Aesthetic Impacts

The Site Visibility/Aesthetic Impacts criterion evaluates visual and aesthetic impacts of potential landfill sites by rating each site’s remoteness and visibility from adjacent property and roads.

Regulatory Requirements/Policies

Deschutes County protects scenic views—inventoried in Comprehensive Plan Goal 5 Inventory Section 5.5, Open Spaces, Scenic Views and Sites— through the Landscape Management Combining Zone DCZC 18.84 (primarily located along roadways and wild and scenic rivers) and through the

Open Space and Conservation zone (DCZC 18.48). No siting criteria are based on these regulations because the County has indicated that these regulations would not provide any distinction useful in evaluating potential landfill sites. Visual impacts are instead evaluated through an evaluation of visibility and remoteness.

Description of Criteria and Criteria Scoring Categories

Site Visibility/Aesthetic Impacts have three criteria, which are each scored separately per Table 2-34.

- Visibility based on topography and/or vegetation
- Remoteness

Table 2-34. Site Visibility/Aesthetic Impact Criteria

Scoring	Criteria Categories
Visibility Based on Topography and/or Vegetation	
5	Site is not visible to any occupied residence or location accessible to the public within 5 miles of the site
3	Site is not visible to any occupied residence or location accessible to the public within 1 mile of the site
1	Site is visible to an occupied residence or location accessible to the public within 1 mile of the site
Remoteness	
5	Site is over 1 mile from any occupied or active development of any kind
3	Site is between 0.5 and 1 mile of an occupied or active development of any kind
1	Site is less than 0.5 mile from any occupied or active development of any kind

Data Sources

GIS contour maps from USGS, DOGAMI lidar mapping, aerial photographs, and site visits were used to evaluate visibility due to terrain and vegetation.

Transportation System Needs/Opportunity

Regulatory Requirements/Policies

There are no specific regulatory requirements related to this criterion.

Description of Criterion and Criteria Scoring Categories

The Transportation System Needs/Opportunity criterion provides a qualitative measure of transportation system constraints and opportunities that could exist along possible haul routes to or from transfer stations and possible landfill sites. Specifically, this criterion identified locations of known congestion (e.g., an identified need within an adopted transportation system plan that would impact a haul route) or opportunity (e.g., funded projects within adopted capital improvement Programs [CIPs] that would benefit a haul route). Landfill locations that provide the most synergistic opportunities with funded transportation infrastructure project are the most desirable. Rating a site was based on the net number of needs (-) and opportunities (+) identified for routes between the transfer stations and landfill site. See Table 2-35 for the scoring criteria.

Table 2-35. Transportation System Needs/Opportunity Criteria

Scoring	Criteria Categories
5	A rating equal to or greater than +1 (opportunities outnumber needs by 1 or more)
3	A rating of 0 (opportunities equal needs)
1	A rating equal to or less than -1 (needs outnumber opportunities by 1 or more)

Data Sources

Adopted local agency transportation system plan and CIPs.

Haul Route Impacts

Regulatory Requirements/Policies

There are no specific regulatory requirements related to this criterion.

Description of Criterion and Criteria Scoring Categories

The Haul Route Impacts criterion provides a measure for comparing sites in terms of the greatest number of residents who would be affected along the access route by haul traffic. The purpose of this criterion is to provide, at a general site-specific level, a measure of nuisance impacts to residents from haul traffic (e.g., noise, odor, traffic, and degradation of aesthetics). This criterion examines the number of total housing units directly adjacent to and accessing the haul route between the site and an existing designated state route or county arterial. Landfill locations and the associated haul routes that affect the fewest homes are the most desirable. See Table 2-36 for the scoring criteria.

Table 2-36. Haul Route Impact Criteria

Scoring	Criteria Categories
5	Less than 5 housing units impacted
4	Between 6 and 10 housing units impacted
3	Between 11 and 15 housing units impacted
2	Between 16 and 20 housing units impacted
1	Greater than 21 housing units impacted

Data Sources

Deschutes County GIS data and aerial imagery were analyzed in GIS to quantify housing units along haul routes.

On-Site Land Use Impacts

On-Site Land Use Impacts consider displacement of existing uses and/or impacts to cultural or historic resources on the site.

Displacement

The ideal landfill site would be undeveloped and vacant or previously developed but ready for a new use and would not require displacement of a current economic activity.

Regulatory Requirements/Policies

There are no regulatory requirements related to landfill siting and specific use displacement.

Description of Criteria and Criteria Scoring Categories

The Displacement criterion compares sites based upon their current land use. Undeveloped sites or sites previously developed but ready for a new use are preferred (see Table 2-37), followed by sites with minimal, resource-related uses. Displacement of residential uses is least preferred.

Table 2-37. Displacement Criteria

Scoring	Criteria Categories
5	Undeveloped and vacant or surface mining in partial use or former use
4	Surface mining in active use
3	Natural resource or non-high value farming use
2	Commercial, industrial, or institutional use
1	Current residential use on-site

Data Sources

Deschutes County GIS for land use. Site visits and interviews for use details.

Cultural and Historic Resources

Preferred landfill sites would not require displacement or disturbance of any cultural resources. Cultural resources can be divided into three categories: archaeological sites; above ground, historic structures; and other properties of tribal importance. These cultural resource categories are not mutually exclusive and are managed somewhat differently. Archaeological sites are the physical remains of past human activity and have three subcategories consisting of precontact sites, historic-era sites, or multicomponent sites (which have both precontact and historic materials). Above ground, historic structures are mostly buildings but can include facilities (e.g., bridges, irrigation systems, roads). Other properties of tribal importance are locations of tribal concern or interest. These locations, often referred to as traditional cultural places (TCPs), may not have artifacts and can include mountains, valleys, rock formations, or plant patches, for example.

Regulatory Requirements/Policies

Deschutes County Comprehensive Plan includes an inventory of significant cultural and historic resources in Comprehensive Plan Goal 5 Inventory Section 5.5, Cultural and Historic Resources. Comprehensive Plan Policy 2.11.2 encourages coordination with the Oregon State Historic Preservation Office, and Policy 2.11.3 encourages the preservation of lands with significant historic or cultural resources, including those on the National Register of Historic Places. If federal funding or permits are involved for the development of the new landfill, the project would also need to comply

with the National Historic Preservation Act of 1968. DCC Chapter 2.28 guides the management and preservation of listed historic and archaeological resources.

Description of Criteria and Criteria Scoring Categories

Scoring criteria focus on known cultural resources and the potential for buried archaeological sites (see Table 2-38). For known cultural resources, the order of preference is based principally on the category of cultural resources present because each category presents a different mitigation risk. For example, it is usually much more complex to mitigate a property of tribal importance than a standing structure. Sites with no potential to impact cultural resources are preferred. This is followed in descending order of preference: sites that have standing structures, sites that have archaeological sites, and sites with the potential to impact other properties of tribal importance.

The potential for buried archaeological sites is scored separately and is based on an assessment of the likelihood that a site may be found in a particular place on the landscape, while the other categories of cultural resources can usually be identified by research, a field visit, or tribal consultation, identifying buried archaeological sites requires more intensive field investigation and can be time consuming. The level of effort necessary for identifying buried archaeological sites is tied to the assessed potential for buried materials to be present at different places on the landscape.

Table 2-38. Cultural and Historic Resource Criteria

Scoring	Criteria Categories
Known Cultural Resources Categories Within Site or Within 500 feet of Site	
5	No known cultural resources
4	Above ground/standing structures within site
2	Archaeological sites
1	Other properties of tribal importance
Potential for Buried Archaeological Sites Within Site or Within 500 feet of Site	
5	The site and the surrounding 500 feet contain only areas with low probability to encounter buried archaeological sites
3	The site contains low probability, but the surrounding 500 feet contain areas with moderate probability to encounter buried archaeological sites
1	The site and the surrounding 500 feet contain areas with moderate or high probability to encounter buried archaeological sites

Data Sources

At the broad level, the principal data source to identify known cultural resources was information from the State Historic Preservation Office. During focused evaluations, the conceptual site plan, local environmental conditions, and previous cultural resources work were used to refine the potential for cultural resources and an area’s low, moderate, and high potential for buried archaeological sites.

3. Site Identification

To identify parcels for further evaluation, minimum requirements were established to eliminate areas that were not suitable for a solid waste management facility. These areas were mapped in GIS and referred to as “exclusionary areas,” where potential solid waste management facility (SWMF) sites could not be identified. See Figure 3-1. Exclusionary Areas were mapped where siting a SWMF would not be feasible because of fatal flaws such as mapped federal and state restrictions. Areas excluded from consideration include locations within Federal Subtitle D airport buffers, floodplains, steep slopes, core sage-grouse habitat, urban growth boundaries, or Holocene fault zones. It is not possible to permit and develop a SWMF in these areas.

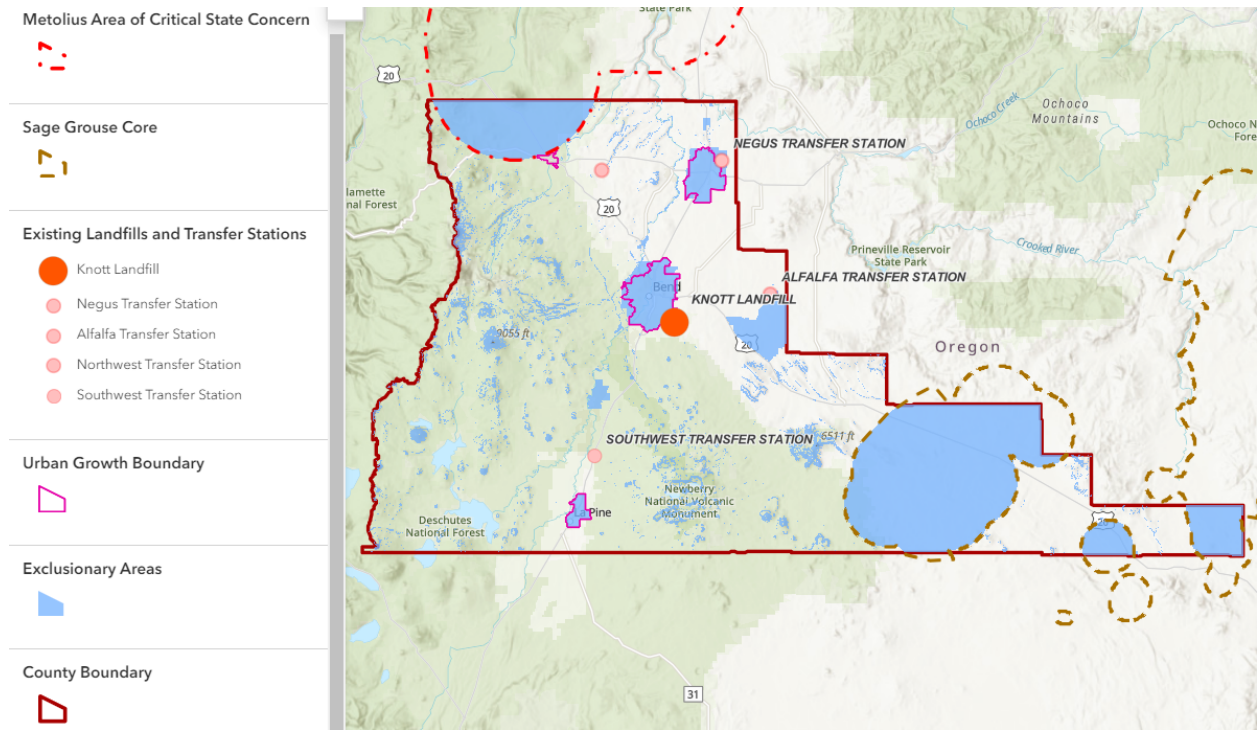


Figure 3-1. Exclusionary Areas Map

After excluding areas with fatal flaws, the County identified Areas of Interest. See Figure 3-2. Within these areas of Interest, the County identified 31 potential sites for broad screening. These were sites with no known fatal flaws, with sufficient acreage to accommodate a SWMF, and where adequate buffers to adjacent properties and wells could be accommodated.

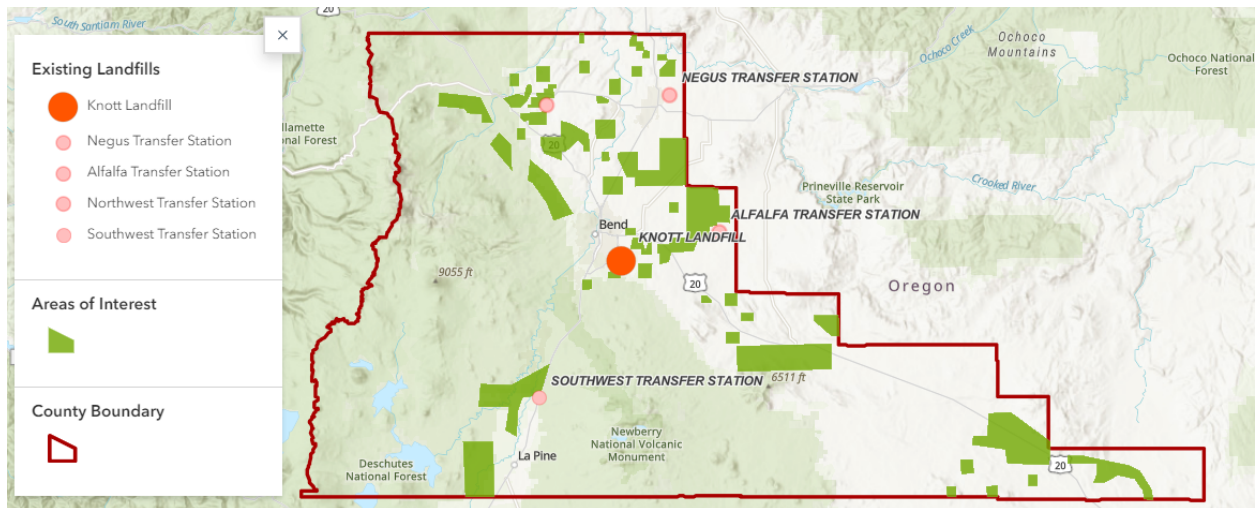


Figure 3-2. Map of Areas of Interest

3.1 Minimum Site Requirements

To identify parcels for further evaluation, minimum requirements were established to eliminate areas that were not suitable for a SWMF. These areas were mapped in GIS and referred to as exclusionary areas, where potential SWMF sites could not be identified.

3.1.1 Mapped Exclusionary Areas

- Sites outside Deschutes County
- Sites located within the urban growth boundary, city limits, urban reserve area or unincorporated areas
- Sites within 5,000 feet of any airport or 10,000 feet from an airport served by jet aircraft.
- Sites located within 100-year flood plain
- Sites located within a wetland
- Sites with a Holocene fault less than 200 feet from site or with unstable slopes:
 - Strong expected shaking or high liquefaction risks
 - High landslide susceptibility
 - Slope >25%
- Areas occupied by threatened or endangered species or critical habitat:
 - Within Core Wildlife Area Zones
 - ORBIC designated areas
- Sites within aquifer sensitive areas
- Areas located within 200 feet of surface water

- Sites located in “high value farmland” areas
 - Soils = Prime, Unique
 - Class I and Class II farmland
- Federal designated lands and open space
 - Open Space
 - Federal / national Forest, National Monuments
 - State Parks
- Zoning Designated Metolius ACSC

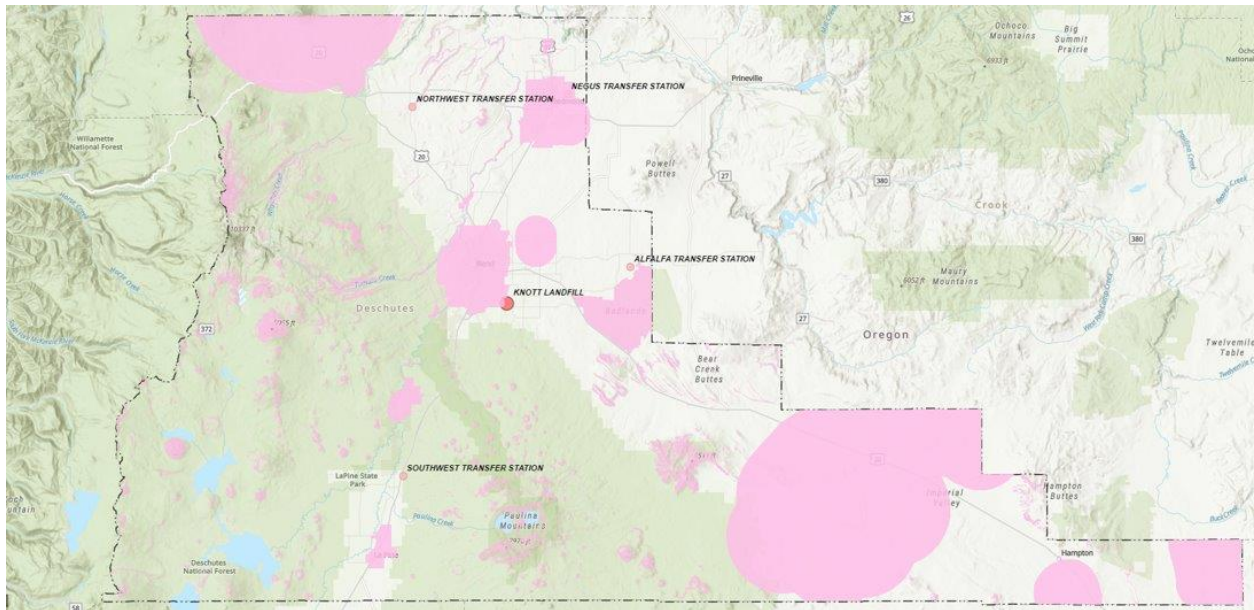


Figure 3-3. Exclusionary Areas

3.1.2 Site-Specific Requirements

3.1.2.1 Site Characteristics/Engineering

- Minimum required site area is 250 acres.
- Nearest well less than 0.25 miles from site.
- Groundwater less than 100 feet below site surface.
- Within drinking water source area and 2-year time of travel zone.
- Fractured or porous geologic units with no known low permeability units above aquifer.

3.1.2.2 Natural Environments

- Not within Greater Sage Grouse (GSG) Core Area

3.1.2.3 Land Use

- Outside SBMH Zone on-Site/Migratory Birds on-Site

3.2 Initial Site Screening

Thirty-one sites were identified that met minimum criteria for a SWMF using GIS mapping. See Figure 3-4. These were sites with no known fatal flaws, with sufficient acreage to accommodate a SWMF and where adequate buffers to adjacent properties and wells could be accommodated.

The County evaluated 31 sites using technical analysis and the siting criteria to further eliminate sites that were less suited for landfill permitting and development.

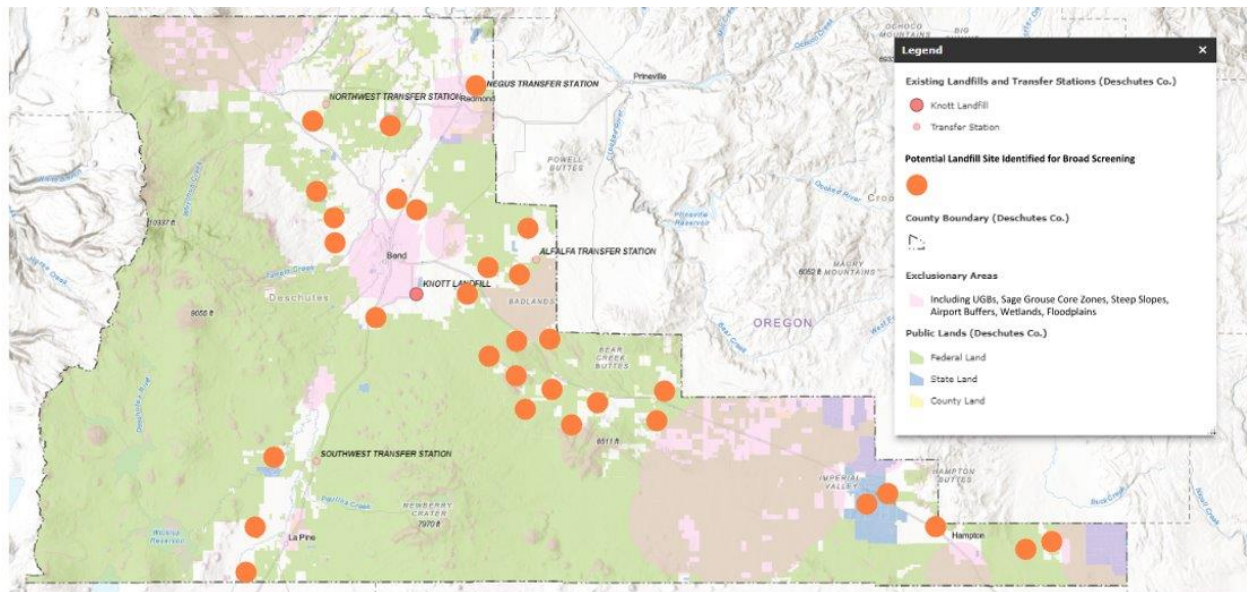


Figure 3-4. Broad Screening Site Map

4. Broad Site Evaluation

4.1 Approach

The County evaluated 31 sites through broad site screening, using technical analysis and the siting criteria to further eliminate sites that were less suited to SWMF permitting and development. Throughout this process, County staff engaged with the SWAC to share information and discuss input. Based on the findings of the Broad Site Screening, most of the 31 sites were removed due to fatal flaws and practical flaws that were discovered through more detailed evaluation, which resulted in a list of 12 potential sites for focused site screening.

4.2 Results

Of the 31 sites identified for analysis, 12 sites from the broad screening list were considered for focused screening. The 19 sites eliminated were removed from consideration due either to fatal flaws, practical flaws or because the landowner wanted their property removed from consideration.

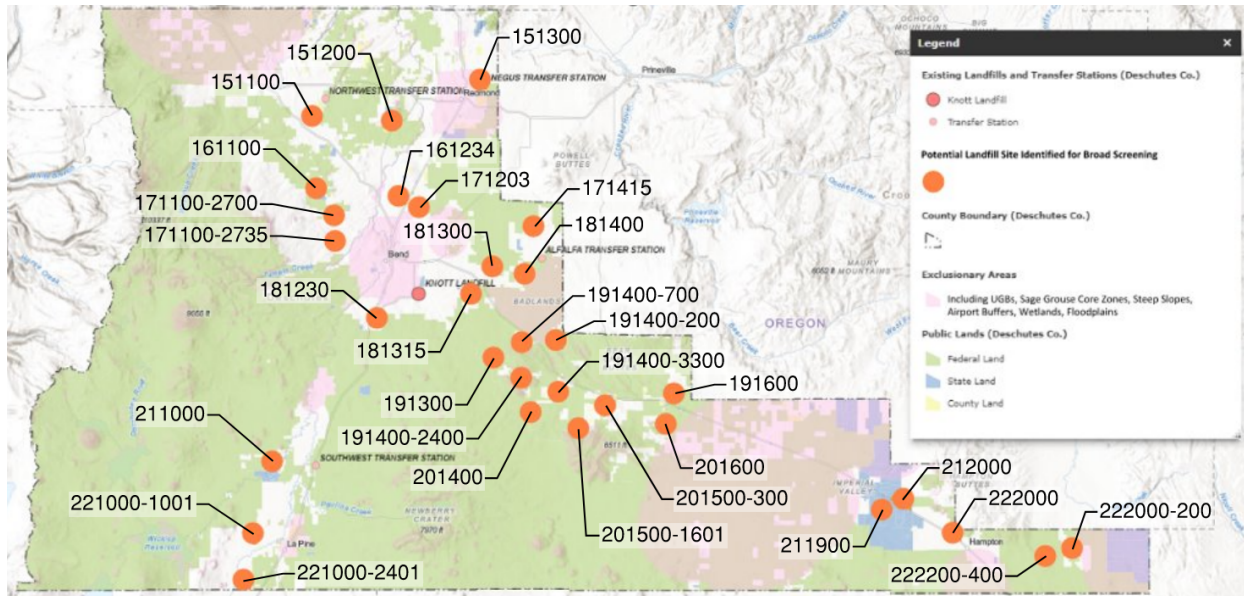


Figure 4-1. Broad Site Evaluation Map

Table 4-1. Broad Site Evaluation Scoring Summary

Broad Screening Site ID	Site Characteristics/Engineering	Natural Environment	Land Use	Total Site Score:
	35%	35%	30%	
151100	2.88	4.60	2.55	FATAL FLAW(S)
151200	3.44	4.80	2.50	3.63 – Practical Flaw (steep slopes & Current development)
151300	3.50	5.00	1.90	3.55
161100	2.92	3.20	2.93	FATAL FLAW(S)
161234	3.08	5.00	2.00	FATAL FLAW(S)
171100-2700	3.36	4.60	2.95	FATAL FLAW(S)
171100-2735	3.41	4.60	2.03	3.41 – Practical Flaw (size)
171203	3.14	4.80	3.40	FATAL FLAW(S)
171415	3.24	4.80	3.48	FATAL FLAW(S)
181230	3.40	4.60	2.60	FATAL FLAW(S)
181300	3.94	4.80	2.58	3.83
181315	3.64	4.80	2.88	3.82
181400	3.34	4.80	2.75	3.67 – Practical Flaw (size)
191300	3.03	2.10	3.40	FATAL FLAW(S)
191400-200	3.79	2.80	4.10	3.54
191400-700	3.21	2.10	2.98	FATAL FLAW(S)
191400-2400	3.84	2.60	3.40	3.27
191400-3300	3.31	2.60	2.93	2.95
191600	3.69	3.00	3.88	3.50
201400	3.18	2.10	3.43	FATAL FLAW(S)
201500-300	3.65	3.00	3.23	3.29
201500-1601	2.99	2.80	2.83	2.87
201600	3.04	3.00	3.78	3.25 – Owner Requested Removal
211000	2.04	3.40	2.73	FATAL FLAW(S)
211900	3.64	3.00	3.43	3.35
212000	3.74	3.20	2.75	3.25
221000-1001	2.72	3.80	3.20	FATAL FLAW(S)
221000-2401	2.77	3.80	2.28	FATAL FLAW(S)
222000	3.73	3.40	2.93	3.37 – Practical Flaw (proximity to Hwy/ Berm & Setback Requirement, geometry)
222200-200	3.75	3.00	3.78	3.50
222200-400	3.73	2.60	3.63	3.30

4.3 Broad Site Evaluation Conclusions

12 Sites were selected to advance to the focused screening stage of the site evaluation process. Property owners and nearby neighbors of the sites selected from broad site evaluation were notified directly. The general public was informed by various social media posts, county outreach forums, and the SWAC notifications. Prior to each site being evaluated in the focused screening process, the acquisition potential for each site based on correspondence with property owner was confirmed. The sites that have confirmed acquisition potential moved into the focused screening process.

5. Focused Site Evaluation

5.1 Approach

The focused site screening evaluation produced more detailed, site-specific information on site engineering, hydrogeology, the natural environment, and land use. In addition, property owners were contacted to assess acquisition potential, comparative cost factors were analyzed, and proximity of residences to potential sites was examined. Through ongoing stakeholder engagement and analysis, new information was gathered about practical flaws for some of the remaining candidate sites. This information resulted in removing three of the potential sites because of recommendations from the FAA. Another five sites were removed from consideration due to property owners' unwillingness to sell. See Figure 5-1. for map showing sites removed and the reasoning.

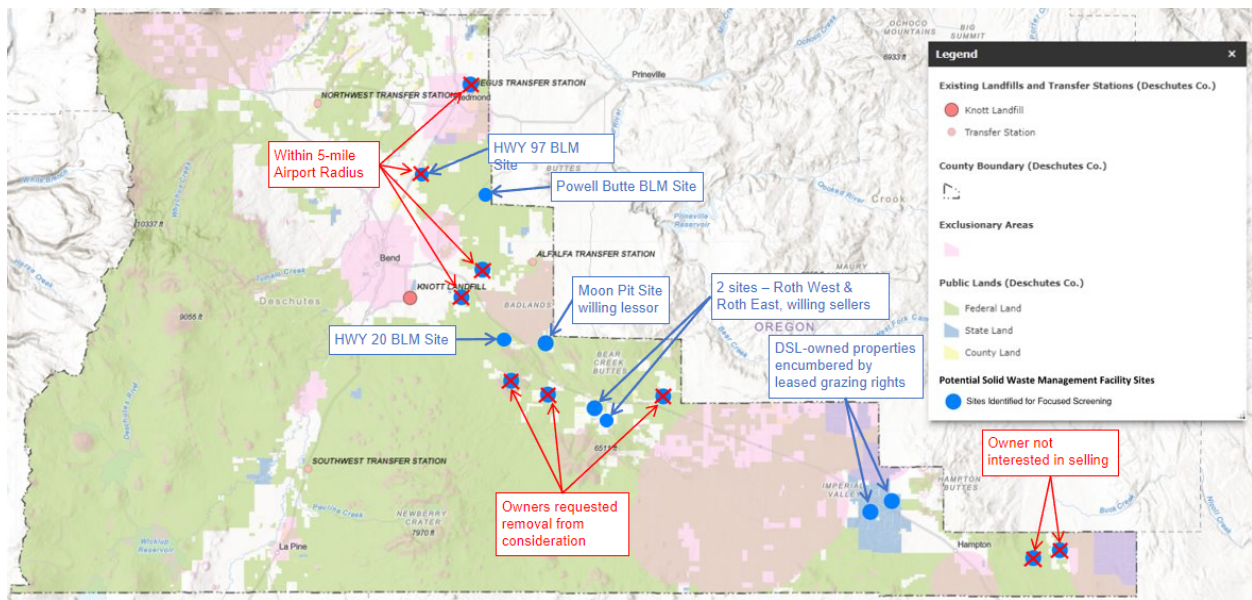


Figure 5-1. Map of Remaining Sites and Removal Reasons

Two BLM sites were added to the list of sites that proceeded to focused screening at the direction of the Deschutes County Commissioners. In focused screening, these sites were evaluated in greater depth against the siting criteria.

The purpose of this section is to describe the 14 candidate SWMF sites (See Figure 5-2.) evaluated during focused site screening and summarize the resulting findings, analyses, and outcomes. Based on these focused screening results, the County worked with the SWAC to identify two to three finalist sites on which to conduct Site Due Diligence Studies. Once the finalist sites were chosen, continued screening of the remaining sites involves more detailed technical analysis, including natural and cultural resource studies, geologic/geotechnical studies, comparison of potential development and operational costs, and confirmation of site acquisition and permitting potential.

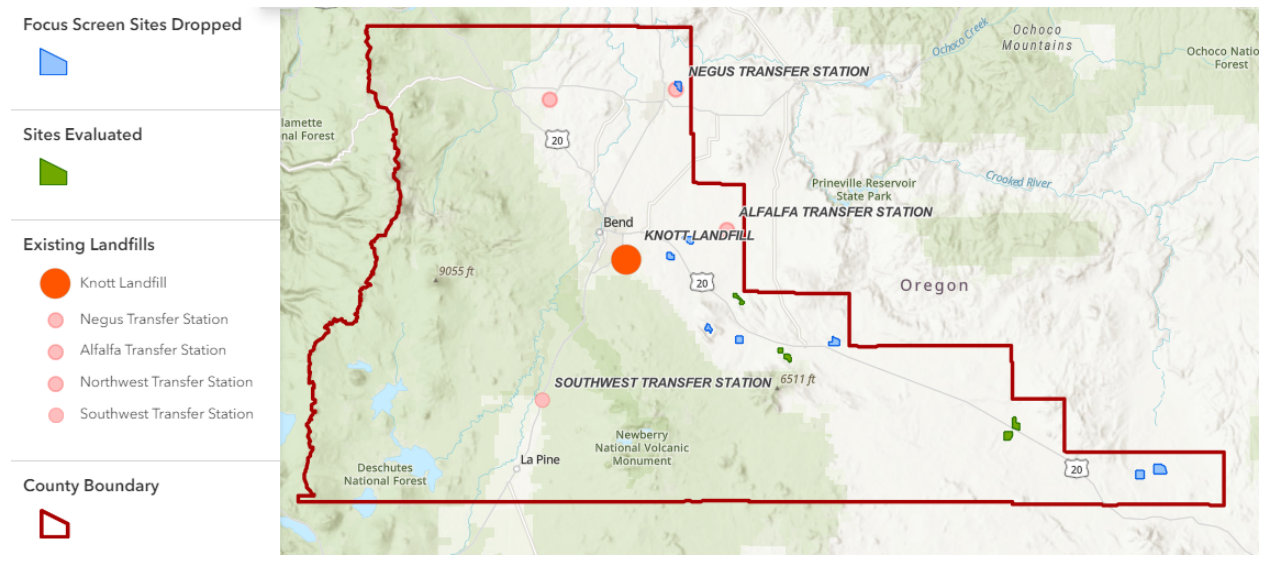


Figure 5-2. Map of Focused Screening Sites

The remaining candidate sites shown in green on Figure 5-2 were analyzed and compared in terms of landfill siting criteria, qualitative cost factors, and proximity to residences.

5.2 Site Descriptions (16 Sites)

The following sections provide descriptions of 16 sites (12 sites identified in broad site screening and 4 BLM sites that were added for further evaluation). These descriptions provide general information and reasons for elimination or continued study.

5.2.1 Site 151300 (Negus)

This potential SWMF site on County property in Redmond was eliminated during focused site screening due to its location within the 5-mile airport/landfill buffer zone recommended by the FAA

and interpreted by the Board of County Commissioners BOCC and SWAC as a fatal flaw. See Figure 5-3.



Figure 5-3. Site 151300 (Negus)

5.2.2 Site 181300 (Bear Creek)

This potential SWMF site on COID-owned property east of Bend was eliminated during focused site screening due to its location within the 5-mile airport/landfill buffer zone recommended by the FAA and interpreted by the BOCC and SWAC as a fatal flaw. See Figure 5-4.



Figure 5-4. Site 181300 (Bear Creek)

5.2.3 Site 181315 (Rickard)

This potential SWMF site on County-owned property east of Bend was eliminated during focused site screening due to its location within the 5-mile airport/landfill buffer zone recommended by the FAA and interpreted by the BOCC and SWAC as a fatal flaw. See Figure 5-5.

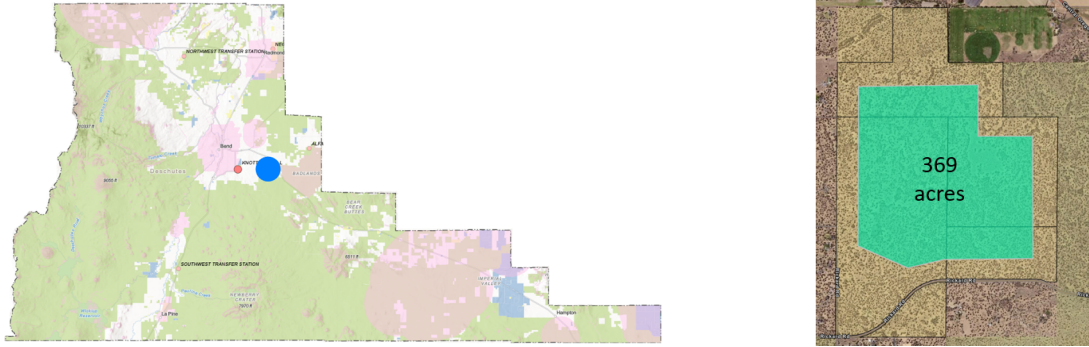


Figure 5-5. Site 181315 (Rickard)

5.2.4 Site 191400-200 (Moon Pit)



Figure 5-6. Site 191400-200 (Moon Pit)

Site Characteristics/Engineering

The Moon Pit candidate SWMF site is owned by Moon Pit, LLC and is currently operated by Hooker Creek Construction Materials as a gravel surface mine. The property is 445 acres with Surface Mining (SM) zoning. This site was previously considered for development of a SWMF and has been mined in such way that it could be later repurposed as a SWMF. The property owner is interested in retaining ownership of the property and leasing it to the County for SWMF operations. See Figure 5-6.

The nearest mapped fault hazard is approximately 3.6 miles west of the site boundary. On-site liquefaction risk is moderate and landslide risk is high to moderate, but mostly isolated to active mining slope areas. The site footprint is not within the 100-year floodplain but may fall within natural drainage channels subject to concentrated flow during periods of extreme precipitation. Annual precipitation falls between the 10-inch and 15-inch isohyetal lines. This site would have a relatively short haul distance of 20.6 miles from various transfer stations.

There is no wellhead protection area in the vicinity, and water record queries show only three records representing three wells located in the northwest portion of the site area, with the next closest identified well about two miles away, which is a dry well. The depth to the first water ranges from 890 to 1070 feet below ground surface (bgs), and standing water level is between 850 to 970 feet bgs, with multiple thick layers of rock above the deep aquifer. Due to these factors, the site hydrogeologic framework is favorable for a SWMF site.

The topsoil consists of loamy sand, silty gravel, and basalt, which have been partially excavated by Moon Pit mining operations, and the average slope is between 1 to 5 percent. The disposal area footprint is approximately 369 acres within a 100-foot buffer from the property line shared with the BLM. The water right on the property, Permit G-12860, authorizes use of on-site wells with a yield of 1.09 cubic feet per second (cfs) year-round (0.27 cfs dust control and 0.82 cfs gravel washing). There is good potential to reuse existing on-site water rights and wells for SWMF operations.

Natural Environment

The Moon Pit site has no wetlands, threatened, or endangered species identified. The site is located within the North Paulina Deer Winter Range, within four miles of one sage grouse lek, and surrounded by BLM land. The site does not have any SBMH combining zones within 0.5 miles of its perimeter. However, a golden eagle nest area is mapped within two miles of the site.

Land Use

The Moon Pit site is zoned SM with a Wildlife Area (WA) combining zone related to the North Paulina Deer Winter Range mentioned above. Directly adjacent lands are undeveloped, with the exception of the Badlands Rock Trailhead, a recreational area for hikers and horses entering the Badlands Wilderness Area. The site is visible from the Badlands Trailhead, which is less than 0.25 miles from the site, but the site is otherwise well hidden from public viewpoints.

To the west of the site, the Bend Aero Modelers Airstrip is 0.6 miles distant and the Dry River Canyon trailhead is over 1 mile distant. There are no residences within one mile of the site and the Highway 20 is more than 0.25 miles away. There are no housing units along the expected haul route.

The site is already 50% developed/disturbed, with moderate potential for cultural resources along drainages in the southern part of the parcel and within a 500-foot buffer from the property boundary. A partial prior survey was reviewed, which described cultural resources to the north of the site, including pictographs, lithic scatter, a rock shelter, and agricultural historic artifacts.

5.2.5 Site 2161400-2400 (Golden Basin)

This potential SWMF site consisting of private and BLM property in the Millican Valley was eliminated during focused site screening, in response to property owner requests and unwillingness to sell. See Figure 5-7.

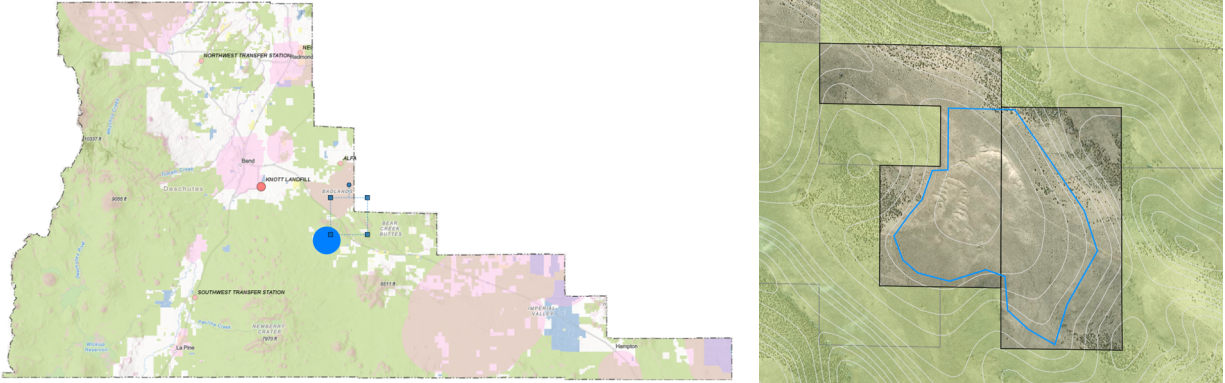


Figure 5-7. Site 2161400-2400 (Golden Basin)

5.2.6 Site 191400-3300 (Spencer-Ford)

This potential SWMF site consisting of private and BLM property in the Millican Valley was eliminated during focused site screening, in response to property owner requests and unwillingness to sell. See Figure 5-8.

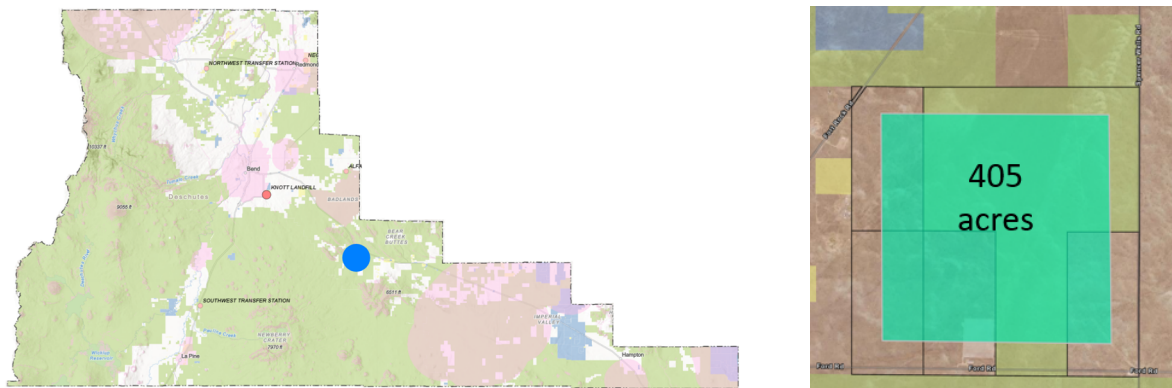


Figure 5-8. Site 191400-3300 (Spencer-Ford)

5.2.7 Site 191600 (West Butte)

This potential SWMF site on private property between Millican and Brothers was eliminated during focused site screening, in response to property owner requests and unwillingness to sell. See Figure 5-9.



Figure 5-9. Site 191600 (West Butte)

5.2.8 Site 201500-300 (Roth West)

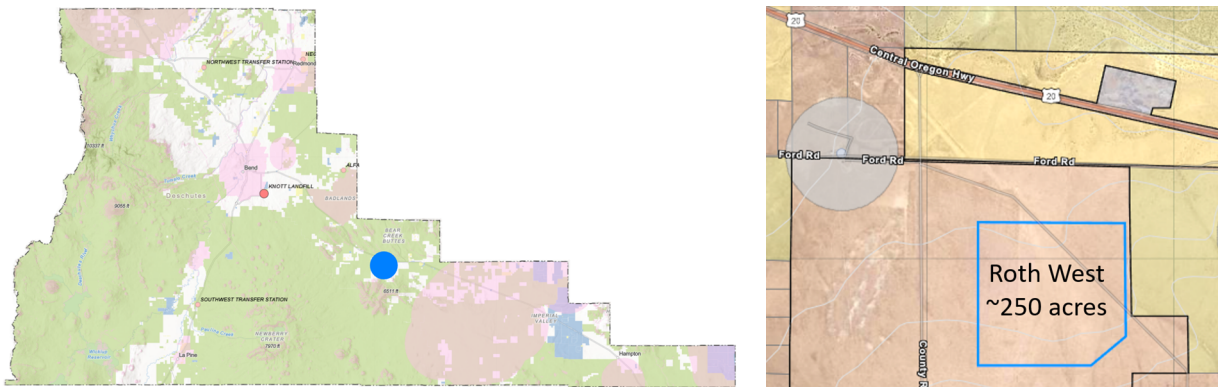


Figure 5-10. Site 201500-300 (Roth West)

Site Characteristics/Engineering

The Roth West candidate SWMF site is privately owned, comprising a single parcel of land spanning 1,783 acres. The property owner is interested in selling land to the County. Geotechnical factors include moderate landslide and liquefaction susceptibility, with no data on poor foundation areas (i.e., lava tubes). The site falls outside the 100-year floodplain, but may intersect natural drainage channels. The site sits above a hydrogeologic framework composed of clay, conglomerate, sandstone, and broken lava above the water-bearing zone, which is over 400 feet bgs per nearby well logs. The soils present include topsoil, sand/gravel, and clay, while the average slope is 1 to 10 percent. The area available for the disposal footprint is 845 acres (only 250 acres would be required) and the site is located approximately 28.6 miles from various transfer stations. See Figure 5-10.

Natural Environment

No wetlands have been identified, and no threatened or endangered species have been reported or observed. The site is within the Antelope and North Paulina Deer Winter Range, while the Greater Sage Grouse Area Combining Zone shows a low-density sage-grouse area. No SBMH combining zones exist within 4 miles of the site, no migratory bird nests are mapped within 2 miles of the site, and no sage grouse leks are mapped within 5 miles of the site.

Land Use

The Roth West site is zoned as Exclusive Farm Use - Horse Ridge Subzone (EFUHR) with overlays including Landscape Management Overlay, WA Combining Zone Overlay, Surface Mining Impact Area, and Sage-Grouse Habitat - Low Density. The site is mapped as “farmland of statewide significance” which is understood to not mean “high-value farmland” per DCC 18.04.030.

This site is adjacent to undeveloped land and is broadly in the vicinity of off highway vehicle (OHV) trails, Pine Mountain Observatory, paragliding sites, and a former airstrip. The former Millican Airstrip on County land was closed in 1992 by County Ord. 92-051 per the request of the State Aeronautics Division. The nearest residence is located approximately 0.67 mile from the site, and the disposal footprint is over 0.25 miles from public roads. The site is visible from residences and roads within 1 mile. There is a moderate probability for buried archaeological sites based on landform and records for nearby areas.

5.2.9 Site 201500-301 (Roth East)

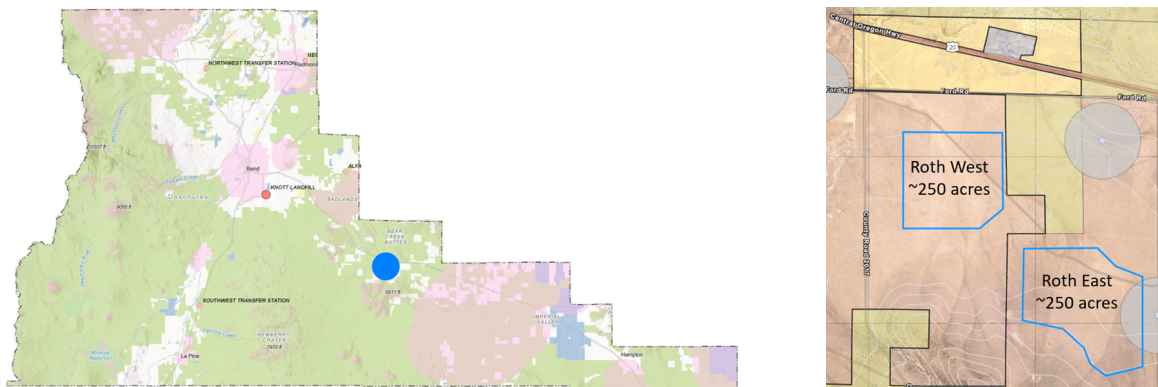


Figure 5-11. Site 201500-301 (Roth East)

Site Characteristics/Engineering

The Roth East site spans over 1,706 acres and is privately owned by a single owner who is interested in selling land to the County. It is located in a moderate seismic impact zone with a moderate liquefaction susceptibility and moderate landslide susceptibility. The site does not fall within the 100-year flood plain but may be situated within natural drainage channels. The groundwater near the site is located at a depth of over 630 ft bgs, and the closest wells are approximately 0.5 miles away. The site soils consist of topsoil, sandstone, gravel, and clay, and have an average slope of 1 to 10 percent. The area available for the disposal footprint is 450 acres (only 250 acres would be required), with the remaining land used for various purposes such as agricultural and forest use. The site is located approximately 30 miles from various transfer stations. See Figure 5-11.

Natural Environment

The Roth East site is not located within any wetlands or SBMH combining zones. However, it is within the Antelope and North Paulina Deer Winter Range and low-density sage grouse area. There are no identified threatened or endangered species. The site is located about 300 feet from an ephemeral stream and aerial imagery suggests the presence of a seasonal wash. There are no migratory bird nests within two miles of the site and there are no mapped sage grouse leks within 5 miles.

Land Use

The Roth East site is located more than five miles away from airport runways listed in the Deschutes County Transportation System Plan. The former Millican Airstrip on County land was closed in 1992 by County Ord. 92-051 per the request of the State Aeronautics Division. The site is zoned EFUHR with overlays including Forest Use 1, Landscape Management, Surface Mining Impact Area, and Sage Grouse Habitat – Low Density, and WA Combining Zone (Deer Winter Range, Antelope Range). The site is mapped as “farmland of statewide significance” which is understood to not mean high-value farmland per DCC 18.04.030.

The site is adjacent to agricultural and rural residential homes and is broadly in the vicinity of OHV recreational areas, hang glider/paraglider landing areas, and Pine Mountain Observatory. There are two dwellings on Newt Morris Rd that are approximately 0.8 miles from the disposal footprint, and the disposal footprint is more than 0.25 miles away from County Road 2017, Newt Morris Road, and Ford Road. The potential exists for active cattle ranching on EFU land. There is a moderate probability for buried archaeological sites based on landform and records for nearby areas

5.2.10 Site 211900 (DSL South)

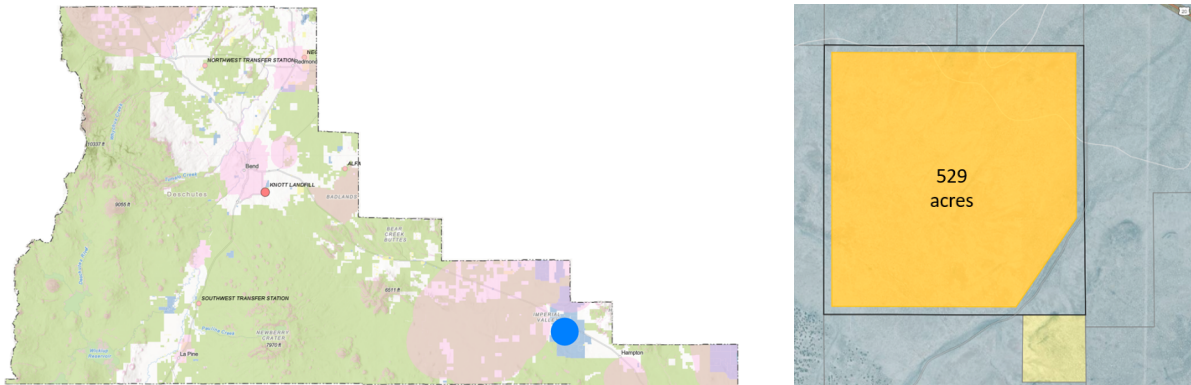


Figure 5-12. Site 211900 (DSL South)

Site Characteristics/Engineering

The DSL South candidate SWMF site is a 625-acre property, designated as leased grazing land under the State of Oregon ownership. The property has a single owner, is not located in a floodplain, and is 14.1 miles away from fault hazards. The site's geotechnical location factors indicate moderate liquefaction and unstable areas, but there is no information on poor foundation. The site soils include topsoil, clay, and grey basalt, with an average slope of 0 to 1.0 percent. The area available

for the disposal footprint is 529 acres (only 250 acres would be required) and the site is about 55.5 miles away from various transfer stations. See Figure 5-12.

Natural Environment

The DSL South site is not known to have any wetlands or threatened or endangered species, and no sensitive bird and mammal habitats have been identified within 9 miles of the site. While the area combines with antelope winter range and overlaps low-density sage grouse area, there are no leks mapped within 10 miles of the site. There are no migratory bird nests within 12 miles of the site. This property is also covered under a Candidate Conservation Agreement with Assurances (CCAA) with the U.S. Fish and Wildlife Service for Sage-Grouse. Any change of use of the property would require amending the CCAA and removing the lands from the document.

Land Use

The DSL South site is zoned EFUHR with overlays including Landscape Management, Wildlife Area, Surface Mining Impact Area, and Sage Grouse Habitat (General, Low Density). The site is mapped as “farmland of statewide significance” which is understood to not mean high-value farmland per DCC 18.04.030. The site is more than 5 miles from any airport runway, with no nearby residences, and Highway 20 is over 0.25 miles from the site. The site is visible from Highway 20, less than 1 mile away, and there are no housing units along the expected haul route. The site's on-site land use impacts include displacement of undeveloped leased grazing land, and there is no prior survey or recorded sites of cultural resources but scattered precontact sites in the area are located on similar landforms. The planned adjacent use includes agriculture, SM, and OS&C.

5.2.11 Site 212000 (DSL North)

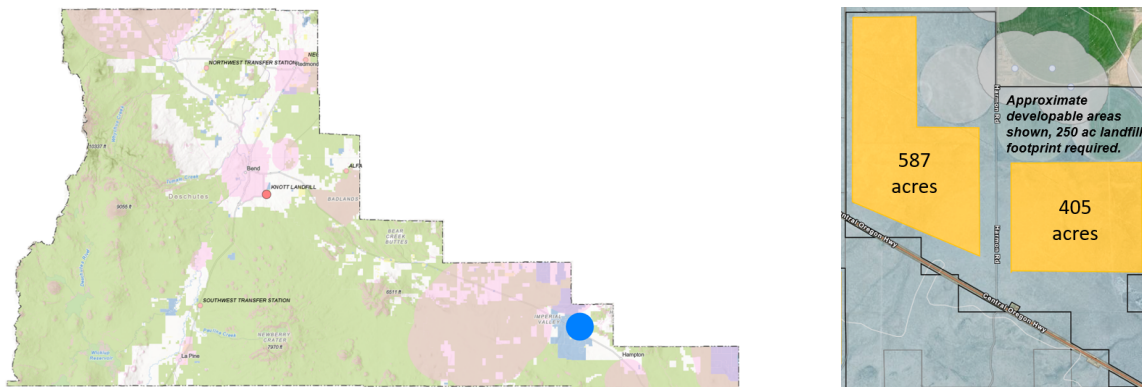


Figure 5-13. Site 212000 (DSL North)

Site Characteristics/Engineering

The DSL North candidate SWMF site is located on State of Oregon land and is designated as leased grazing land with special protections under DSL's rules. The total site acreage is 2,117 acres and the area available for the disposal footprint is 405 acres (only 250 acres would be required). Average slopes on-site range from 0 to 1.0 percent. There are no unstable areas with poor foundations on the site, and the footprint is not within the 100-year flood plan. The site has 11 wells in the broad vicinity, with an average depth to first water of 199 ft bgs. Water-bearing zones are overlain by

geologic deposits typically including basalt, pumice, sandstone, cemented gravel, and some siltstone. See Figure 5-13.

Natural Environment

The DSL North site has no wetlands or threatened and endangered species identified, and is located within the antelope range. Greater sage grouse core area habitat is mapped over 1 mile away from the site, but there are no leks mapped within 9 miles. There is no SBMH combining zone within 9 miles of the site. According to USFWS, a golden eagle nesting site was last observed 1 mile away from the site in 2014. The next closest golden eagle nesting sites are over 12 miles southeast, near the Cougar Well Wilderness Study Area. This property is also covered under a CCAA with the US Fish and Wildlife Service for Sage Grouse. Any change of use of the property would require amending the CCAA and removing the lands from the document.

Land Use

The DSL North site is zoned EFUHR with overlays including Wildlife Area and Sage-Grouse Habitat (General, Low Density). The site is mapped as “farmland of statewide significance” which is understood to not mean high-value farmland per DCC 18.04.030, but it is designated as leased grazing land with special protections under DSL's rules. The site is adjacent to agricultural land, leased grazing land, and a leased agricultural pivot currently growing alfalfa. The nearest residence is 0.63 miles away from the site, and there are less than five housing units along the expected haul route. There is one unevaluated cultural resources site identified through a partial survey, indicating some moderate potential for encountering archaeology in the drainage channels and prior site recordings.

5.2.12 Site 222200-200 (GI East)

This potential SWMF site on private property east of Hampton was eliminated during focused site screening, in response to property owner requests and unwillingness to sell. See Figure 5-14.

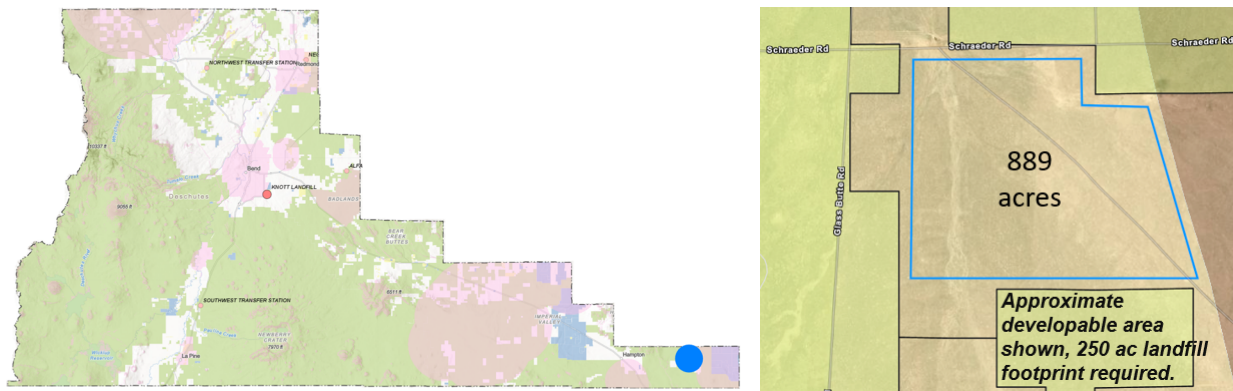


Figure 5-14. Site 222200-200 (GI East)

5.2.13 Site 222200-200 (GI West)

This potential SWMF site on private property east of Hampton was eliminated during focused site screening, in response to property owner requests and unwillingness to sell. See Figure 5-15.

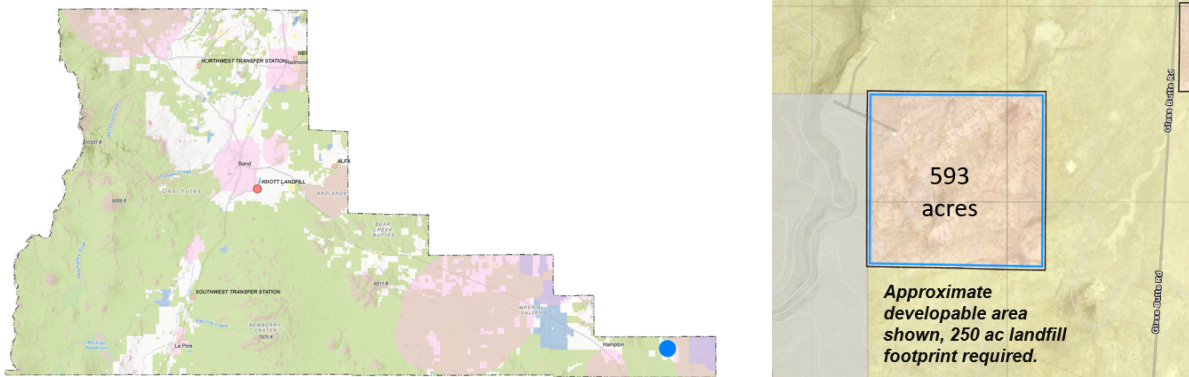


Figure 5-15. Site 222200-200 (GI West)

5.2.14 Site 161224 (Hwy 97 BLM)

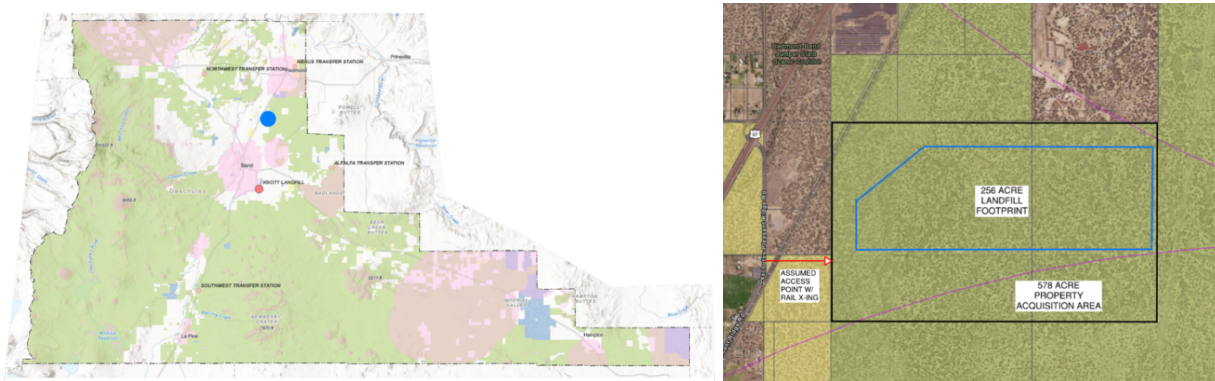


Figure 5-16. Site 161224 (Hwy 97 BLM)

Site Characteristics/Engineering

The Hwy 97 BLM candidate SWMF site is located on Bureau of Land Management land. The total site acreage is 578 acres and the area available for the disposal footprint is 256 acres (only 250 acres would be required). Average slopes on-site range from 0 to 1.0 percent. There are mapped isolated areas with moderate landslide susceptibility and data for unstable areas with poor foundations on the site is unavailable. The footprint is not within the 100-year flood plan. The site does not have any wells within its boundary, static water levels are 490-505 feet bgs. Water-bearing zones are overlain by geologic deposits typically including basalt and sand units. See Figure 5-16.

Natural Environment

The Hwy 97 BLM site has no wetlands or threatened and endangered species identified and is located 2.5 miles from antelope range. Greater sage grouse core area habitat is mapped

over 3.1 miles away from the site. There is no SBMH combining zone, the nearest is 2.8 miles from the site. According to USFWS, a golden eagle nesting site may exist 1.8 miles from the site but there are no apparent impacts from the site.

Land Use

The Hwy 97 BLM site is zoned EFU. The site is mapped as “farmland of statewide significance” which is understood to not mean high-value farmland per DCC 18.04.030. The site is adjacent to agricultural land, recreational land (Redmond Rod and Gun Club) and land used for utilities (solar farm). The nearest residence is 0.35 miles away from the site, and there are less than 5 housing units along the expected haul route. There are no existing survey and no previously recorded cultural resource sites within the parcel, however, in the general vicinity, parcels with similar topography where surveys have been conducted revealed scattered precontact sites with high density of both historic and precontact isolated finds. A similar suite and density of resources should be expected within the subject parcel.

5.2.15 Site 161300 (Powell Butte Hwy BLM)

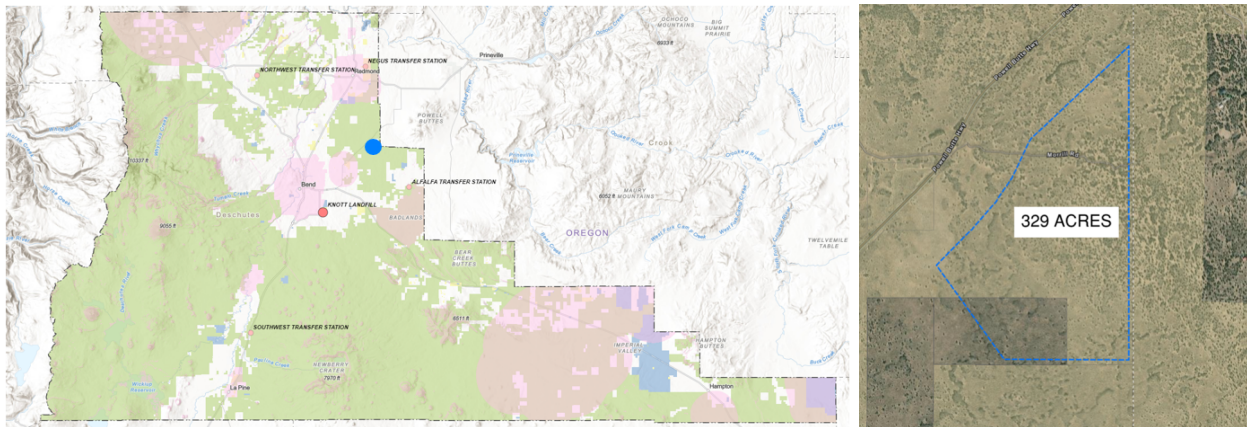


Figure 5-17. Site 161300 (Powell Butte Hwy BLM)

Site Characteristics/Engineering

The landfill site under consideration spans 329 acres and is owned by BLM) with one BLM parcel and one private parcel. The site is situated in a land tenure zone where an Act of Congress is required for any retention or acquisition within the limited timeframe. The nearest fault is located 8 miles west of the site and there are no mapped seismic impact zones or liquefaction hazards nearby. The landfill site has low landslide susceptibility and does not fall within the 100-year floodplain. Although no wells are identified within the site area, wells located around 0.4 to 0.7 miles east of the site have static water levels around 520 to 550 feet bgs. The site's hydrogeologic framework indicates some confining presence. The ground surface is predominantly rock over the majority of the site, and the average slope is 0 to 1.0 percent with a poor E/V ratio. The site configuration does not match the surrounding terrain, requiring a significant landfill height to achieve the desired capacity. See Figure 5-17.

Natural Environment

The landfill site does not have identified wetlands or threatened/endangered species. It falls within the antelope range for wildlife, but no SBMH combining zones are present within 0.5 miles of the site. There are no GSG zones within 3.1 miles of the site, and no migratory bird nests, including bald and golden eagles, are found within 2 miles of the site.

Land Use

The landfill site is owned by the BLM and is zoned Exclusive Farm Use - Alfalfa Subzone and includes the WA Combining Zone - Antelope Range. The site is located greater than 5 miles from Bend and Redmond municipal airport boundaries. It is adjacent to undeveloped land to the west, north, and south, with agricultural land (EFU, antelope range) to the west, north, and south, and rural residential residences to the east. Planned adjacent uses include Crook County EFU3 and Deschutes County Agriculture. The nearest residence is 0.41 miles east of the site and there are two major resort communities within 3 miles of the site - Juniper Reserve and Brasada Ranch. The site is visible from Powell Butte Hwy and from residences and Brasada Ranch to the east. It is within three active grazing allotments, a military training area, and Mayfield Pond Recreational Area, potentially impacting its on-site land use. While no previous surveys have been conducted within the parcel, the potential for buried archaeological sites is limited due to the site's geological composition.

5.2.16 Site 181300 (Hwy 20 BLM)

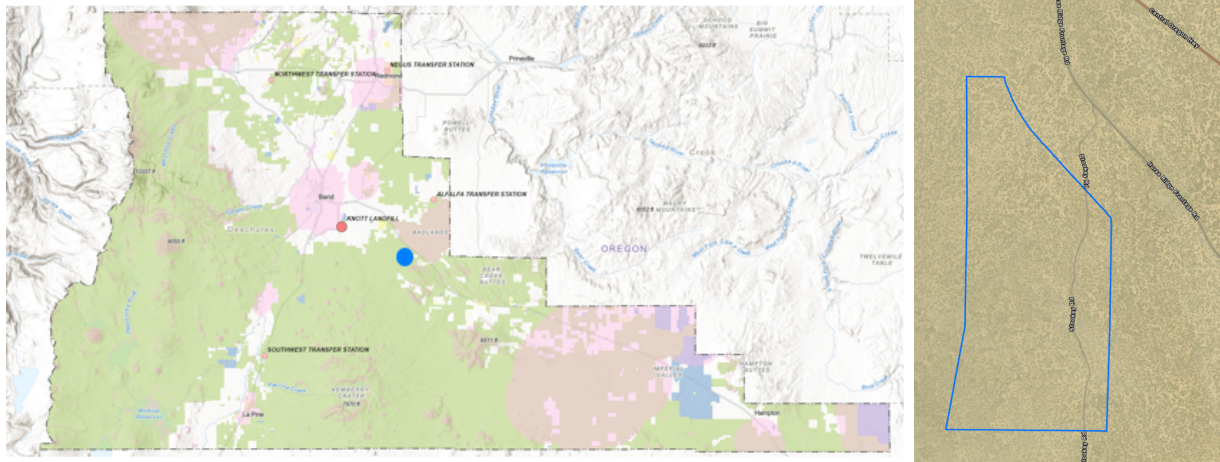


Figure 5-18. Site 181300 (Hwy 20 BLM)

Site Characteristics/Engineering

The landfill site spans an area of 451 acres and is situated on BLM-owned land designated as Land Tenure Zone 1 (retention/acquisition). An Act of Congress would be required to acquire this BLM land on an expedited timeframe. The site is divided into four separate BLM parcels. Geotechnically, the site is located 1.2 miles southeast of a fault, with moderate liquefaction hazards, low landslide susceptibility, and no indication of unstable areas or poor foundations. It is not within the 100-year flood plan and possesses favorable groundwater protection characteristics. Despite the absence of on-site wells, neighboring wells indicate a groundwater aquifer anticipated to be deeper than 500

feet. The hydrogeologic framework suggests multiple rock layers and considerable depth to water. See Figure 5-18.

Natural Environment

The landfill site has no known wetlands and ESA-listed species on-site. It is situated within the North Paulina Deer Winter Range and is approximately 1.2 miles from draft low-density GSG habitat. Expected GSG zones are projected to be finalized in spring 2024, with possible indirect impacts due to corvid attraction and noise. Additionally, SBMH combining zones are present, including big-eared bat habitat 2.1 miles away, and there is a mapped golden eagle nest located 1.9 miles from the site.

Land Use

The landfill site is greater than 5 miles away from airport runways and is zoned as EFU-Horse Ridge Subzone, with a wildlife combining zone for the North Paulina Deer Winter Range and a Sage-Grouse Habitat Area designation. Adjacent land use includes recreation areas, such as Oregon Badlands Wilderness, Horse Ridge Natural Area, and undeveloped spaces. The site is visible from Highway 20, less than a mile distant, but maintains a sense of remoteness with the closest residence being over a mile away from the disposal footprint. The site is likely to have minimal haul route impacts, with fewer than five housing units along the expected route. The on-site land use impact is related to grazing allotment and Horse Ridge Recreational Area. While no known cultural resources exist on the parcel, three surveys within a mile indicate the potential for precontact lithic scatters and rock art in the vicinity.

5.3 Criteria Scoring Results

Each candidate SWMF site was evaluated against each of the screening criteria, as outlined and described in the Siting Criteria Technical Memorandum. Figure 5-19 shows the resultant score of each evaluated site in the focused screening process.

The Hwy 97 BLM site was dropped from consideration due to proximity to the Redmond airport. Based on the screening results, the Moon Pit site along with the Roth East site were approved by the SWAC for Final Site Evaluation. The Final Site Evaluation involved deeper technical analysis including geotechnical and cultural investigation, comparison of potential development and operational costs, analysis of proximity to residences and confirmation of site acquisition potential.

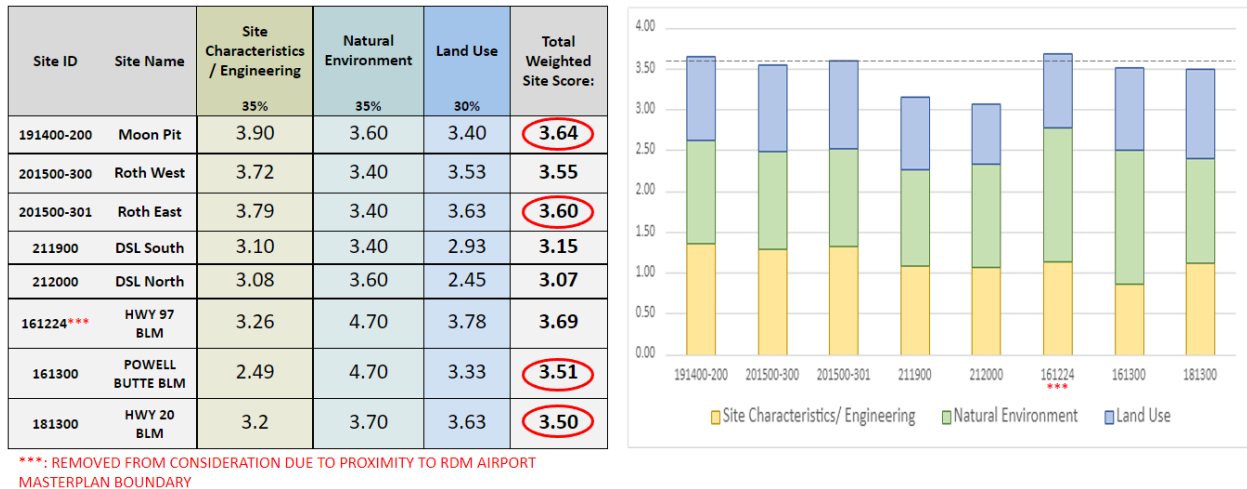


Figure 5-19. Focused site screening scores.

Table 5-1 compares candidate site scoring in terms of Site Characteristics & Engineering criteria. The Moon Pit site (191400-200) scored the highest in terms of the Site Characteristics/Engineering criteria.

5.3.1 Site Characteristics/Engineering

Table 5-1. Site Characteristics/Engineering Criteria Scoring Comparison

	SITE ID:	191400-200	201500-300	201500-301	211900	212000	161244***	161300	181300
	NAME:	MOON PIT	ROTH WEST	ROTH EAST	DSL SOUTH	DSL NORTH	HWY 97 BLM	POWELL BUTTE BLM	HWY 20 BLM
Site Characteristics/Engineering	35%	3.90	3.72	3.79	3.10	3.08	3.26	2.49	3.20
Site Availability/Acquisition Potential	35%	3.40	4.20	4.20	3.40	3.40	3.80	1.80	3.00
<i>Ownership</i>	40%	3	3	3	1	1	2	1	1
<i>Number of Parcels</i>	20%	5	5	5	5	5	5	3	5
<i>Total Site Acreage</i>	40%	3	5	5	5	5	5	2	4
Geotechnical Location Factors	10%	2.60	2.60	2.60	3.60	3.60	3.70	4.20	3.10
<i>Fault Hazards</i>	25%	3	3	3	5	5	5	5	3
<i>Seismic Impact Zones/Hazards</i>	30%	3	3	3	3	3	5	5	3
<i>Unstable Areas – Mass Movement</i>	25%	3	3	3	5	5	3	5	5
<i>Unstable Areas – Poor Foundation</i>	20%	1	1	1	1	1	1	1	1
Floodplains	5%	3.00	3.00	3.00	5.00	5.00	5.00	5.00	5.00
Groundwater Protection/Hydrogeology	20%	5.00	3.90	3.90	3.40	2.20	2.70	3.20	5.00
<i>Depth to Groundwater</i>	25%	5	3	3	1	1	3	5	5
<i>Proximity to Drinking Water Wells</i>	30%	5	3	3	5	1	1	1	5
<i>Proximity to Wellhead Protection Areas</i>	15%	5	5	5	5	5	5	5	5
<i>Site Hydrogeologic Framework</i>	30%	5	5	5	3	3	3	3	5
Development	15%	5.00	5.00	5.00	2.65	4.15	1.25	1.00	1.25
<i>Soils</i>	45%	5	5	5	3	5	1	1	1
<i>Topography</i>	30%	5	5	5	1	3	1	1	1
<i>Capacity/Site Configuration</i>	25%	5	5	5	4	4	2	1	2
Operation	15%	3.65	2.05	2.55	1.45	1.45	3.85	2.65	2.65
<i>Haul Distance to Waste Centroid</i>	60%	3	2	2	1	1	5	3	3
<i>Annual Precipitation</i>	15%	4	4	4	4	4	4	4	4
<i>On-site Water Supply and Management</i>	25%	5	1	3	1	1	1	1	1

*** - Removed from consideration due to proximity to the Redmond Airport Masterplan boundary

5.3.2 Natural Environment

Table 5-2 compares candidate sites in terms of Natural Environment criteria. The Hwy 97 BLM Site (161224) scored the highest in terms of the Natural Environment criteria.

Table 5-2. Natural Environment Criteria Scoring Comparison

	SITE ID:	191400-200	201500-300	201500-301	211900	212000	161224***	161300	181300
	NAME:	MOON PIT	ROTH WEST	ROTH EAST	DSL SOUTH	DSL NORTH	HWY 97 BLM	POWELL BUTTE BLM	HWY 20 BLM
Natural Environment	35%	3.60	3.40	3.40	3.40	3.60	4.70	4.70	3.70
Wetlands and Waters Impacts	10%	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Threatened and Endangered Species	20%	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Wildlife Area Combining Zone	10%	1.00	1.00	1.00	1.00	1.00	4.00	2.00	2.00
Greater Sage-Grouse Area Combining Zone	40%	1.00	1.00	1.00	1.00	2.00	5.00	5.00	3.00
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	5.00	5.00	5.00	4.00	4.00	5.00	4.00
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	5	5	5	5	4	5	4
Migratory Birds, Including Bald and Golden Eagles	50%	3	5	5	5	3	4	5	4

*** - Removed from consideration due to proximity to the Redmond Airport Masterplan boundary

5.3.3 Land Use

Table 5-3 below compares candidate sites in terms of the Land Use criteria. The Roth East site (201500-301) scored the highest in terms of the Land Use criteria.

Table 5-3. Land Use Criteria Scoring Comparison

	SITE ID:	191400-200	201500-300	201500-301	211900	212000	161224***	161300	181300
	NAME:	MOON PIT	ROTH WEST	ROTH EAST	DSL SOUTH	DSL NORTH	HWY 97 BLM	POWELL BUTTE BLM	HWY 20 BLM
Land Use	30%	3.40	3.53	3.63	2.93	2.45	3.03	3.33	3.63
Proximity to Airports	15%	5.00	5.00	5.00	5.00	5.00	0.00	5.00	5.00
Site Zoning	20%	3.00	5.00	5.00	1.00	1.00	5.00	5	5.00
Adjacent Land Use Impacts	20%	3.00	3.50	3.50	4.00	2.50	4.50	2.50	3.00
Existing Adjacent Use	25%	1	1	1	1	1	5	1	1
Planned Adjacent Use	25%	1	5	5	5	5	5	5	5
Distance to Nearest Residence	25%	5	3	3	5	3	3	3	5
Distance to Nearest Public Road	25%	5	5	5	5	1	5	1	1
Site Visibility/Aesthetic Impact	10%	3.00	1.00	2.00	3.00	2.00	1.00	1.00	3.00
Visibility Based on Topography/Vegetation	50%	3	1	1	1	1	1	1	1
Remoteness	50%	3	1	3	5	3	1	1	5
Transportation System Needs/Opportunity	5%	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Haul Route Impacts	5%	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
On-Site Land Use Impacts	25%	3.40	2.70	2.70	2.30	2.00	2.90	2.70	2.70
Displacement	40%	4	3	3	2	2	5	3.00	3.00
Known Cultural Resources	30%	1	2	2	2	1	2	2	2
Potential for Buried Archaeological Sites	30%	5	3	3	3	3	1	3	3

*** - Removed from consideration due to proximity to the Redmond Airport Masterplan boundary

Weighted scores from each of the three categories - Site Characteristics/Engineering, Natural Environment, Land Use - were then weighted at 35%, 35%, and 30% (respectively) and summed up for a total weighted site score. See Table 5-4 and Figure 5-20 below for a comparison between candidate sites in terms of criteria scoring and total weighted scores.

Table 5-4. Focused Site Scoring Summary

Site ID	Site Name	Site Characteristics/ Engineering	Natural Environment	Land Use	Total Weighted Site Score:
		35%	35%	30%	
191400-200	Moon Pit	3.90	3.60	3.40	3.64
201500-300	Roth West	3.72	3.40	3.53	3.55
201500-301	Roth East	3.79	3.40	3.63	3.60
211900	DSL South	3.10	3.40	2.93	3.15
212000	DSL North	3.08	3.60	2.45	3.07
161224***	HWY 97 BLM	3.26	4.70	3.78	3.69
161300	POWELL BUTTE BLM	2.49	4.70	3.33	3.51
181300	HWY 20 BLM	3.2	3.70	3.63	3.50



Figure 5-20. Focused Site Scoring Comparison

5.4 Comparative Cost Factor Analysis

Five major cost factors were identified, which influence the cost to develop and operate a SWMF. These cost factors include excavation, waste hauling, road infrastructure, power infrastructure, and water infrastructure. Each site was given a score of 1 to 5 with respect to each cost factor, where 1 represents the highest cost and 5 represents the lowest cost. As a result, the sites with higher weighted total scores are anticipated to be relatively less expensive to develop and operate, while the sites with lower weighted total scores are anticipated to be relatively more expensive to develop and operate. See Table 5-5 and Figure 5-21 for a comparison of each site with respect to SWMF cost factors.

5.4.1 Excavation Cost Notes

- **Moon Pit:** existing gravel surface mine. Landfill excavation needs could be partially or fully met by past and future surface mining operations.
- **Roth West:** flat site, relatively easily excavated soils including clay, conglomerate, sandstone.
- **Roth East:** gently sloped site with potential for beneficial topography and diggable soils including topsoil, sandstone, gravel, clay.
- **DSL South:** flat site with sand, gravel, sandstone, and some Grey lava (hard) 4'-78' BGS per nearby well log CROO_2934.
- **DSL North:** flat site with mostly sand, gravel, sandstone, and some mild lava rock layers within 100' BGS per nearby well logs.
- **HWY 97 BLM:** gently sloped site with shallow sandy loam over bedrock (18-28 inches deep), high E/V ratio (unfavorable), deep rock excavation needed to minimize mounding view impacts. Excavation expected to be very difficult and expensive, unless excavated rock is able to be mined and that the County will receive a royalty for the rock that is similar to its existing operations at Knott Landfill.
- **Powell Butte Hwy BLM:** Flat site with rock at surface and within estimated 100' working depth (per well logs). High E/V ratio (unfavorable). Excavation is expected to be very difficult and expensive.
- **Hwy 20 BLM:** Rock at surface and within estimated 100' working depth (per well logs). Excavation is expected to be very difficult and expensive.

5.4.2 Haul Cost Notes

- **Moon Pit:** Relatively short overall distance of focused sites. 20.6 "weighted" miles from various transfer stations.
- **Roth West:** Slightly longer travel distance than focused sites to the west. 28.6 "weighted" miles from various transfer stations.
- **Roth East:** Slightly longer travel distance than focused sites to the west. 28.6 "weighted" miles from various transfer stations.
- **DSL South:** Longer travel distance due to eastern location within the county. 55.5 "weighted" miles from various transfer stations.
- **DSL North:** Longest travel distance due to eastern location within the county. 55.8 "weighted" miles from various transfer stations.
- **HWY 97 BLM:** Shortest overall distance of focused sites. 14.3 "weighted" miles from various transfer stations.
- **Powell Butte Hwy BLM:** Shorter distance due to central-east location within the county. 17.5 "weighted" miles from various transfer stations
- **Hwy 20 BLM:** Shorter distance due to central-southeast location within the county and direct route from waste centroid to site via Highway 20. 15.6 "weighted" miles from various transfer stations.

5.4.3 Road Infrastructure Cost Notes

- **Moon Pit:** existing paved access road from Highway 20 to site.
- **Roth West:** 0.25 miles from Ford Rd. 0.25 miles from County Rd 2017/ Pine Mt Rd. (gravel).
- **Roth East:** 0.61 miles from Newt Morris Rd, 1 mile from Ford Rd (both gravel).
- **DSL South:** 0.33 miles to Hwy 20 (oriented NE), 0.38 miles to Hwy (oriented due North).
- **DSL North:** 0.1 miles to Hwy 20, 0.11 miles to Harmon Rd.
- **HWY 97 BLM:** 0.34 miles to Deschutes Pleasant Ridge Rd, 1 rail road crossing at-grade.
- **Powell Butte Hwy BLM:** 0.07 miles to Powell Butte Hwy.
- **Hwy 20 BLM:** 0.3 miles to Hwy 20, Horse Ridge Frontage Rd (paved) run through NE corner of site.

5.4.4 Power Infrastructure Cost Notes

- **Moon Pit:** No power infrastructure in general vicinity of the site.
- **Roth West:** Power lines along Hwy 20 approx. 0.55 miles away, and along Newt Morris Road approx. 1.5 miles away.
- **Roth East:** Power lines along Hwy 20 approx. 1.3 miles away, and along Newt Morris Rd approx. .77 miles away.
- **DSL South:** Power lines along Hwy 20 approx. 0.3 miles away.
- **DSL North:** Power lines along Hwy 20 approx. 0.13 miles away.
- **HWY 97 BLM:** Transmission lines along Burlington Rail line approx. 0.19 miles away, Power line along Deschutes Pleasant Ridge Rd 0.35 miles away. Transmission line south of site approx. 0.01 miles away.
- **Powell Butte Hwy BLM:** Power line approximately 0.30 miles to the N/NE.
- **Hwy 20 BLM:** No power infrastructure in general vicinity of the site.

5.4.5 Water Infrastructure Cost Notes

- **Moon Pit:** water right in property; permit G12860 – well, 1.09 cfs total, 0.27 cfs dust control and 0.82 cfs gravel washing) year-round.
- **Roth West:** No water right in property boundary. No water rights adjacent to property.
- **Roth East:** No water right in property boundary. No water rights adjacent to property.
- **DSL South:** No water right in prop. boundary. Certs 53800 (well, 1.61 cfs, 128.5 ac irrigation) 53804 (well, 1.65 cfs, 131.6 acres) and G53805 (well, 1.65 cfs, 132.0 ac irrigation) adjacent to north property boundary.
- **DSL North:** No water right in property boundary. No water rights adjacent to property.
- **HWY 97 BLM:** No water right in property boundary. No water rights adjacent to property.
- **Powell Butte Hwy BLM:** No water right in property boundary. No water rights adjacent to property.
- **Hwy 20 BLM:** No water right in property boundary. No water rights adjacent to property.

Table 5-5. Comparative Cost Factor Summary

Cost Factor Weighting		30%	25%	15%	15%	15%	
Site ID	Site Name	Excavation Costs	Haul Costs	Road Infrastructure Costs	Power Infrastructure Costs	Water Infrastructure Costs	Weighted Average
191400-200	Moon Pit	5	5	5	1	5	4.4
201500-300	Roth West	3	3	3	3	1	2.7
201500-301	Roth East	4	3	3	3	1	3
211900	DSL South	1	1	2	4	1	1.6
212000	DSL North	2	1	4	5	1	2.35
161224	Hwy 97 BLM	1	5	3	5	1	2.9
161300	Powell Butte BLM	1	4	4	3	1	2.5
181300	HWY 20 BLM	1	5	3	1	1	2.3

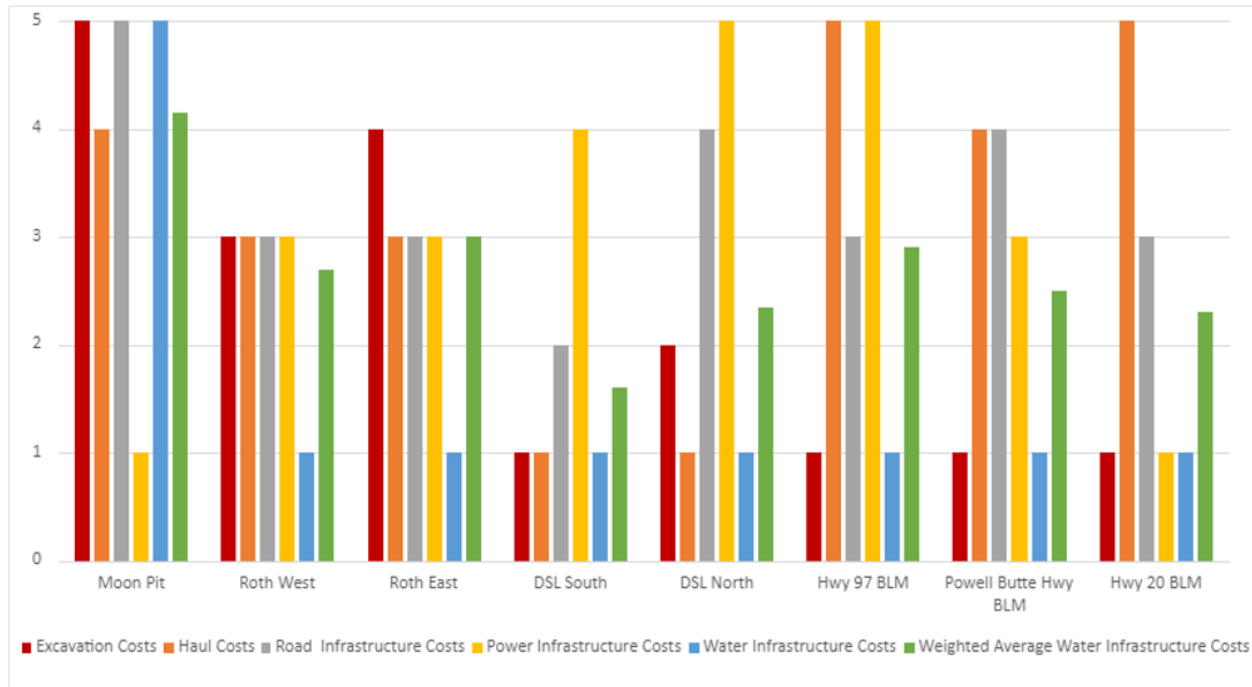


Figure 5-21. Cost Factor Comparison Chart

Based on this cost factor analysis, it is estimated that SWMF development and operational costs could likely be the lowest for the Moon Pit site and highest for the DSL sites based on the presence of existing water infrastructure, proximity to power infrastructure, topography and the haul distances. The SWMF development and operational costs related to the BLM sites and the Roth sites are expected to fall between these two extremes, being more expensive than the Moon Pit site and less expensive than the DSL sites.

5.5 Residential Proximity Analysis

It is well understood that a new SWMF could negatively impact nearby residences. Unsurprisingly, residents and property owners near candidate sites have expressed opposition to the prospect of a new SWMF site near their homes. Concerns of nearby residents are generally that a new SWMF facility could have several adverse impacts within the vicinity, including haul truck traffic, noise, dust, air pollution, odors, litter, invasive species, groundwater contamination, scenic impacts, decreased property values, and more. These potential adverse impacts would generally be more severe for residences in closer proximity to the SWMF and have less or no impact on residences further away.

To better analyze the proximity of residences to each candidate SWMF site, 1-mile (red) and 2-mile (orange) buffers were mapped from the proposed disposal area footprints. Known residences that are listed per County records (in Dial Improvement Summaries) were also mapped to visualize the relationship between existing residences and proposed SWMF sites. See Figure 5-22 through Figure 5-27 below for a summary of residential proximity information.

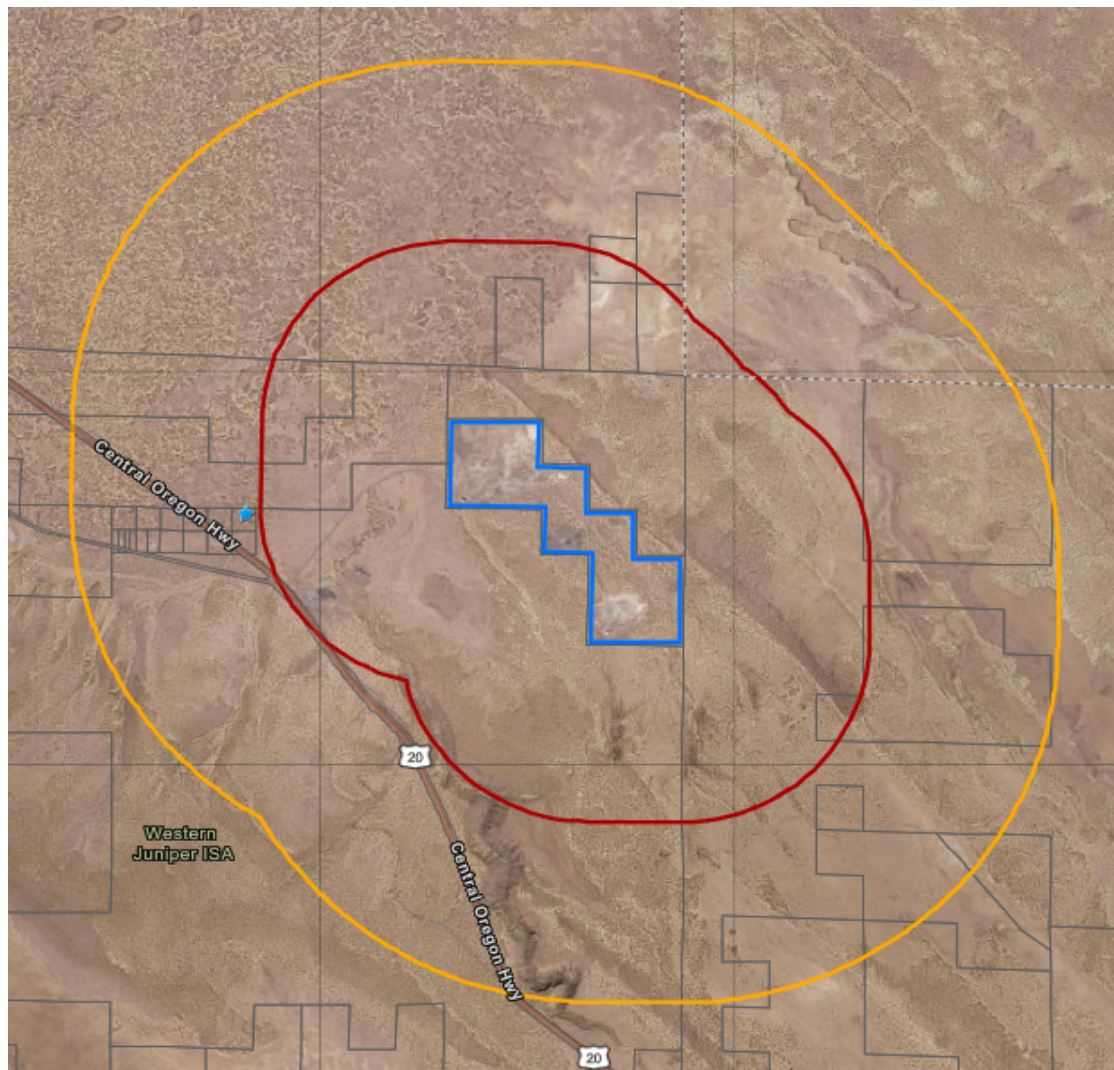


Figure 5-22. Residential Proximity Map – Moon Pit

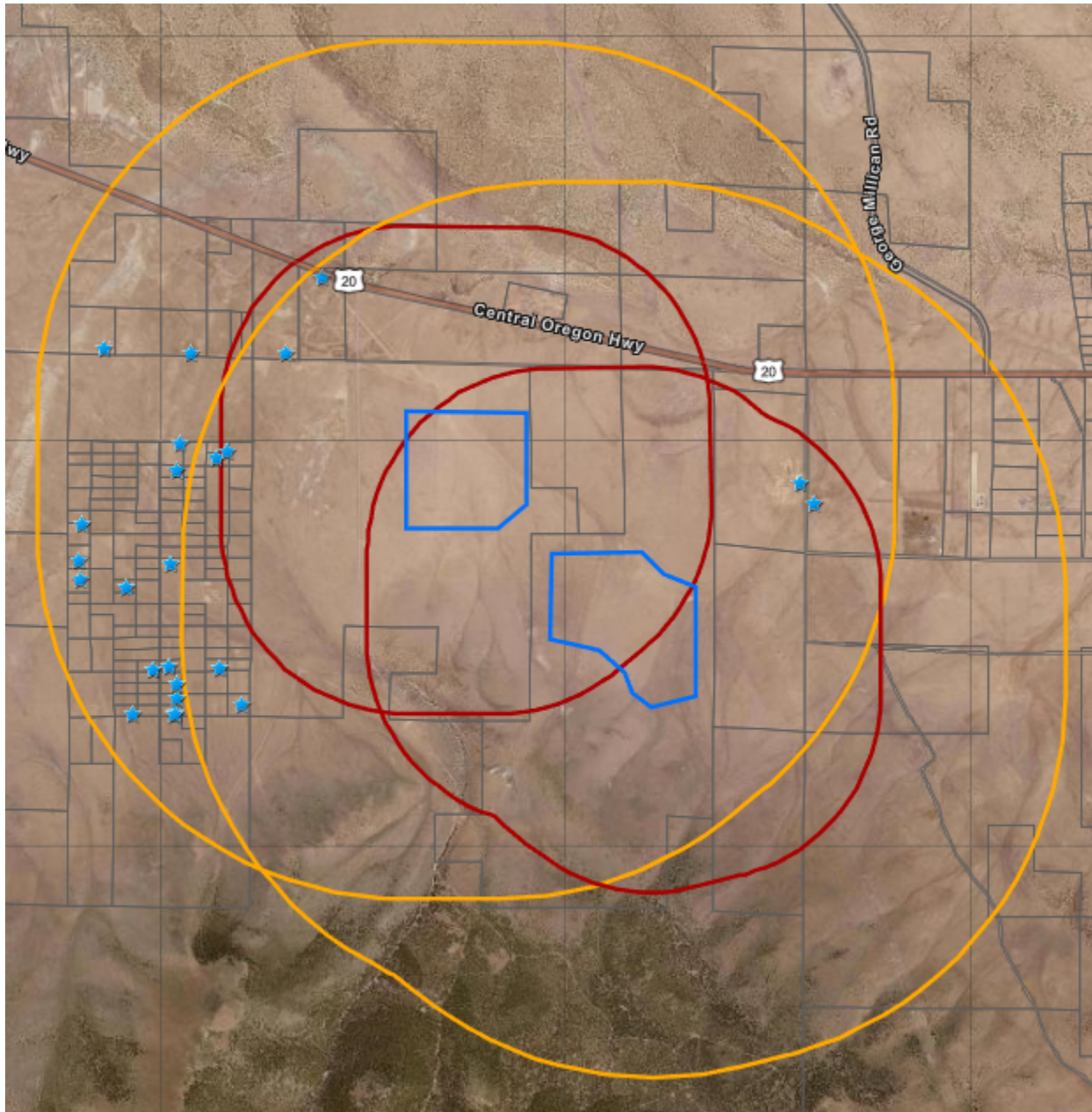


Figure 5-23. Residential Proximity Map - Roth Sites

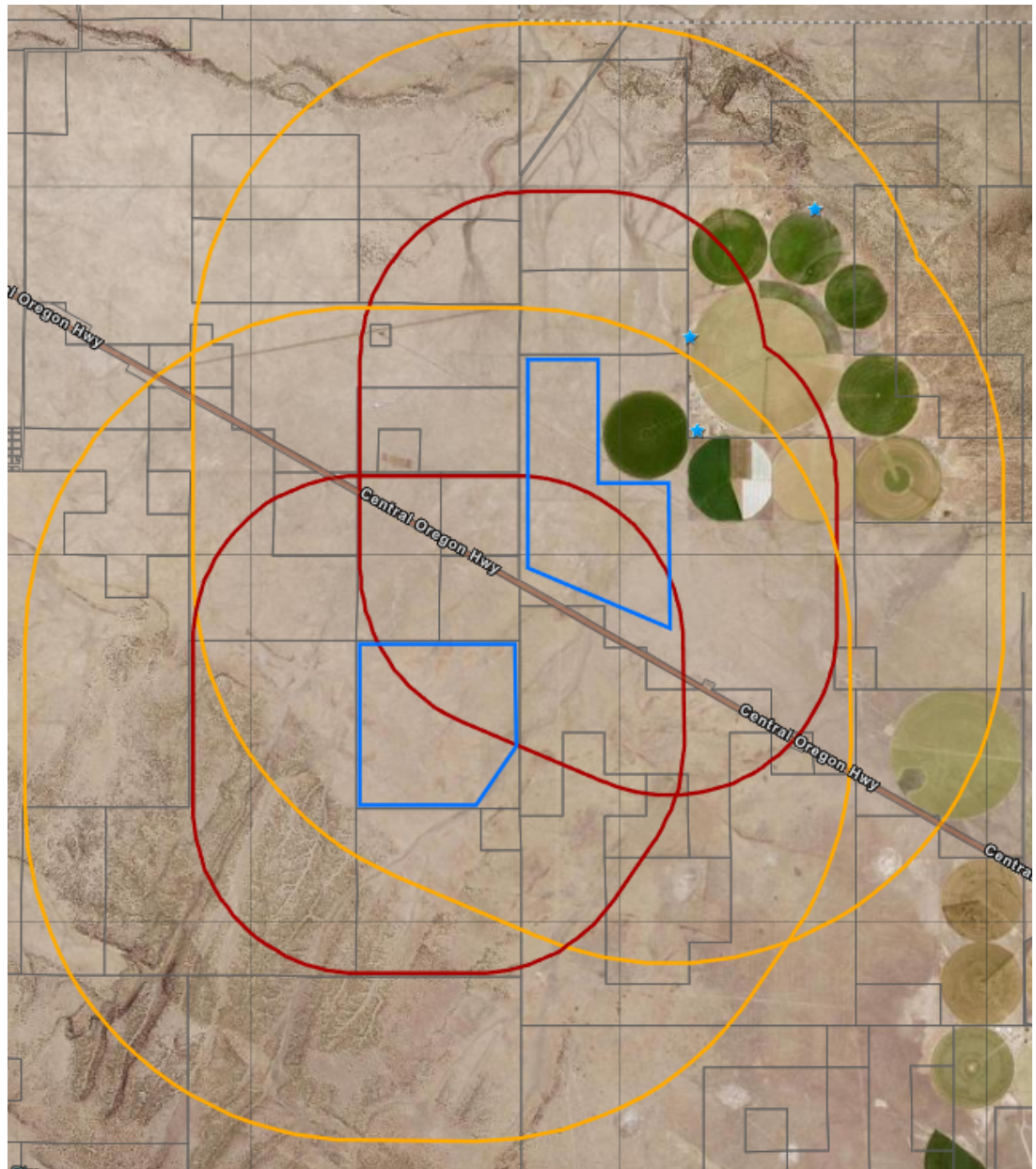


Figure 5-24. Residential Proximity Map - DSL Sites

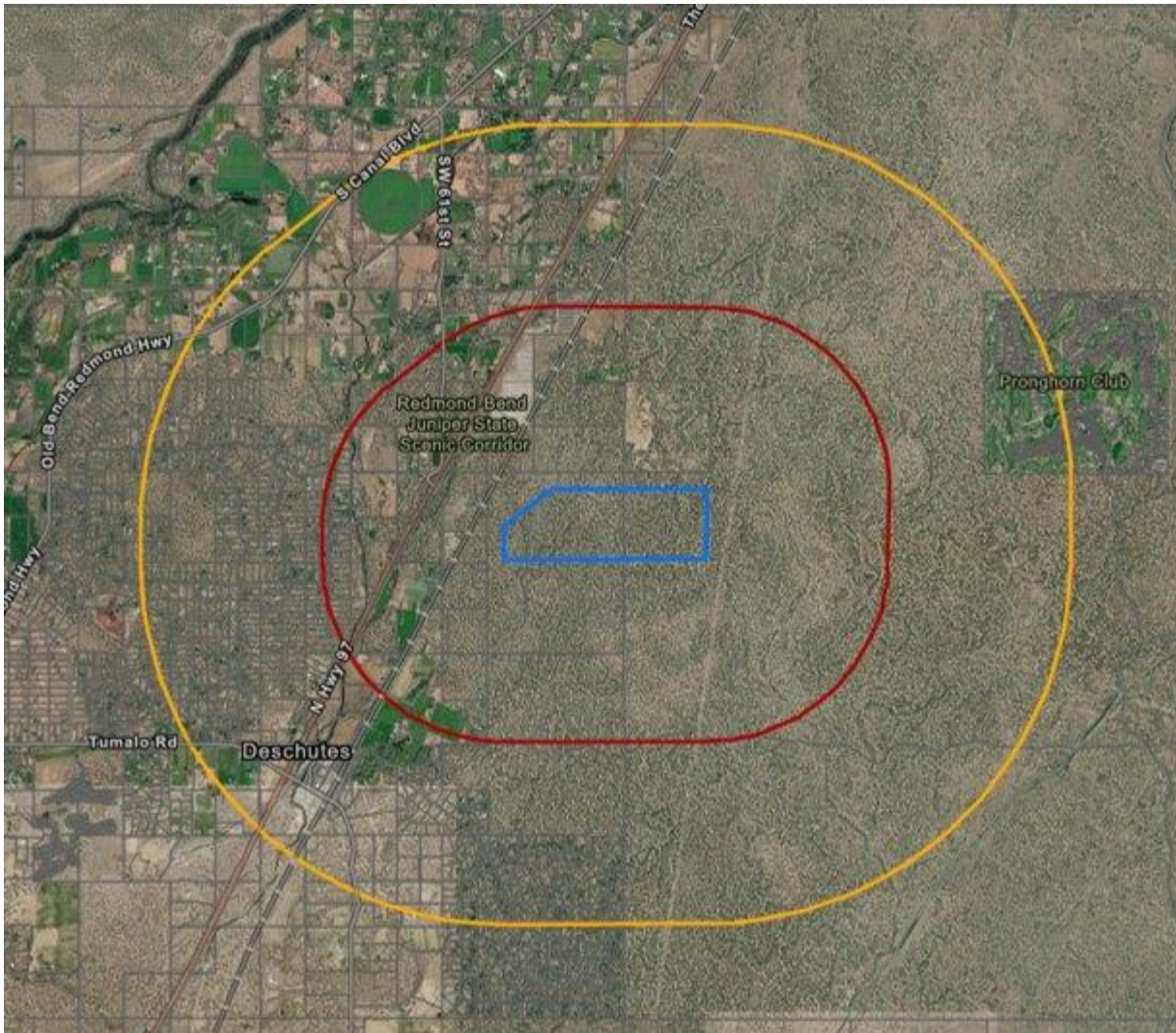


Figure 5-25. Residential Proximity Map – HWY 97 BLM Site
(Removed from consideration due to proximity to RD Airport masterplan boundary.)

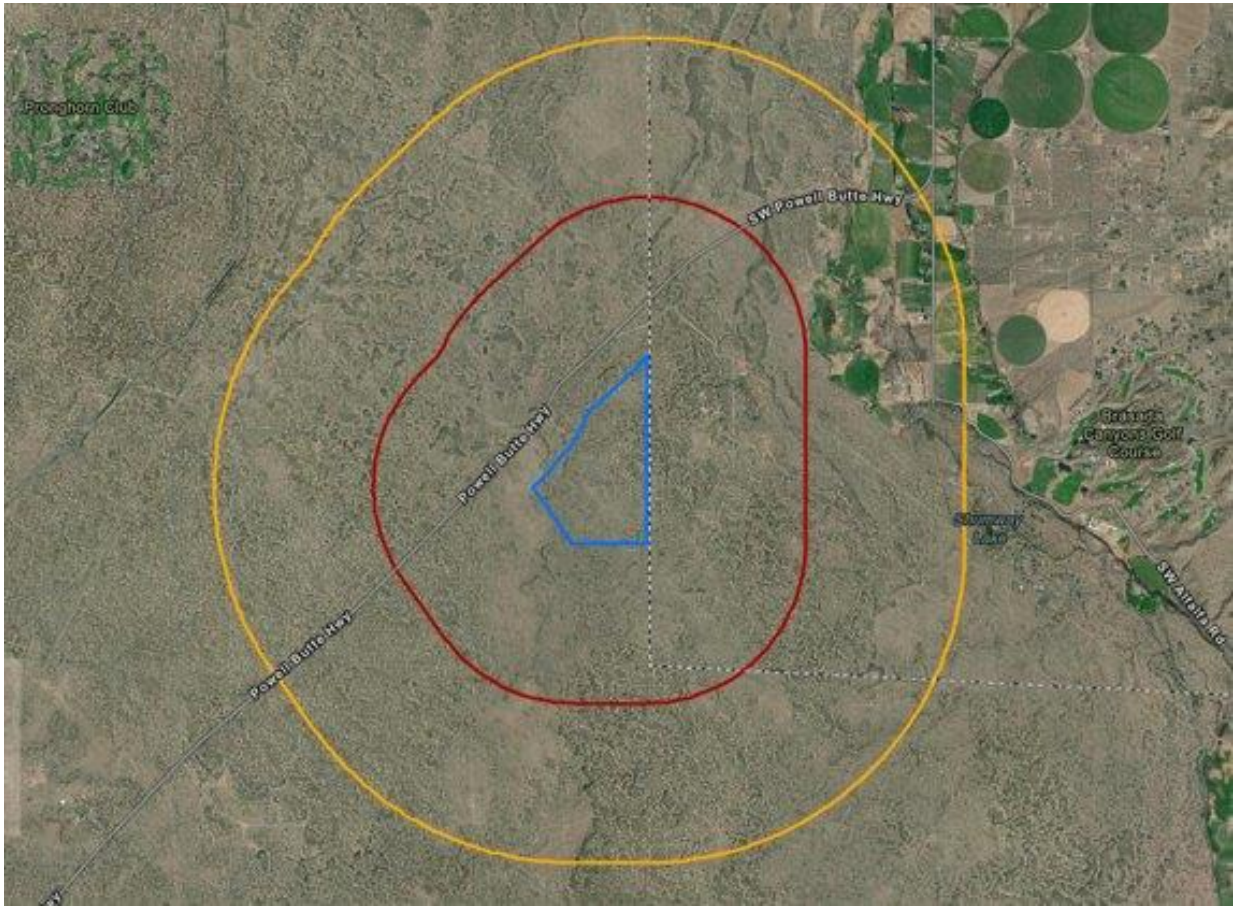


Figure 5-26. Residential Proximity Map – Powell Butte BLM Site

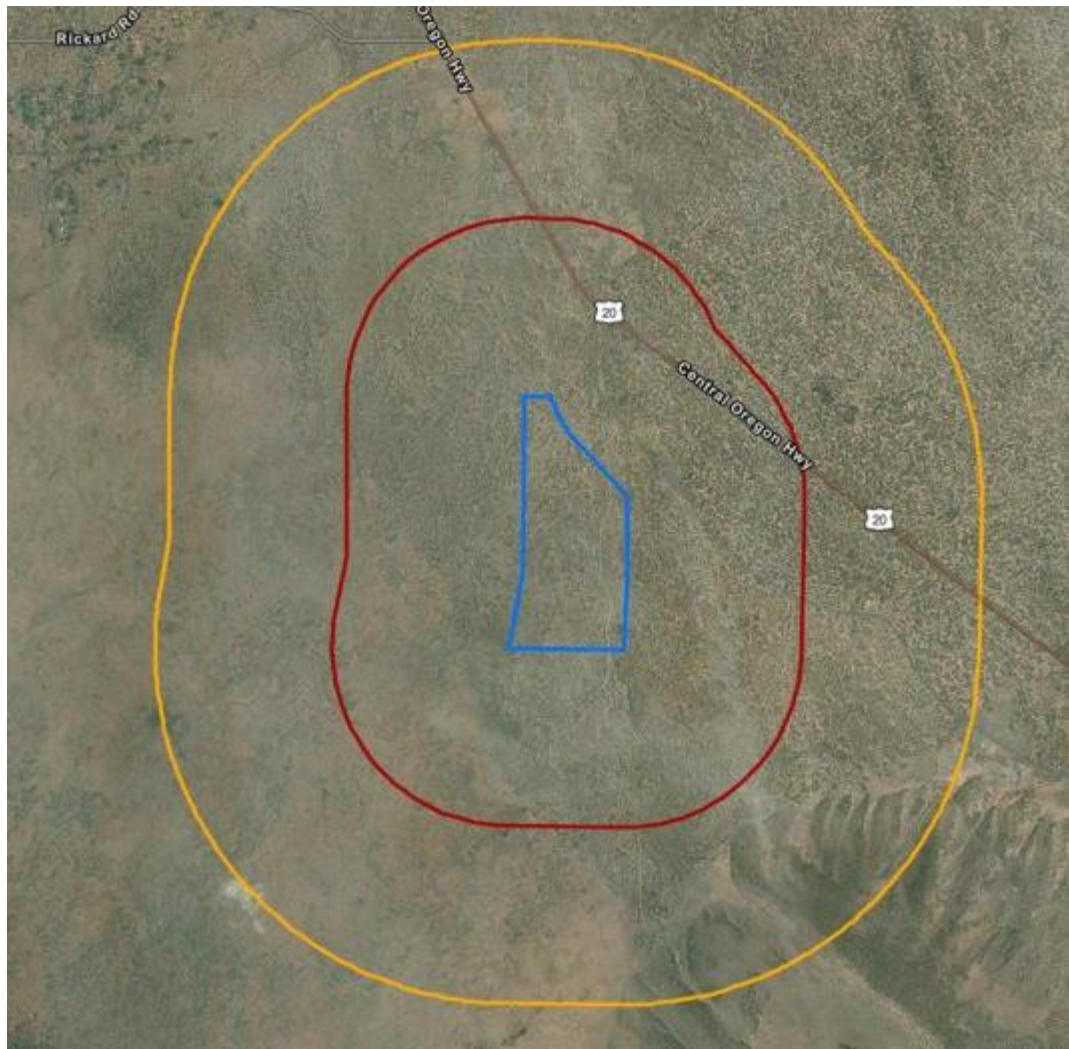


Figure 5-27. Residential Proximity Map – HWY 20 BLM Site

Table 5-6. Residential Proximity Comparison

Site ID	Site Name	Known Residences within 1 Mile	Known Residences within 2 Miles
191400-200	Moon Pit	0	1
201500-300	Roth West	3	26
201500-301	Roth East	2	8
211900	DSL South	0	1
212000	DSL North	2	3
161224***	Hwy 97 BLM	50+	300+
161300	Powell Butte BLM	10	40
181300	HWY 20 BLM	0	18

*** - Removed from consideration due to proximity to the Redmond Airport Masterplan boundary

5.6 Focused Screening Conclusions

The focused screening process initially identified the Hwy 97 BLM site as the most promising location for a SWMF based on its high scores in site characteristics/engineering, natural environment, land use, and moderate infrastructure costs. Its central location in the County and proximity to Highway 97 would reduce hauling costs and potential wildlife habitat impacts. However, upon closer inspection, it was discovered that this site falls within 5 miles of the Redmond Airport master plan boundary, a significant violation of the FAA's 5-mile buffer recommendation for landfill siting. This discovery deemed the Hwy 97 BLM site unsuitable due to its proximity to the airport, ultimately eliminating it from further consideration as a potential SWMF location. Consequently, the evaluation shifted focus to the next two most favorable sites: the Moon Pit and Roth East sites.

The Moon Pit site emerged as a strong finalist candidate for the SWMF based on various critical factors. Its assessment, reflected in the Focused Site Scoring Summary, demonstrates favorable scores across Site Characteristics/Engineering, Natural Environment, and Land Use, earning a total weighted site score of 3.64. Additionally, the Comparative Cost Factor Summary indicates promising prospects for lower SWMF development and operational costs at the Moon Pit site compared to other candidates. With zero known residences within a 1-mile radius and only one within a 2-mile radius, the site offers a considerable distance from residential areas, potentially minimizing adverse impacts on nearby communities. This, coupled with existing water infrastructure and paved access road, contributes to its viability and lower estimated operational expenses, making the Moon Pit site a robust contender for further consideration as a potential SWMF location.

The Roth East site also stands out as another strong contender for the SWMF based on its balanced scores in Site Characteristics/Engineering, Natural Environment, and Land Use, earning a total weighted site score of 3.60. The Comparative Cost Factor Summary indicates moderate SWMF development and operational costs estimated for this site. Its residential proximity analysis reveals a relatively limited impact, with only two known residences within a 1-mile radius and eight residences within a 2-mile radius, suggesting potentially manageable effects on neighboring communities. The combined attributes of favorable site characteristics, moderate cost estimates, and manageable residential proximity render Roth East a compelling choice as a finalist for the SWMF.

In the April 18, 2023 SWAC meeting, a motion was approved to proceed with the Roth East and Moon Pit sites in the Final SWMF Site Evaluations. These two sites, while different in their strengths and weaknesses, emerged as the best alternatives based on their respective evaluations. The next phase entails an in-depth investigation and comprehensive due diligence to further assess these sites' suitability before making the final selection for the SWMF location. The exclusion of the Hwy 97 BLM site underscores the importance of adhering to regulatory guidelines and highlights the significance of conducting thorough evaluations in landfill siting processes to ensure the regulatory compliance and suitability of chosen locations.

6. Conclusion

The purpose of the siting process was to conduct a thorough and objective exploration of Deschutes County in search of viable landfill sites, systematically filtering through numerous options to identify the top two most feasible locations. The approach involved a meticulous evaluation of various criteria across Site Characteristics/Engineering, Natural Environment, and Land Use considerations. Initial assessments involved assigning scores to numerous candidate sites, while meticulously weighing factors like site availability, ownership, geotechnical conditions, environmental impact, land use implications, infrastructure costs, and residential proximity.

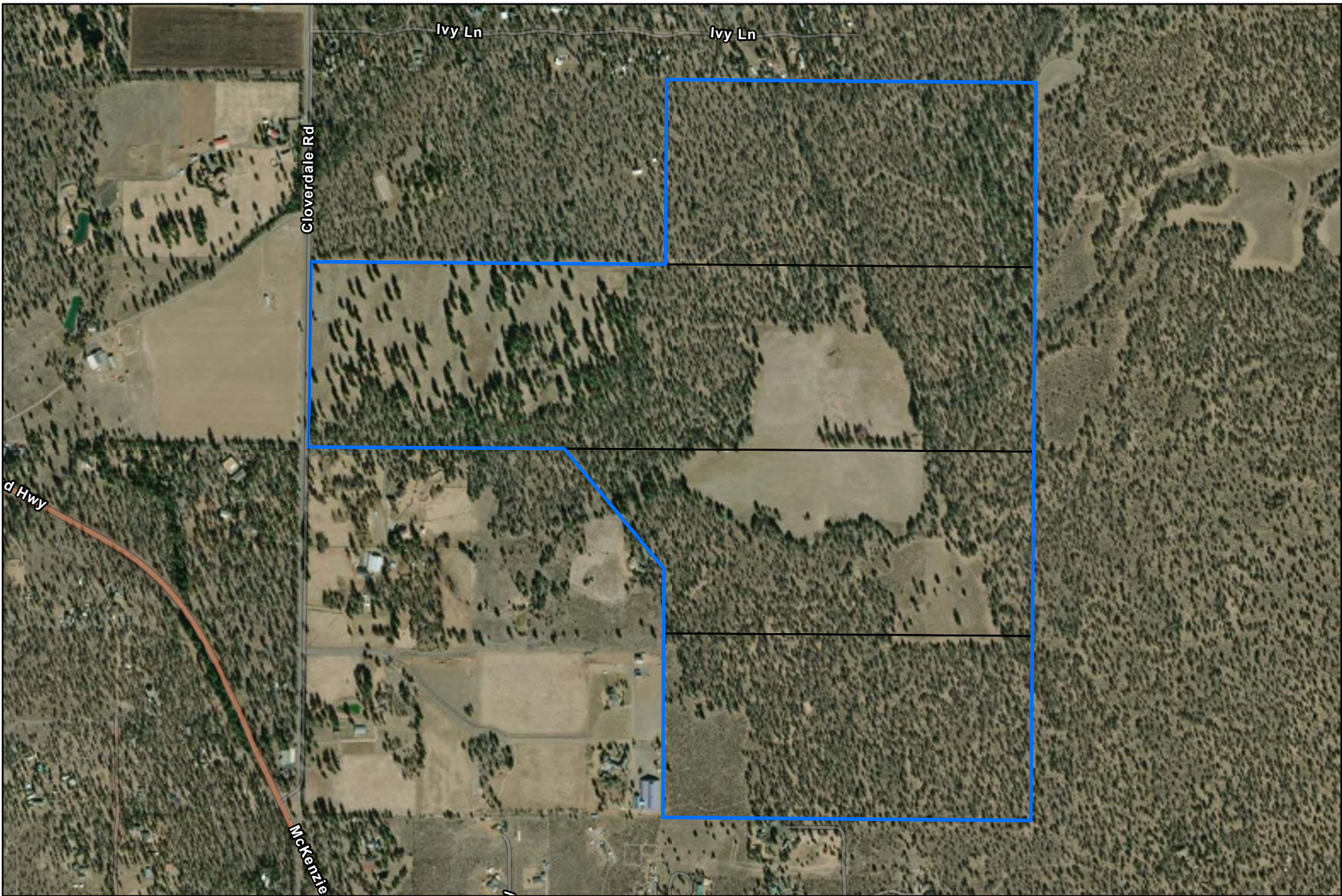
Through evaluation against criteria designed by technical experts, the analysis progressively narrowed down the list of potential sites, aiming to identify the most suitable options for acquiring, permitting, developing, and operating as the new landfill facility for the County. Initially, 31 sites were identified and through the broad screening and focused screening process, the 3 most suitable sites were identified: the Hwy 97 BLM, Moon Pit, and Roth East sites. However, upon closer examination, the Hwy 97 BLM site was eliminated due to regulatory constraints related to its proximity to the Redmond Airport master plan boundary.

The screening process resulted in the identification of Moon Pit and Roth East sites as the most promising sites for a new solid waste management facility. The Moon Pit site exhibited strong characteristics, such as low residential proximity, existing water infrastructure, and a paved access road, making it a compelling choice for the new landfill. Similarly, the Roth East site displayed balanced scores across land use, site characteristics and natural environment factors, positioning it as a feasible option for further consideration.

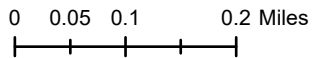
Through the outlined approach, aimed at objectively screening the entirety of Deschutes County for potential landfill sites, the effort has successfully narrowed down the potential sites to the top two most feasible options. The next phase involves a detailed evaluation and thorough due diligence of the Moon Pit and Roth East sites to ensure their suitability before finalizing the selection for the County's new landfill location.

Appendix A

Broad Site Maps

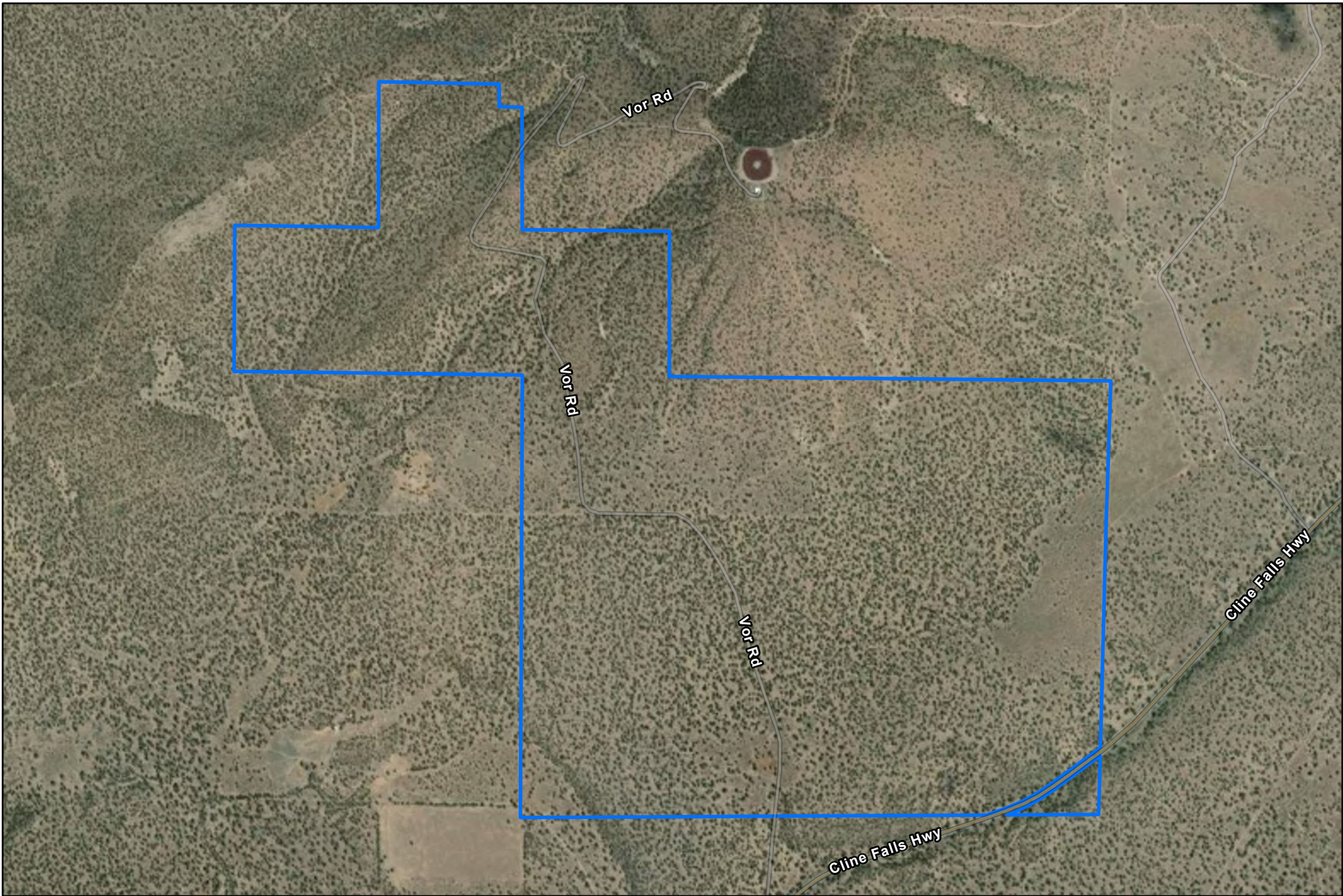


Site ID: 151100

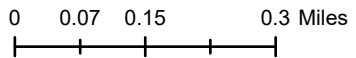


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
151100	Cloverdale	408	1511000004002	80.97	DESERT SPRINGS RANCH LIMITED PARTNERSHIP
			1511300000300	80.58	DESERT SPRINGS RANCH LIMITED PARTNERSHIP
			1511000004001	159.03	DESERT SPRINGS RANCH LIMITED PARTNERSHIP
			1511300000100	87.85	DESERT SPRINGS RANCH LIMITED PARTNERSHIP



Site ID: 151200



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
151200	Cline Butte	650	1512000007700	649.47	CENTRAL LAND & CATTLE COMPANY LLC

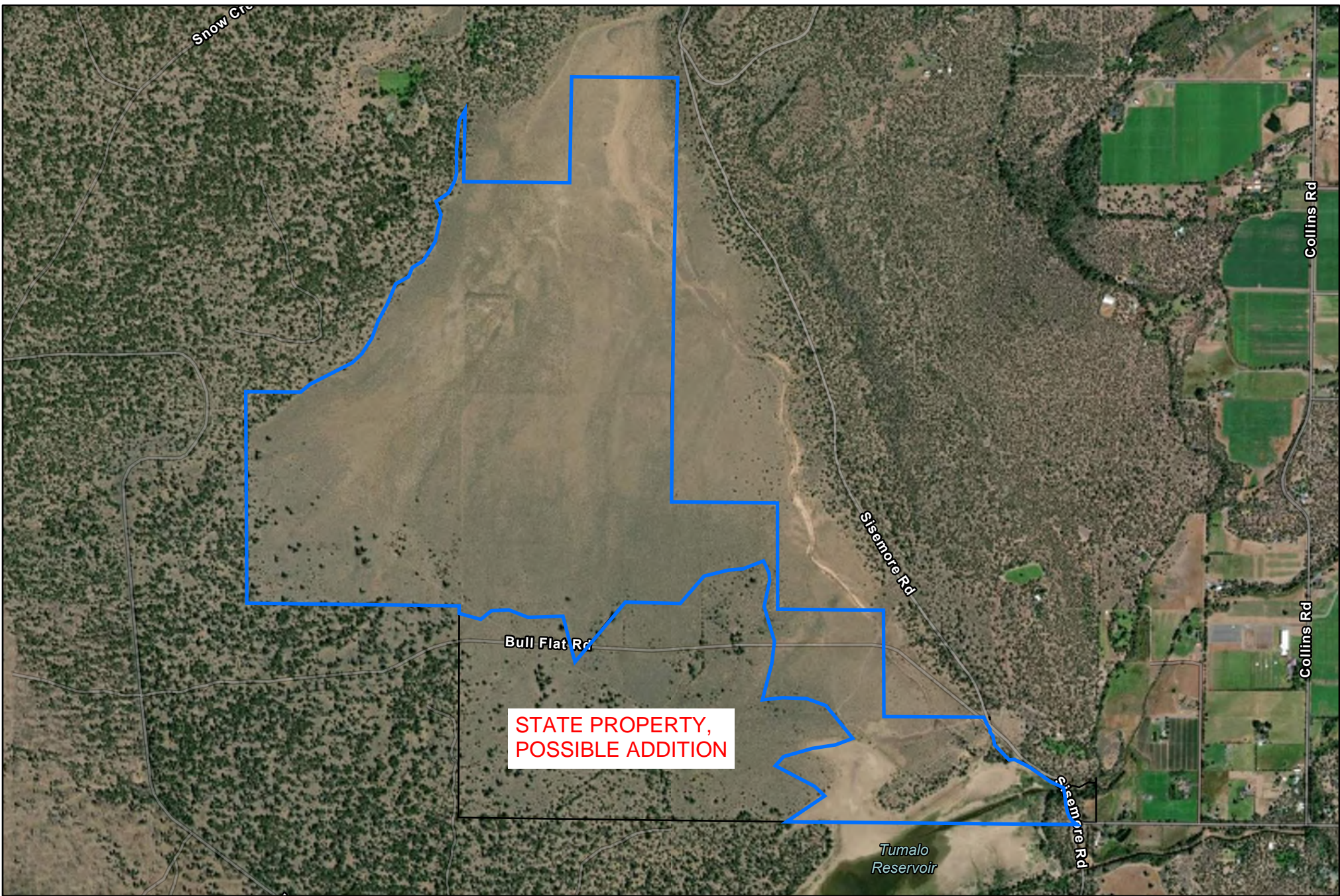


Site ID: 151300

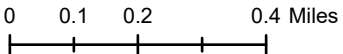
0 0.04 0.09 0.18 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
151300	Redmond East	451	1513000000103	1671.44	DESCHUTES COUNTY

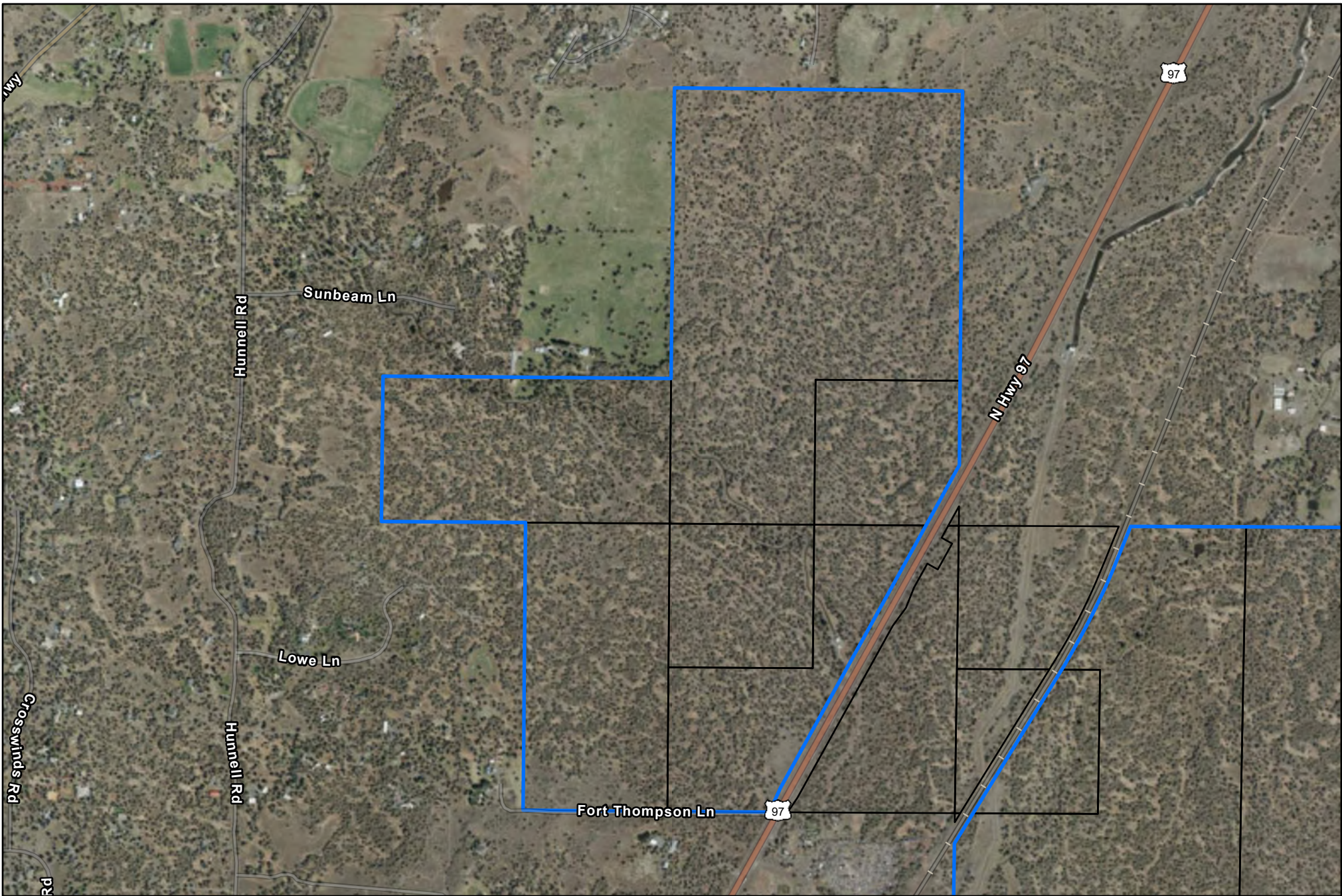


Site ID: 161100

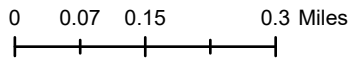


Potential Sites
 Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
161100	Bull Flat	733	16110000078914	733.47	TUMALO IRRIGATION DISTRICT

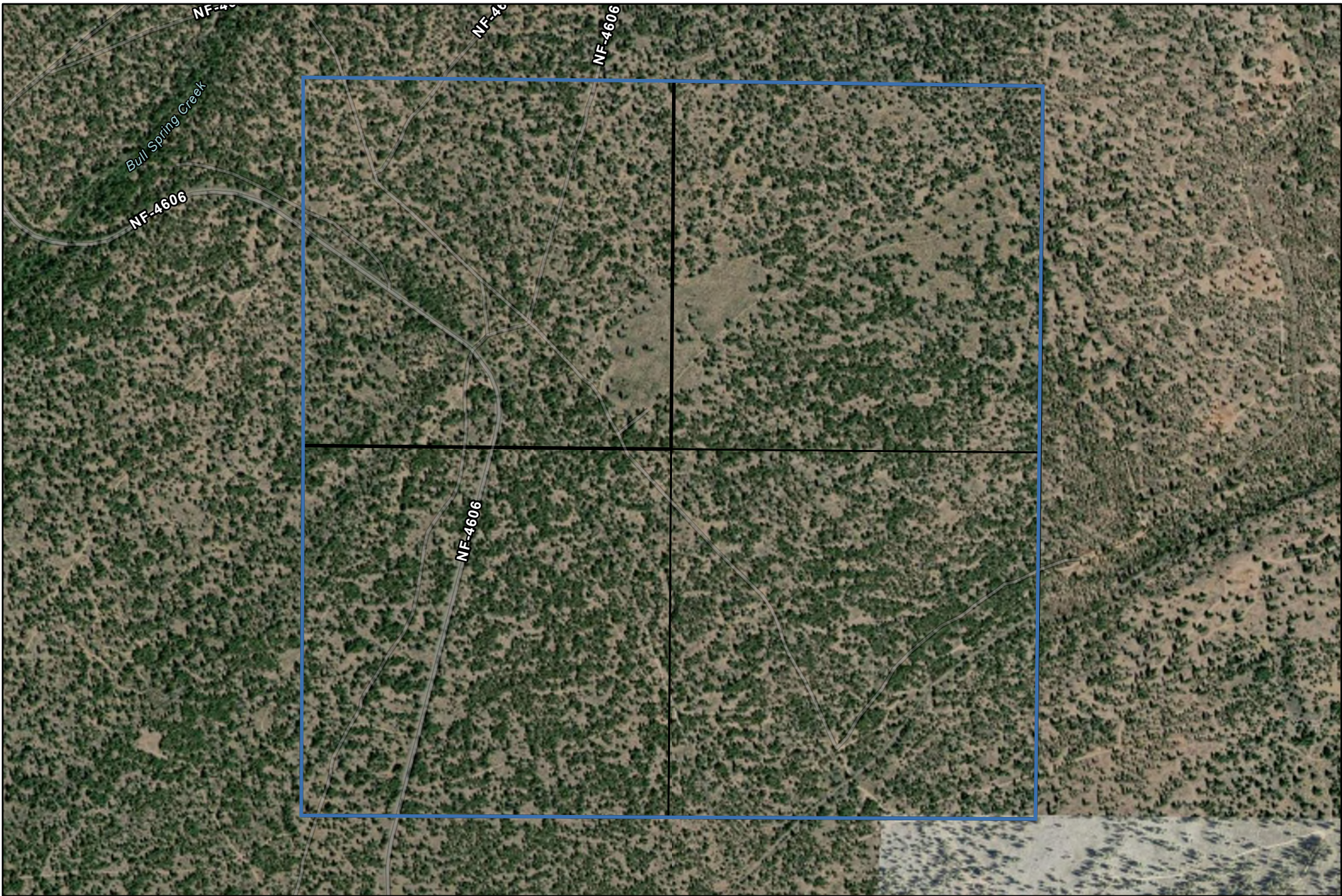


Site ID: 161234



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
161234	Starwood	499	1612340000800	38.60	DESCHUTES COUNTY
			1712030000700	39.88	DESCHUTES COUNTY
			1612340000400	201.51	DESCHUTES COUNTY
			1612330000700	80.51	DESCHUTES COUNTY
			1712040000100	79.81	DESCHUTES COUNTY
			1712030000800	106.57	DESCHUTES COUNTY

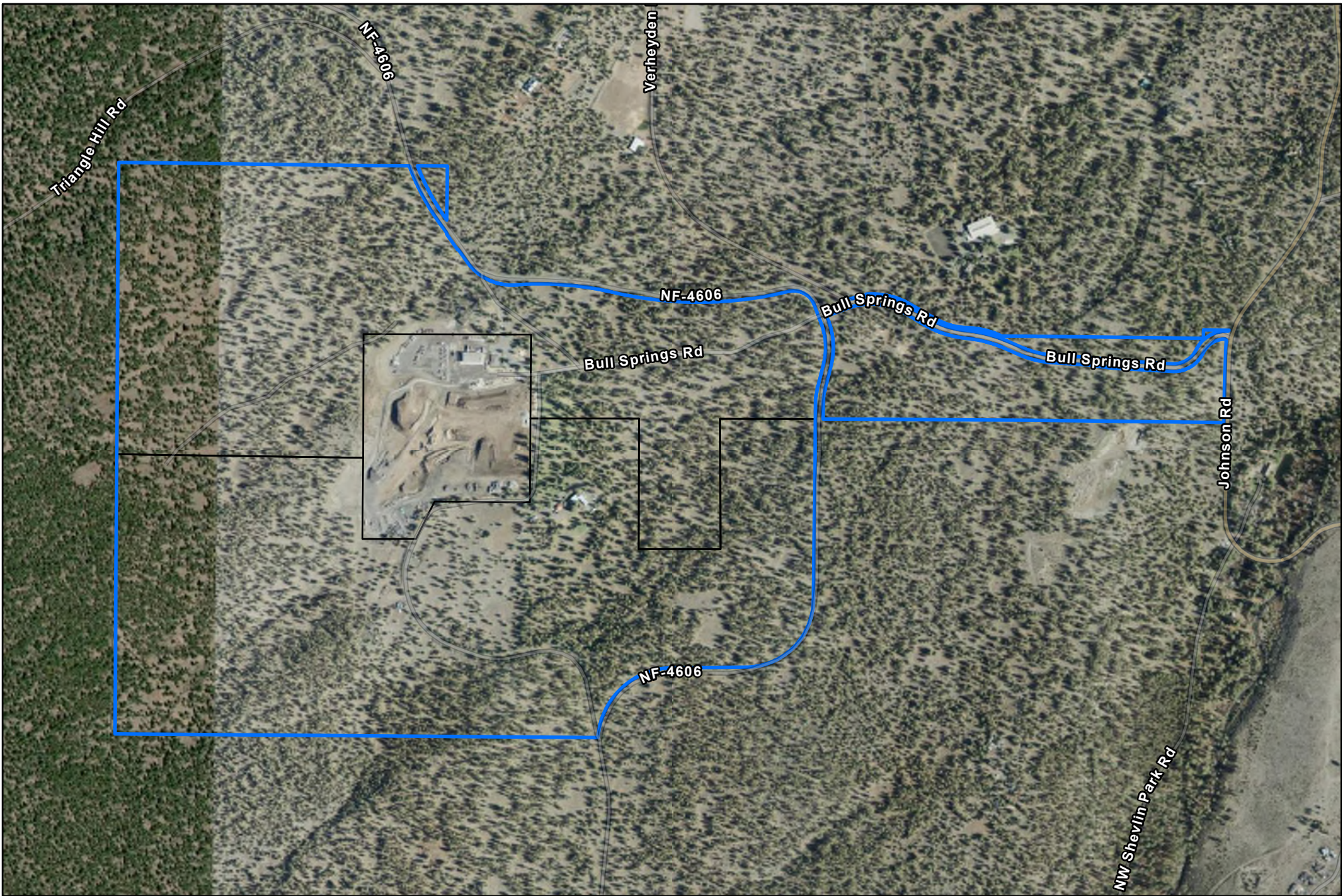


Site ID: 171100-2700

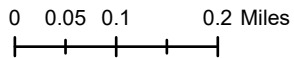
0 0.05 0.1 0.2 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
171100-2700	Shanda Tumalo	642	1711000002600	160.82	SHANDA ASSET MANAGEMENT LLC
			1711000002700	161.08	SHANDA ASSET MANAGEMENT LLC
			1711000001302	160.51	SHANDA ASSET MANAGEMENT LLC
			1711000002201	160 (PARTIAL)	SHANDA ASSET MANAGEMENT LLC

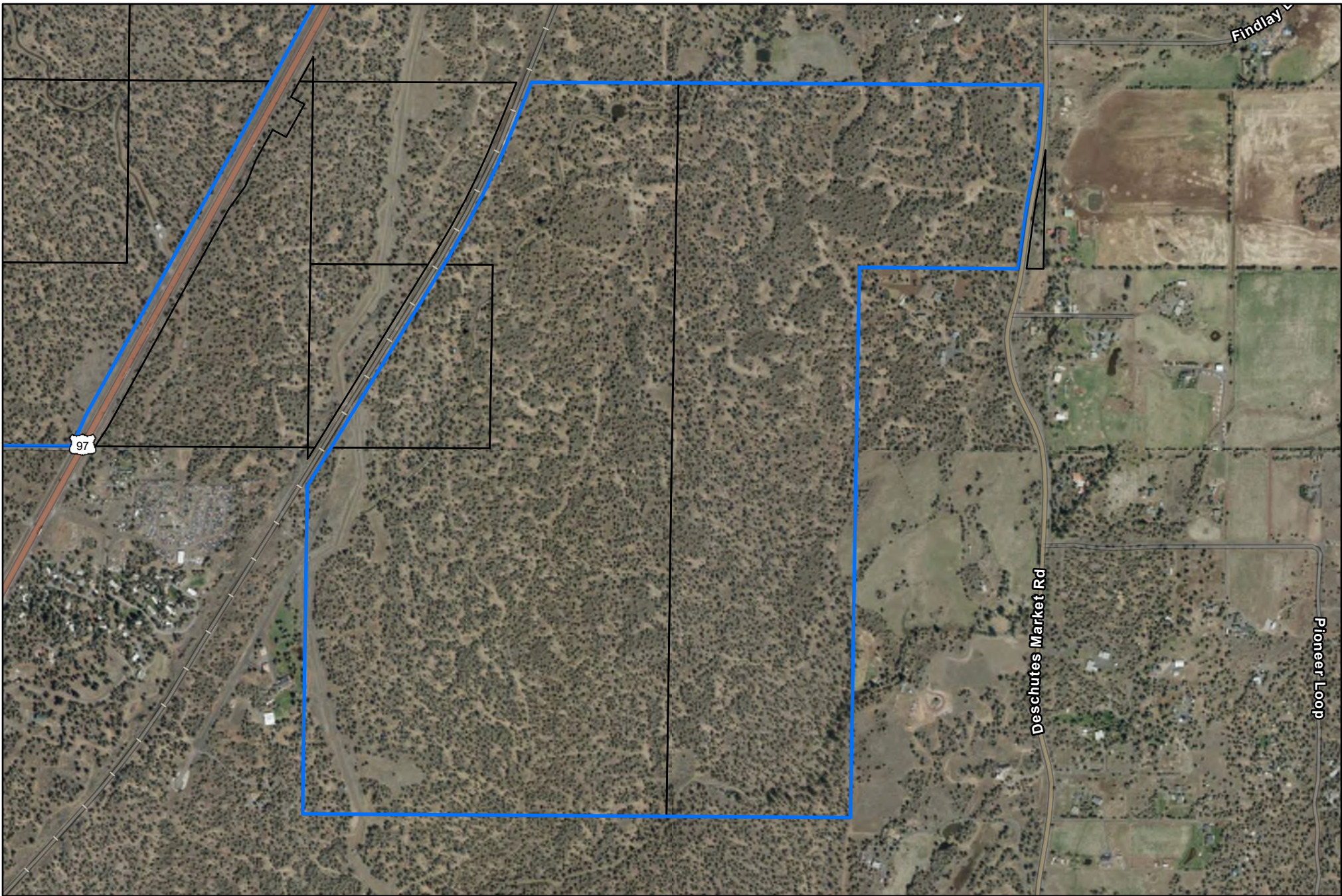


Site ID: 171100-2735

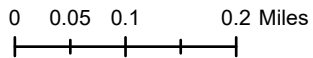


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
171100-735	Shanda Tumalo	527	1711000002735	242.14	TAYLOR, TODD M & LORRI D
			1711000002736	241.29	BULL SPRINGS RANCH LLC
			1711000002722	43.32	BULL SPRINGS RANCH LLC

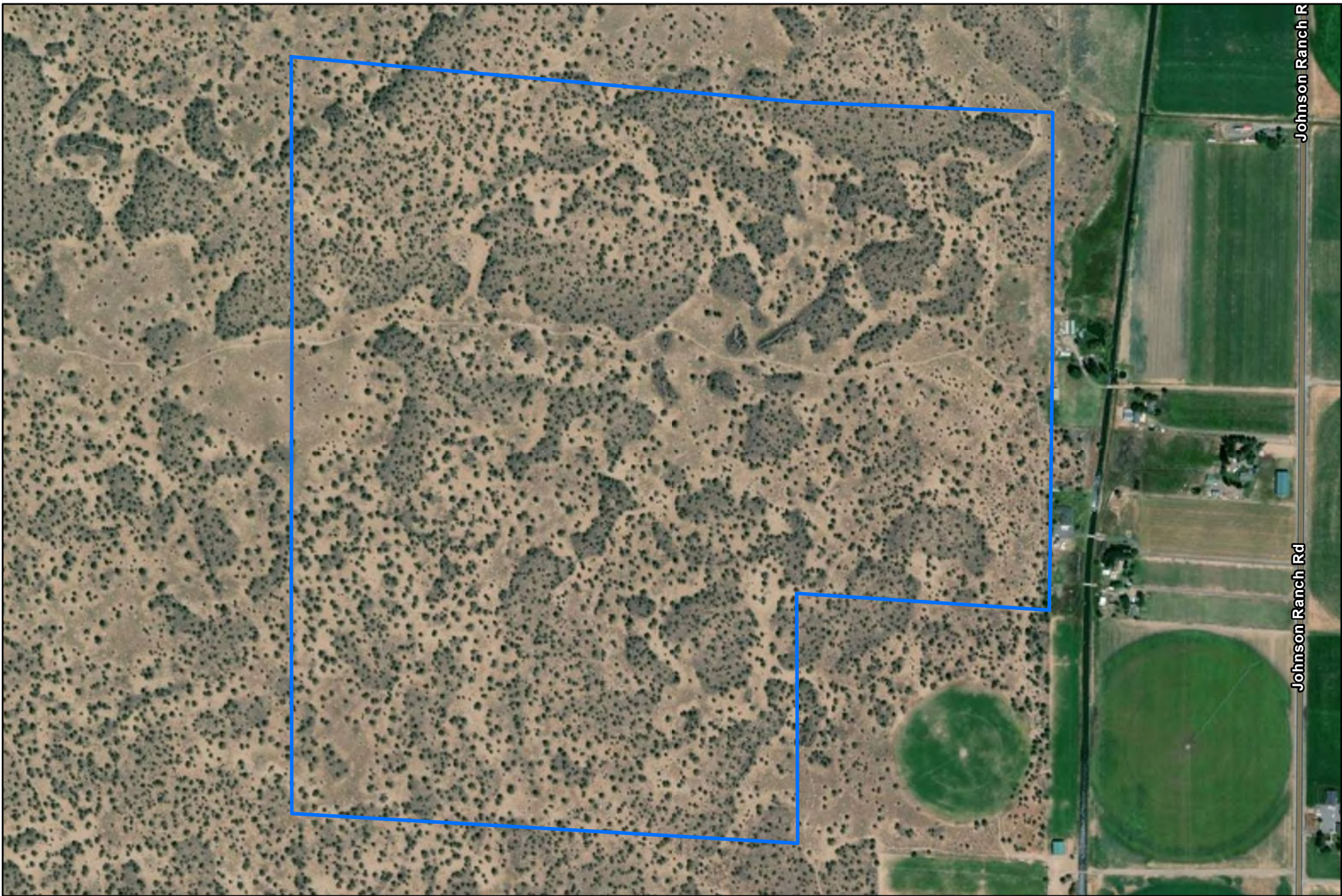


Site ID: 171203



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
171203	Juniper Ridge	458	1712020000300	198.89	CITY OF BEND
			1712030000900	279.75	CITY OF BEND
			1712030000801	40.00	CITY OF BEND



Site ID: 171415

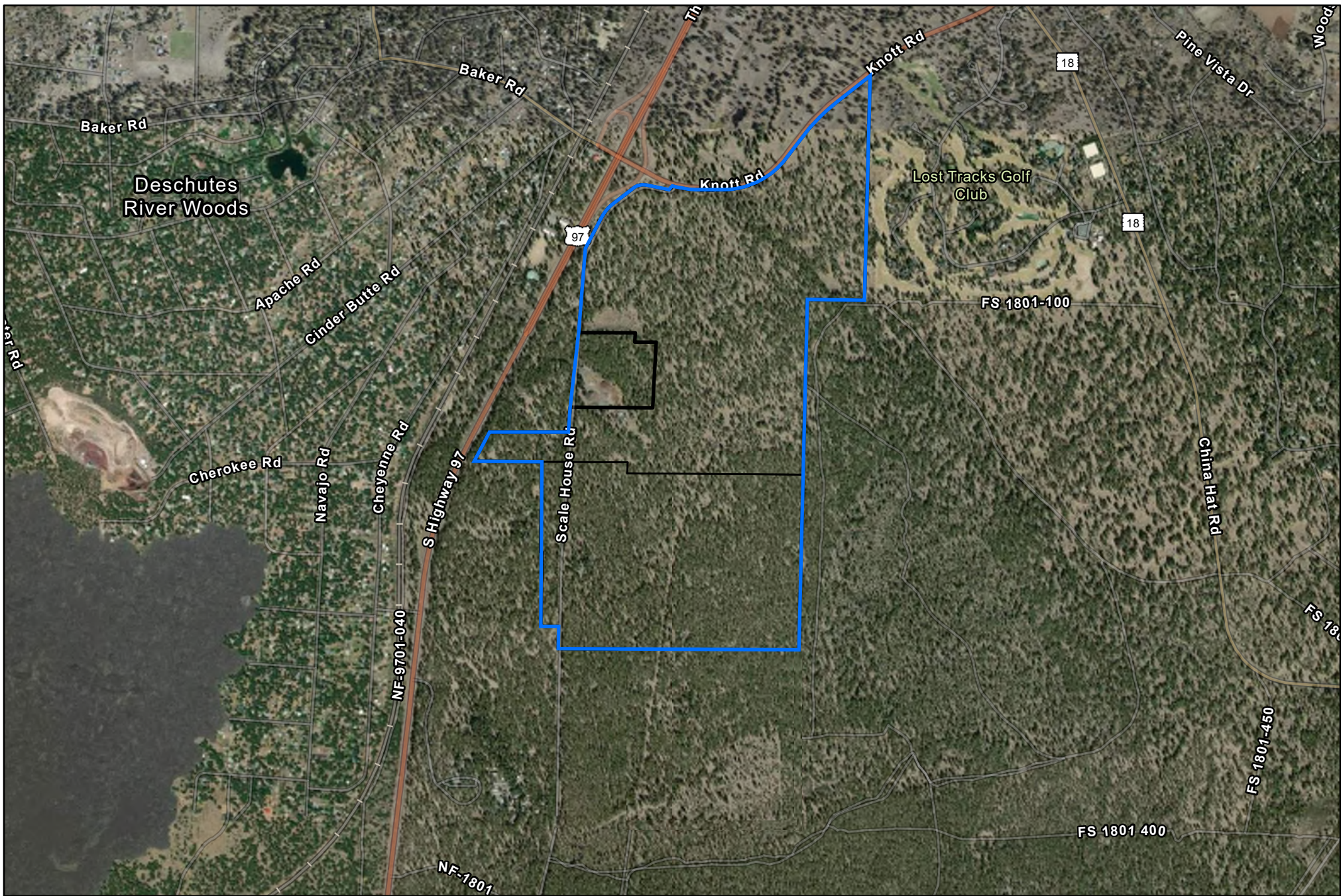
0 0.04 0.09 0.18 Miles

- Potential Sites
- Potential Acquisitions

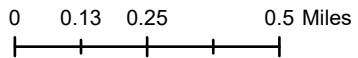
Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
171415	Alfalfa	317	1714150000900	316.90	STATE OF OR

Johnson Ranch R

Johnson Ranch Rd

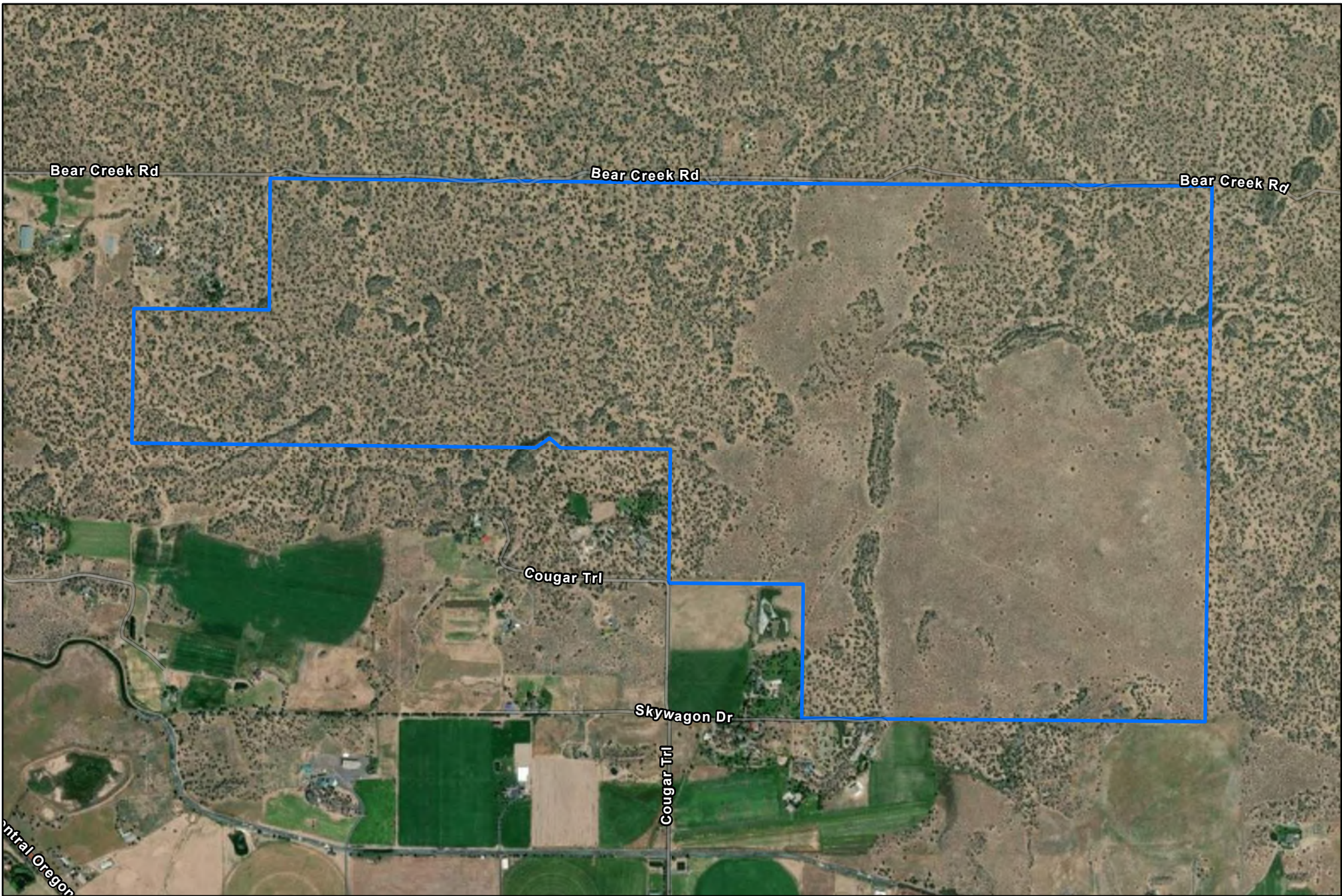


Site ID: 181230

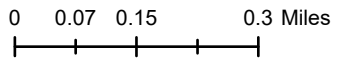


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
181230	Scalehouse	654	1812300000200	30.41	STATE OF OREGON
			1812310000100	240.45	WINDLINX RANCH TRUST
			1812300000100	382.97	WINDLINX RANCH TRUST

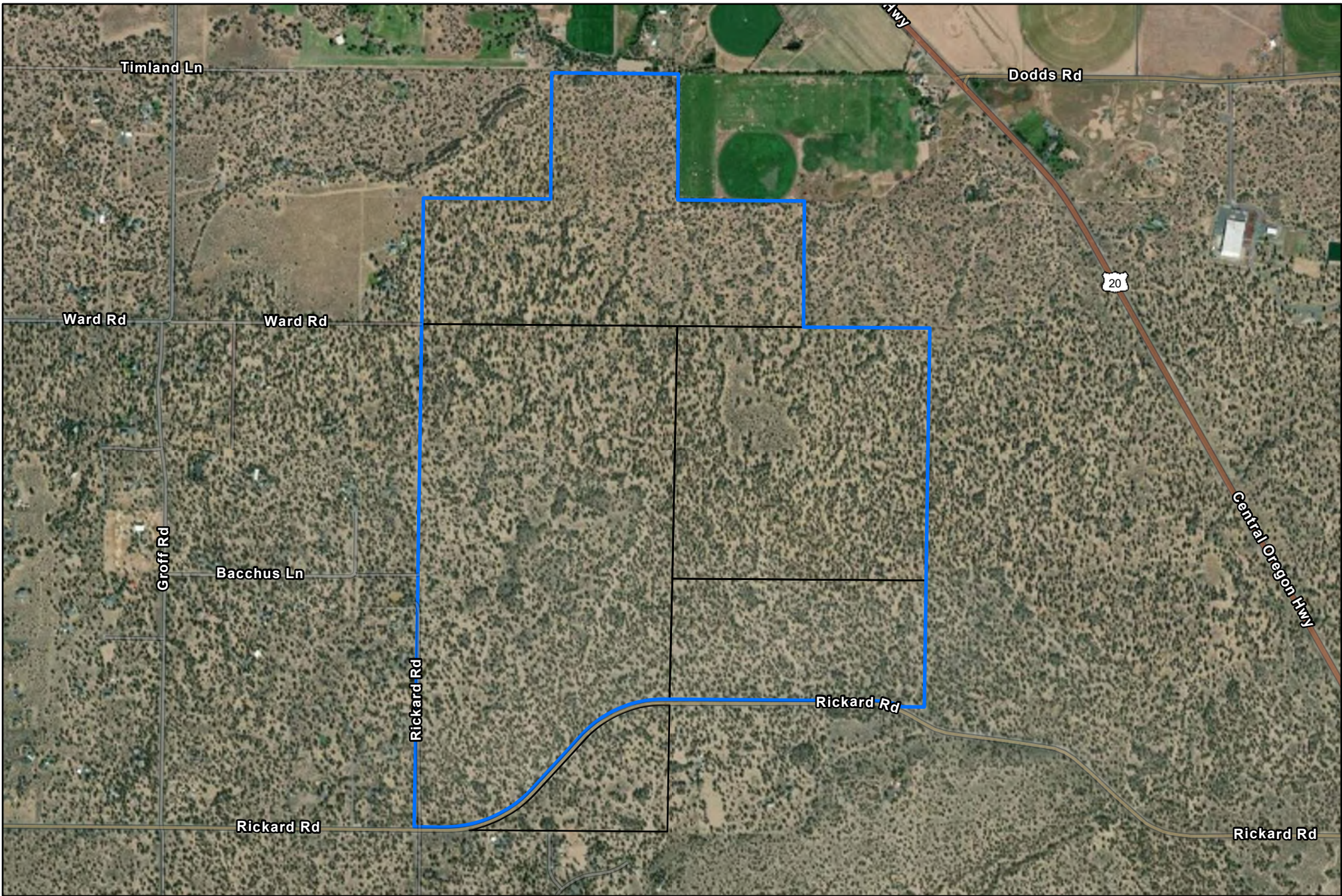


Site ID: 181300

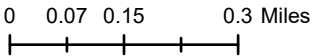


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
181300	COID Bear	873	1813000000100	872.95	CENTRAL OREGON IRRIGATION DISTRICT

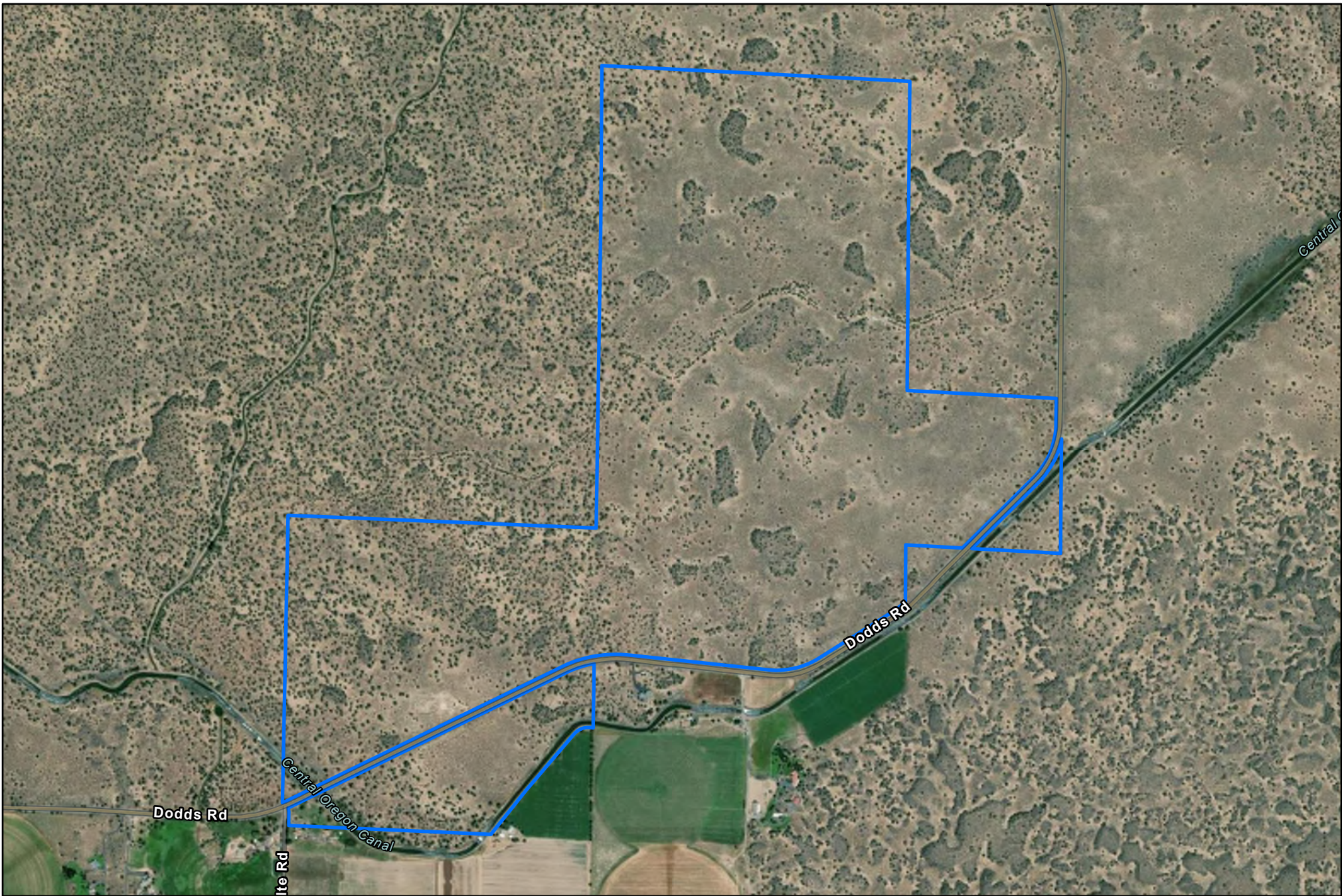


Site ID: 181315

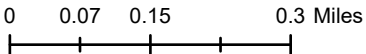


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
181315	Rickard	683	1813150000200	319.08	DESCHUTES COUNTY
			1813150000100	160.52	DESCHUTES COUNTY
			1813100001100	160.97	DESCHUTES COUNTY
			1813150000300	77.49	DESCHUTES COUNTY

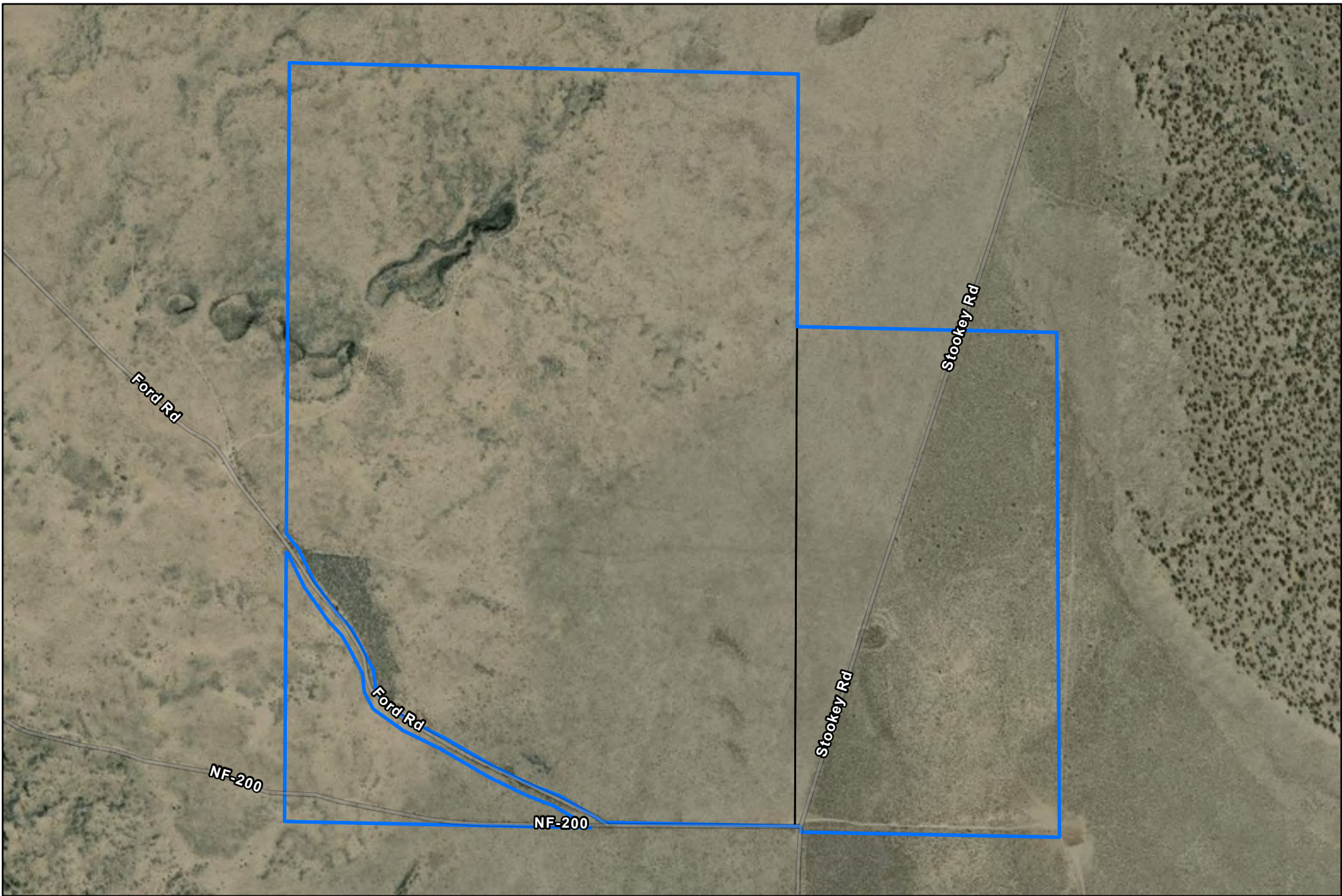


Site ID: 181400



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
181400	COID Dodds	479	1814000000300	478.91	CENTRAL OREGON IRRIGATION DISTRICT



Site ID: 191300

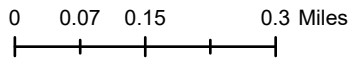
0 0.04 0.09 0.18 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
191300	Stookey	322	1914000001300	83.10	SUNDANCE MEADOWS PROPERTY OWNERS ASSO..
			1913000000200	238.82	SUNDANCE MEADOWS PROPERTY OWNERS ASSO..

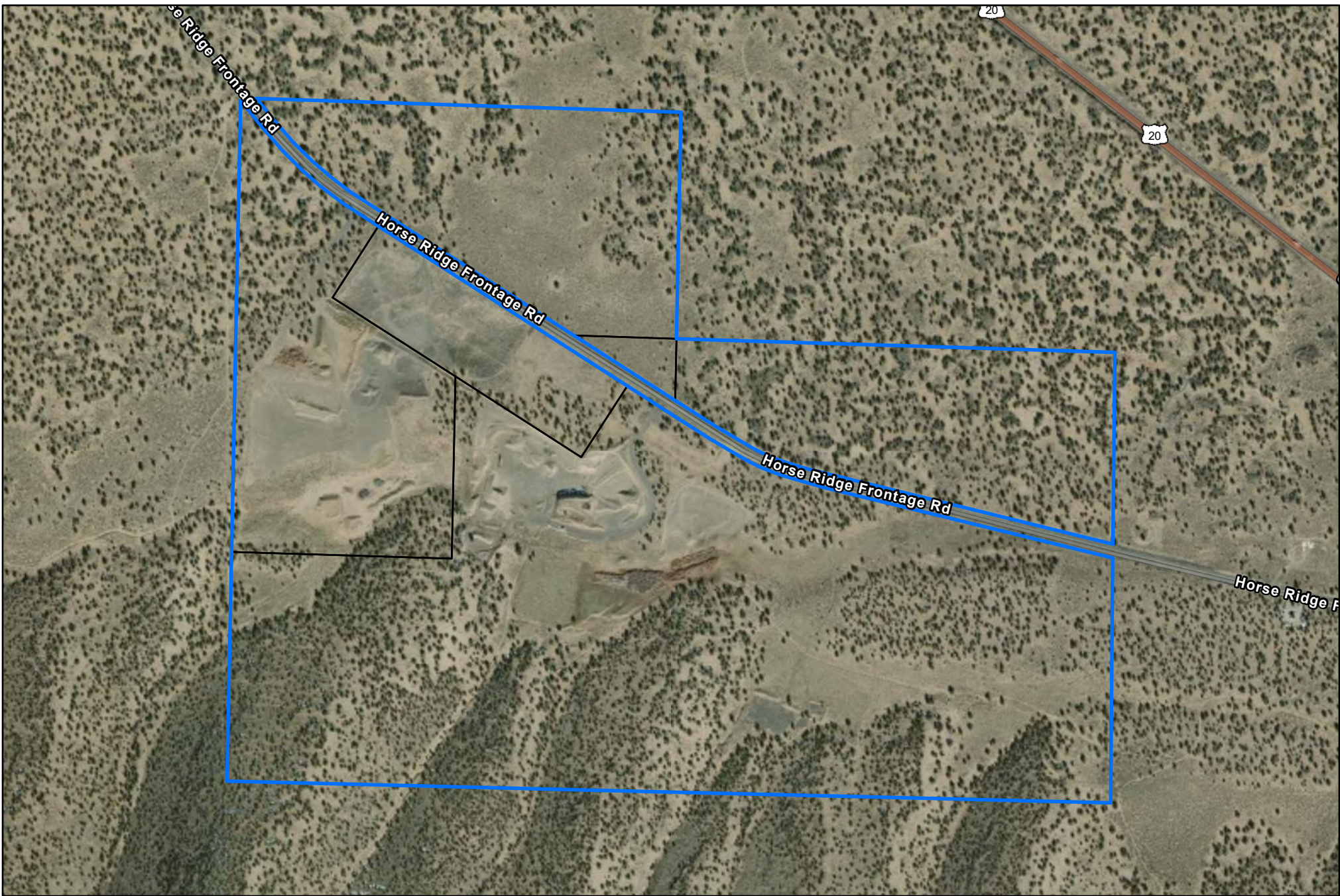


Site ID: 191400-200

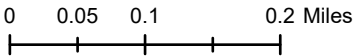


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
191400-200	Moon Pit	445	1914000000200	444.77	MOON PIT LLC

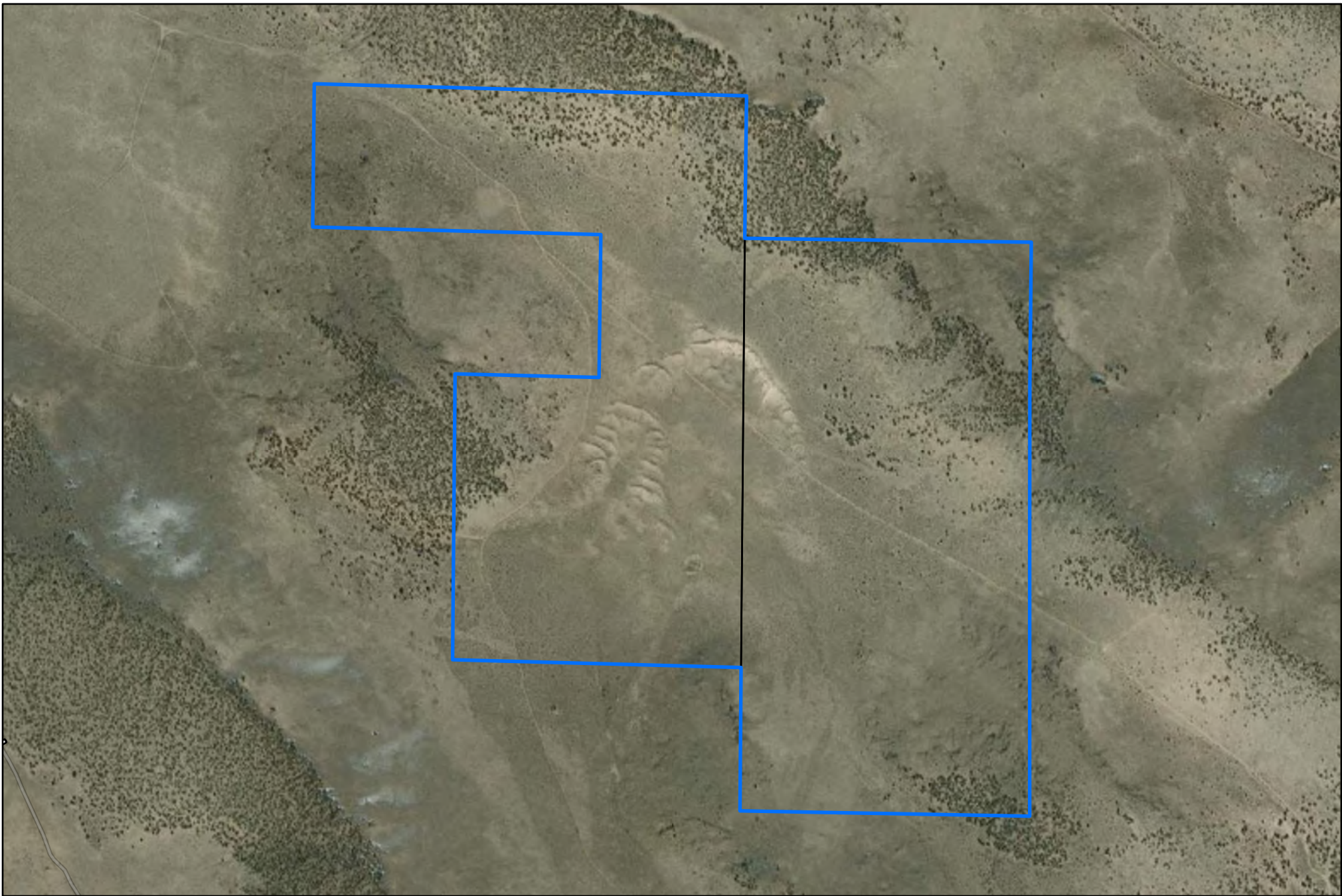


Site ID: 191400-700



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
191400-700	Horse Ridge Pit	387	1914000000600	19.99	STATE OF OR
			1914000000700	213.03	HORSE RIDGE PIT LLC
			1914000000300	49.19	DESCHUTES COUNTY
			1914000000500	105.11	HAP TAYLOR & SONS INC

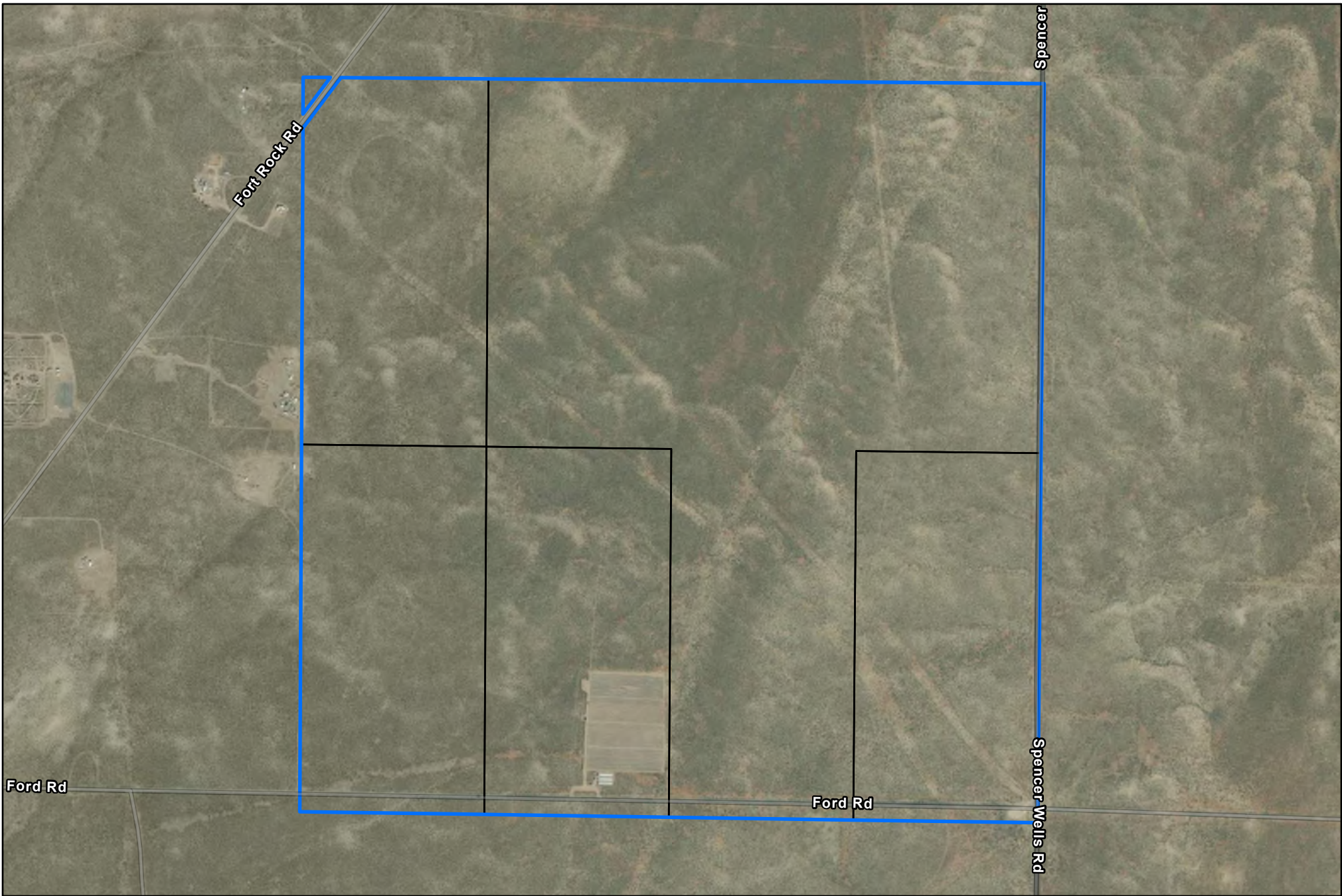


Site ID: 191400-2400

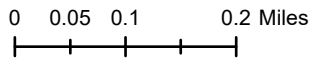
0 0.07 0.15 0.3 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
191400-2400	Golden Basin	634	1914000002400	317.30	LORENZEN RANCHES INC ET AL
			1914000002401	317.11	LORENZEN RANCHES INC ET AL

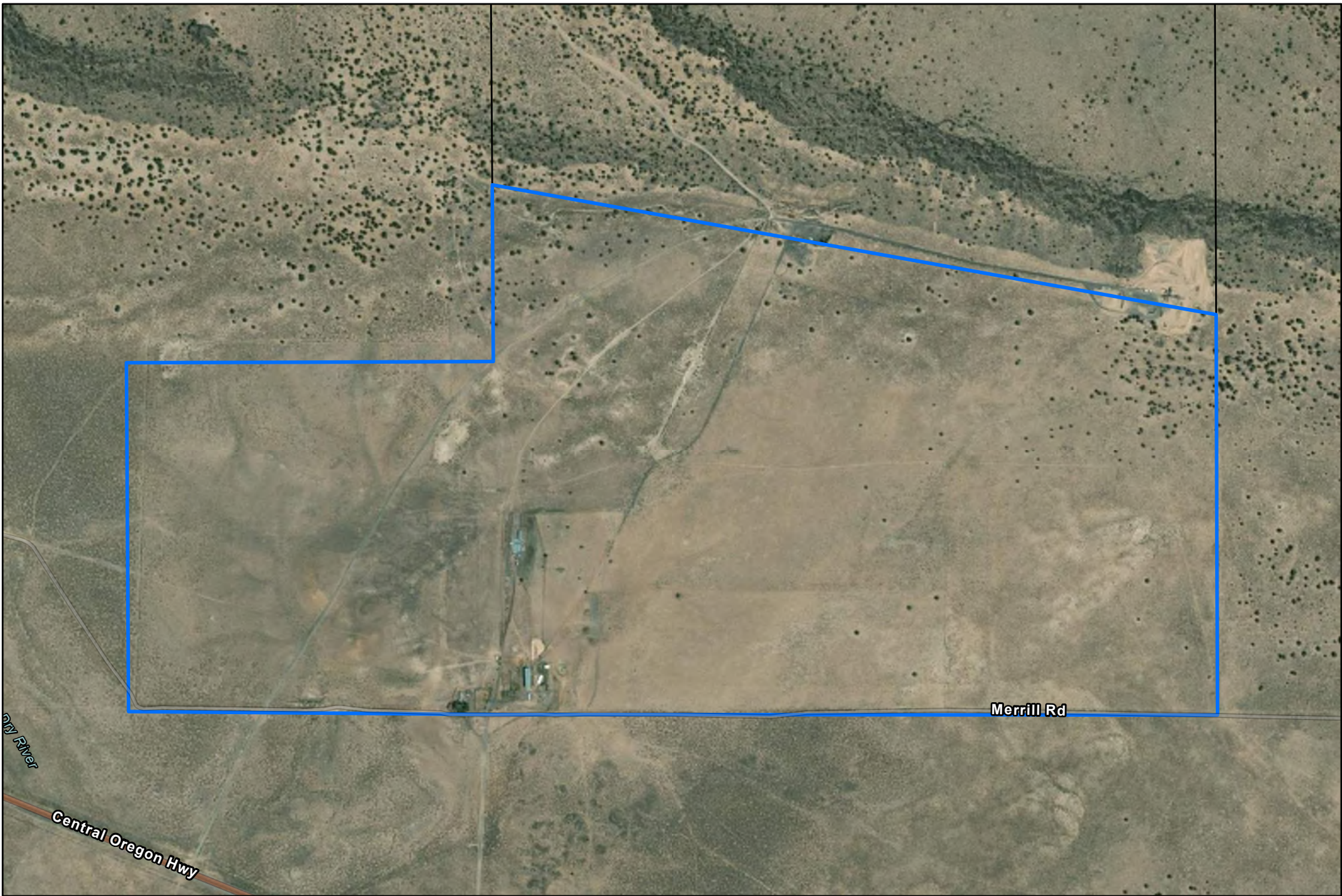


Site ID: 191400-3300

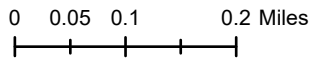


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
191400-3300	Ford	646	1914000003100	80.61	PELHAM, ANNE
			1914000003200	80.74	HILTS, ANTON B
			1914000003300	323.91	USA
			1914000003400	80.99	HERMAN FAMILY TRUST
			1914000002101	80.22	HERMAN FAMILY TRUST

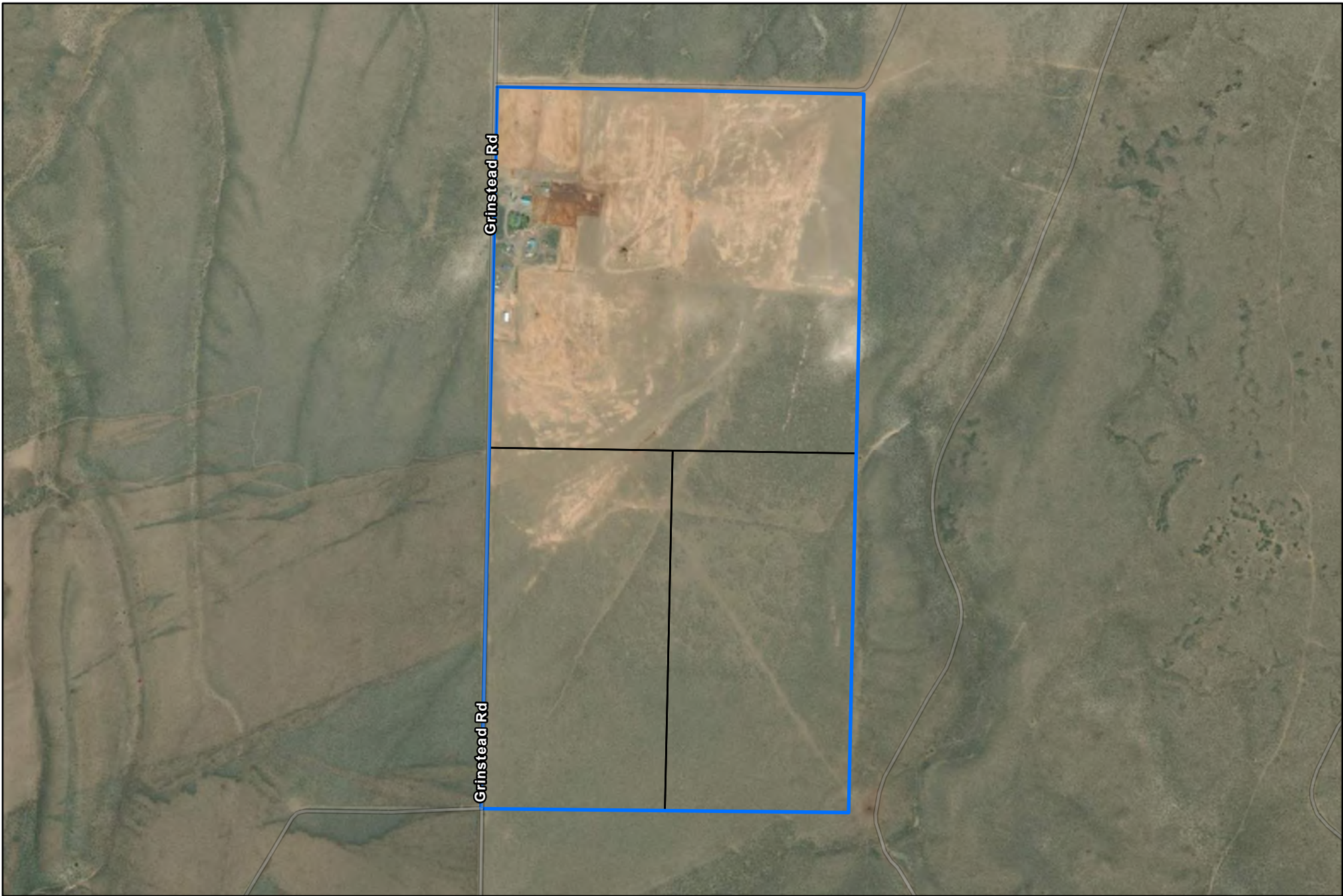


Site ID: 191600



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
191600	Merrill	552	1916000001500	1245.02	BUCK CREEK RANCHES LLC

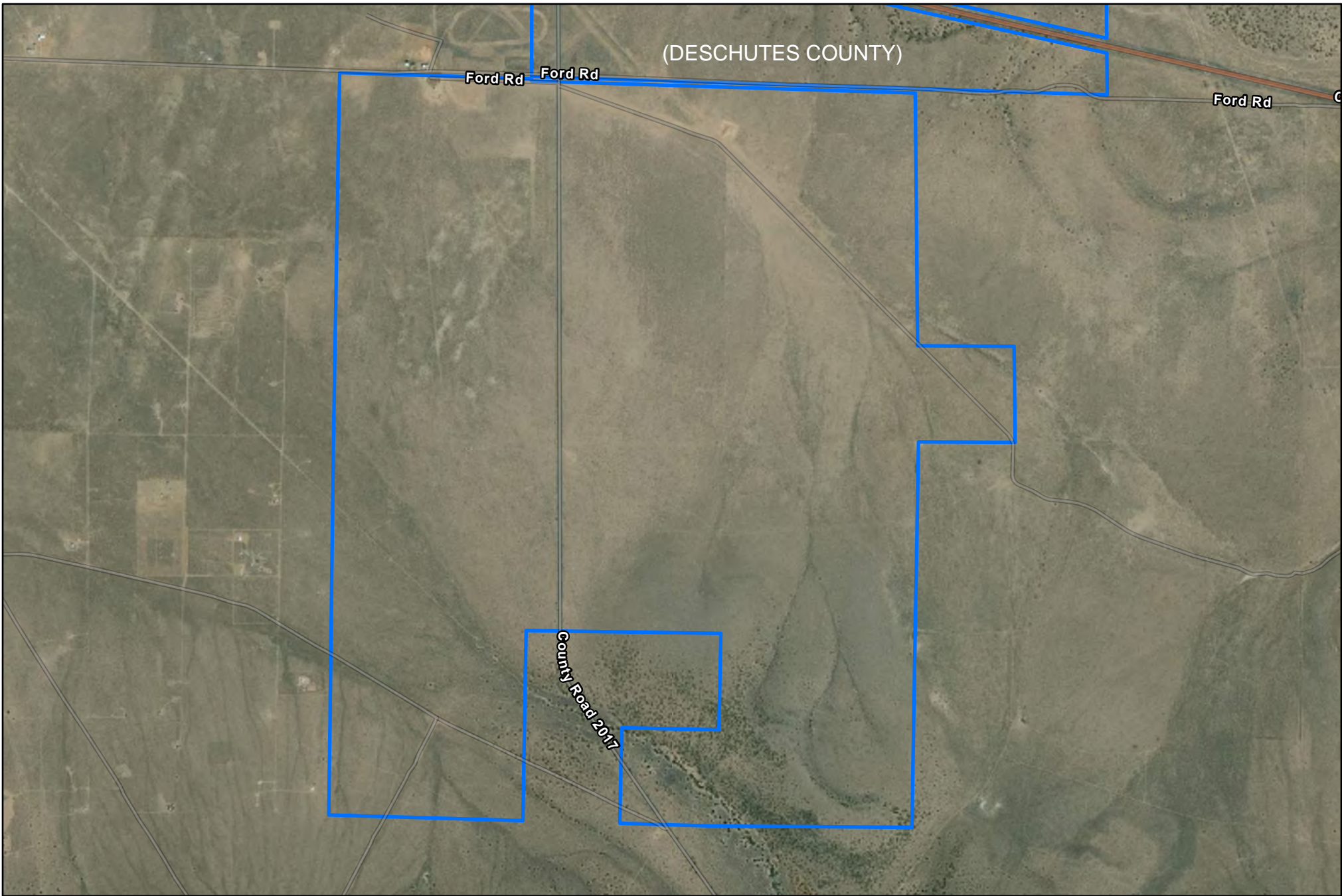


Site ID: 201400

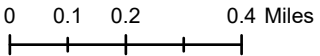
0 0.05 0.1 0.2 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
201400	Grimstead	313	2014000000400	156.64	LORENZEN RANCHES INC ET AL
			2014000000401	78.51	LORENZEN RANCHES INC ET AL
			2014000000402	78.32	LORENZEN RANCHES INC ET AL

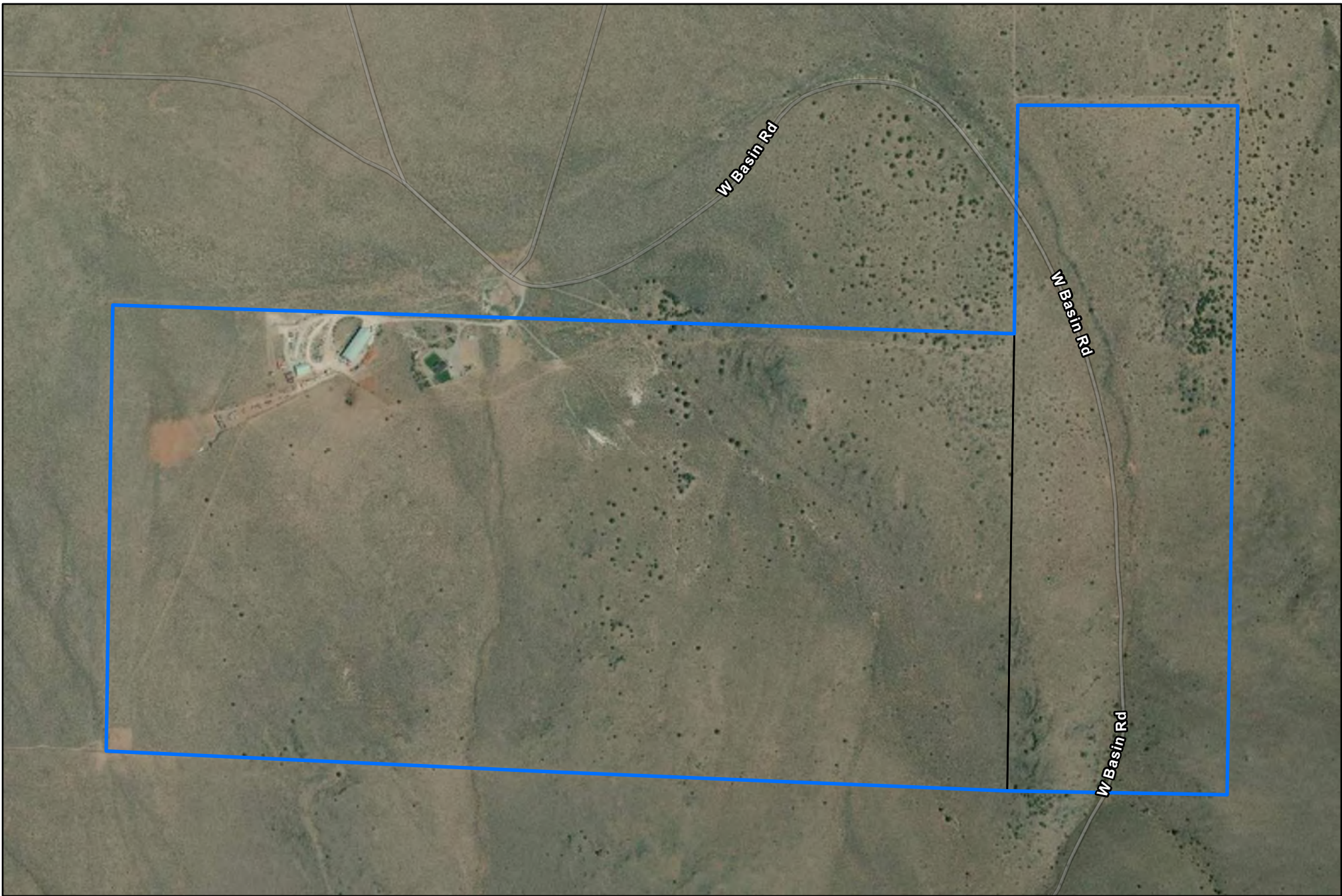


Site ID: 201500-300

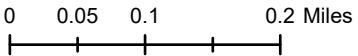


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
201500-300	Roth	1783	2015000000300	1782.64	ROTH, DAVID D & JANETTE K

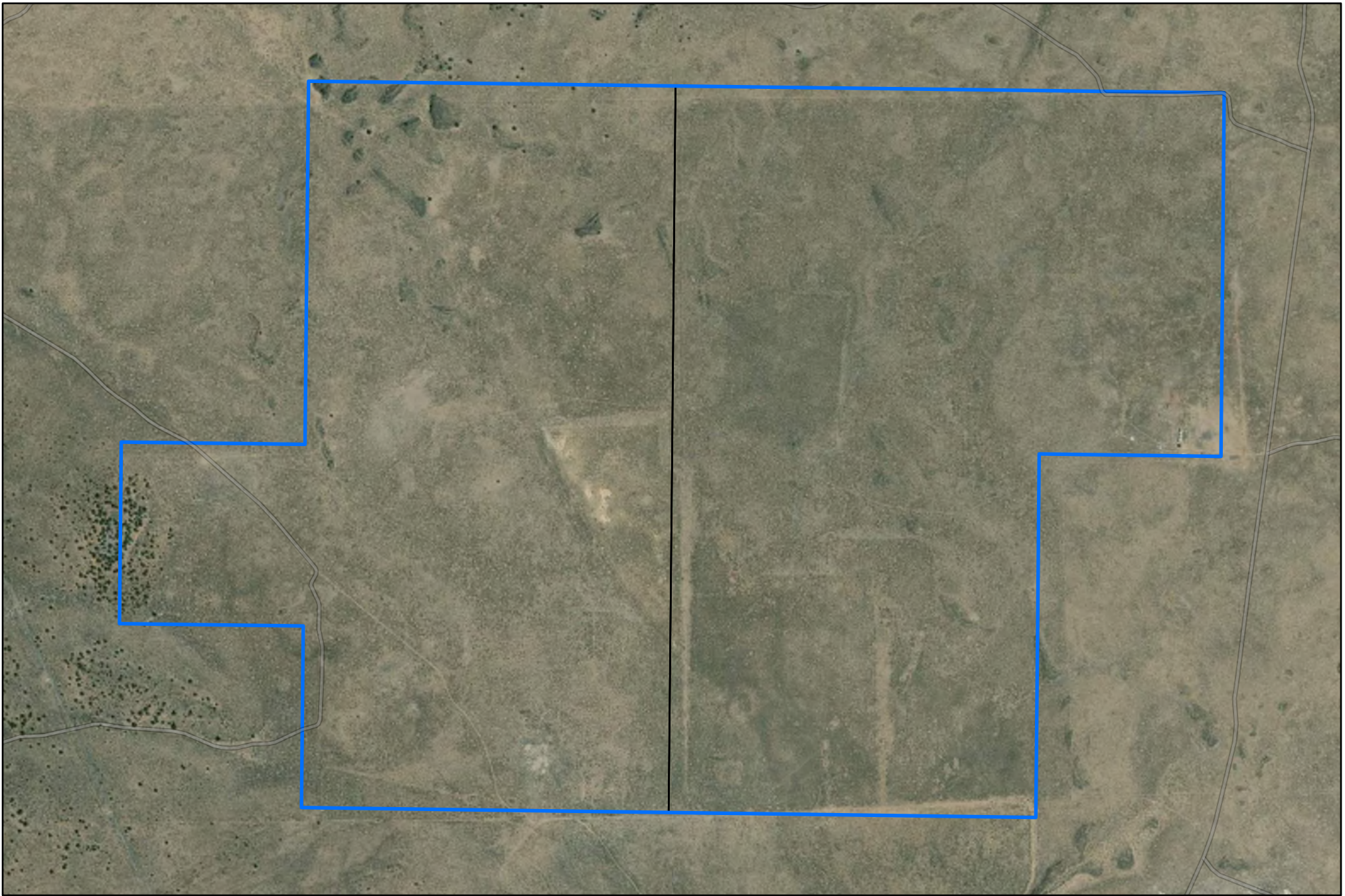


Site ID: 201500-1601



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
201500-1601	Pine Mtn	444	2015000001600	120.17	SPENCER WELLS LLC
			2015000001601	324.12	SPENCER WELLS LLC



Site ID: 201600

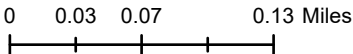
0 0.05 0.1 0.2 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
201600	Moffitt	752	2016000001400	395.27	BURBANK,KENNETH H
			2016000001500	356.40	MICHAEL P MILLER PROFIT SHARING PLAN



Site ID: 211000



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
211000	Fall River	267	2110000000605	163.90	STATE OF OR
			2110030000600	102.83	STATE OF OR



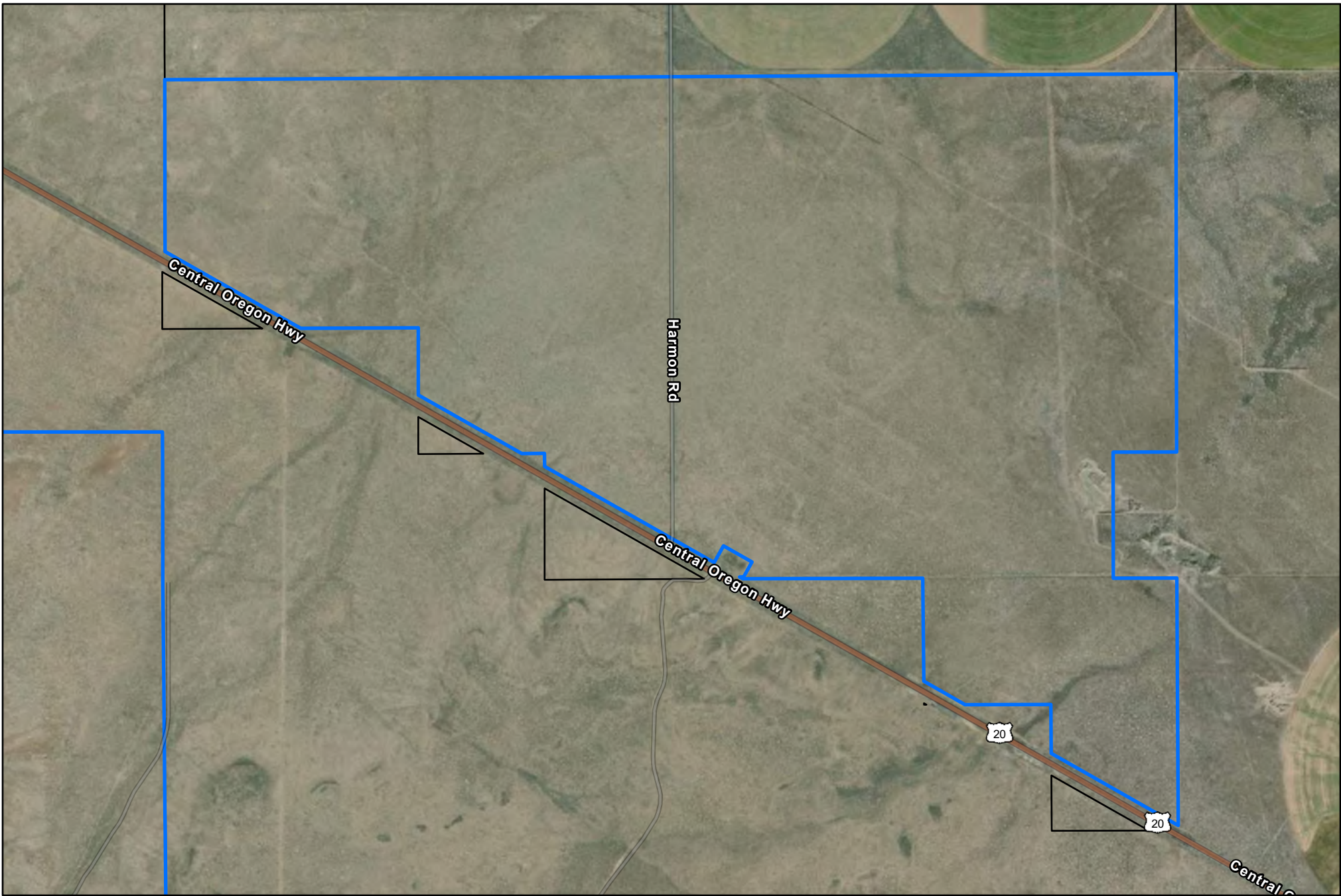
Rimrock Creek

Site ID: 211900

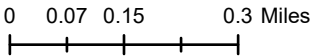
0 0.05 0.1 0.2 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
211900	Hampton South	625	2119000002100	625.17	STATE OF OR

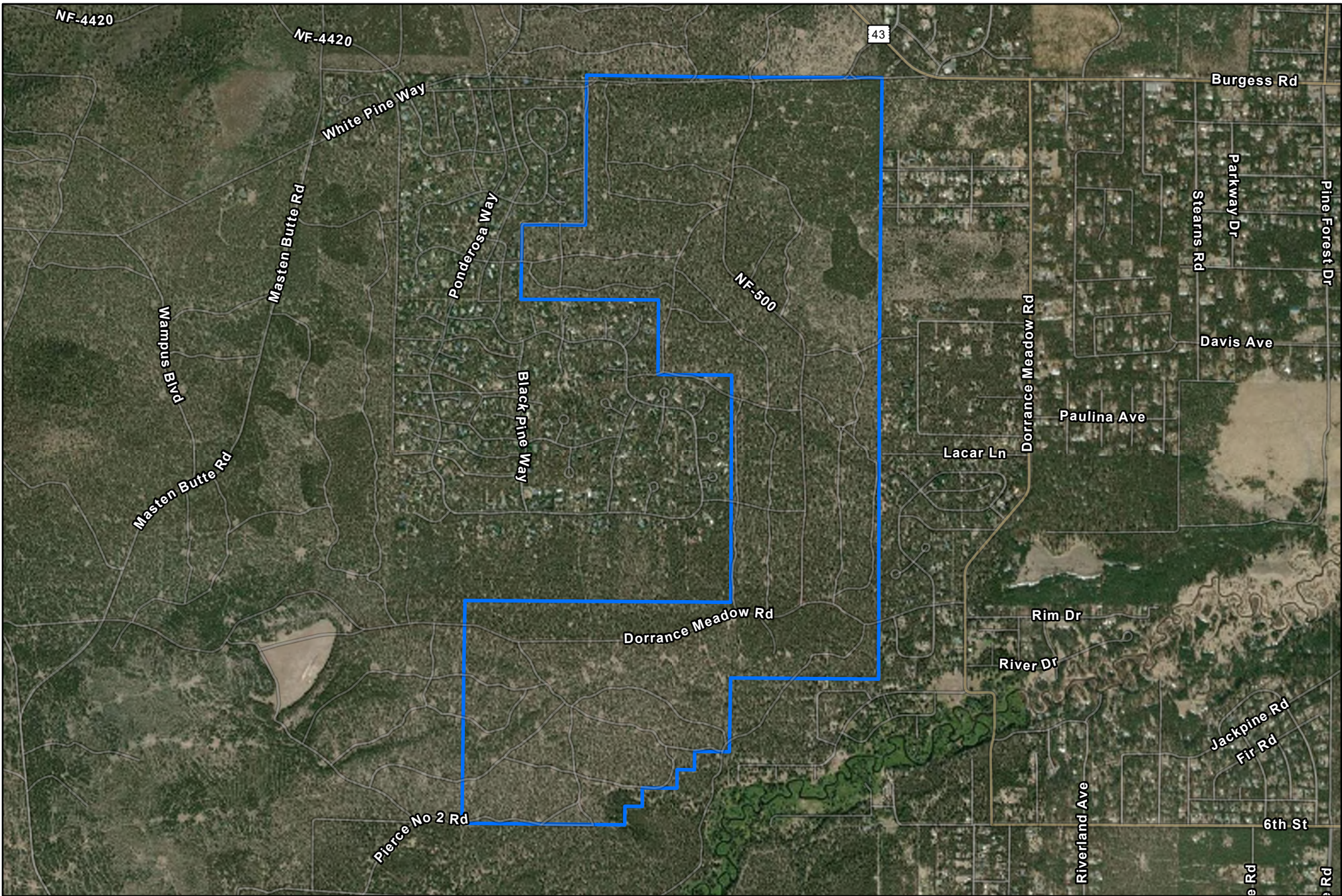


Site ID: 212000

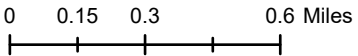


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
212000	Hampton North	1114	2120000001700	2117.21	STATE OF OR

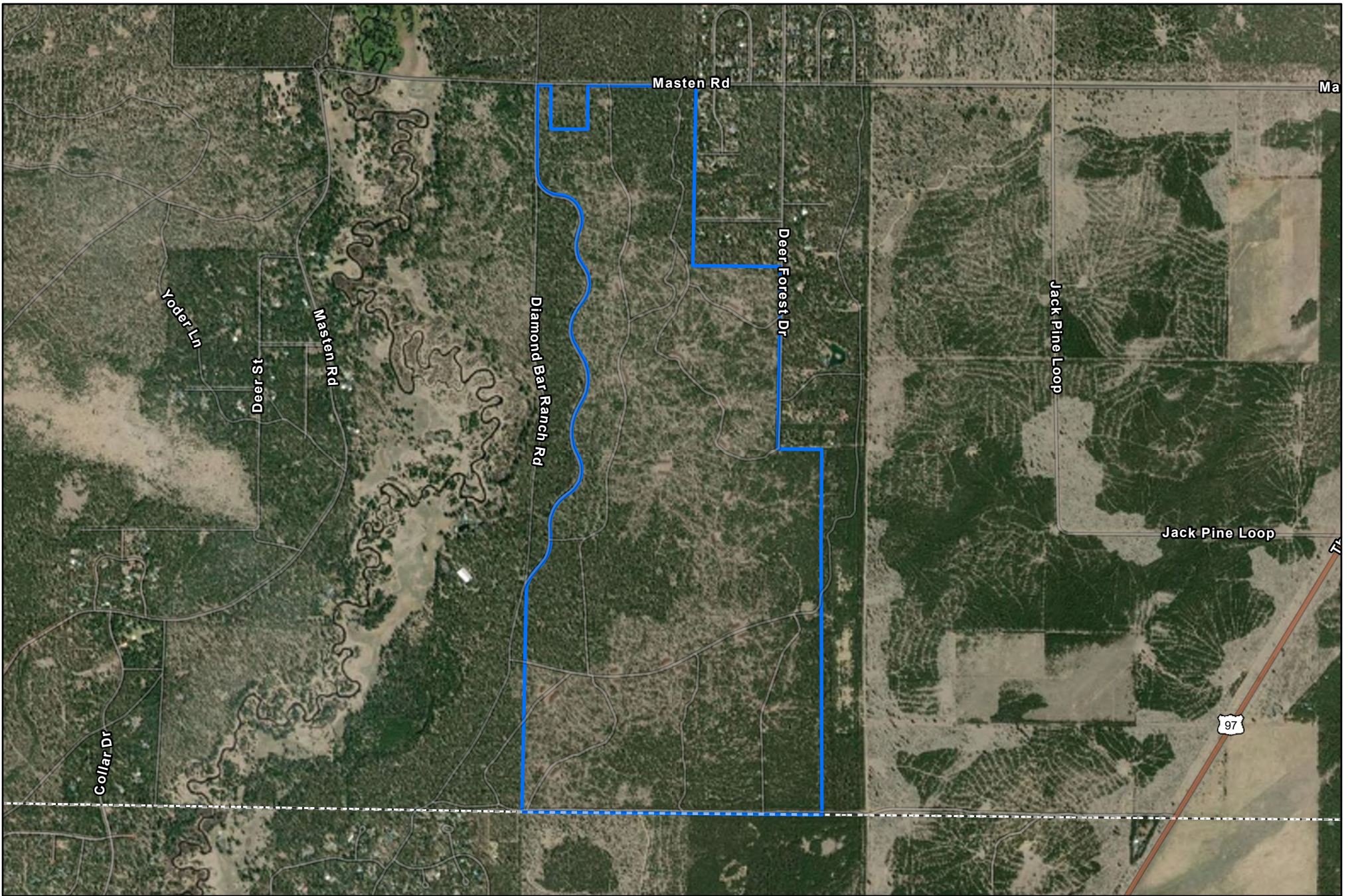


Site ID: 221000-1001

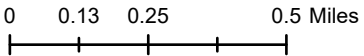


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
221000-1001	Shanda Burgess	1334	2210000001001	1333.71	SHANDA ASSET MANAGEMENT LLC

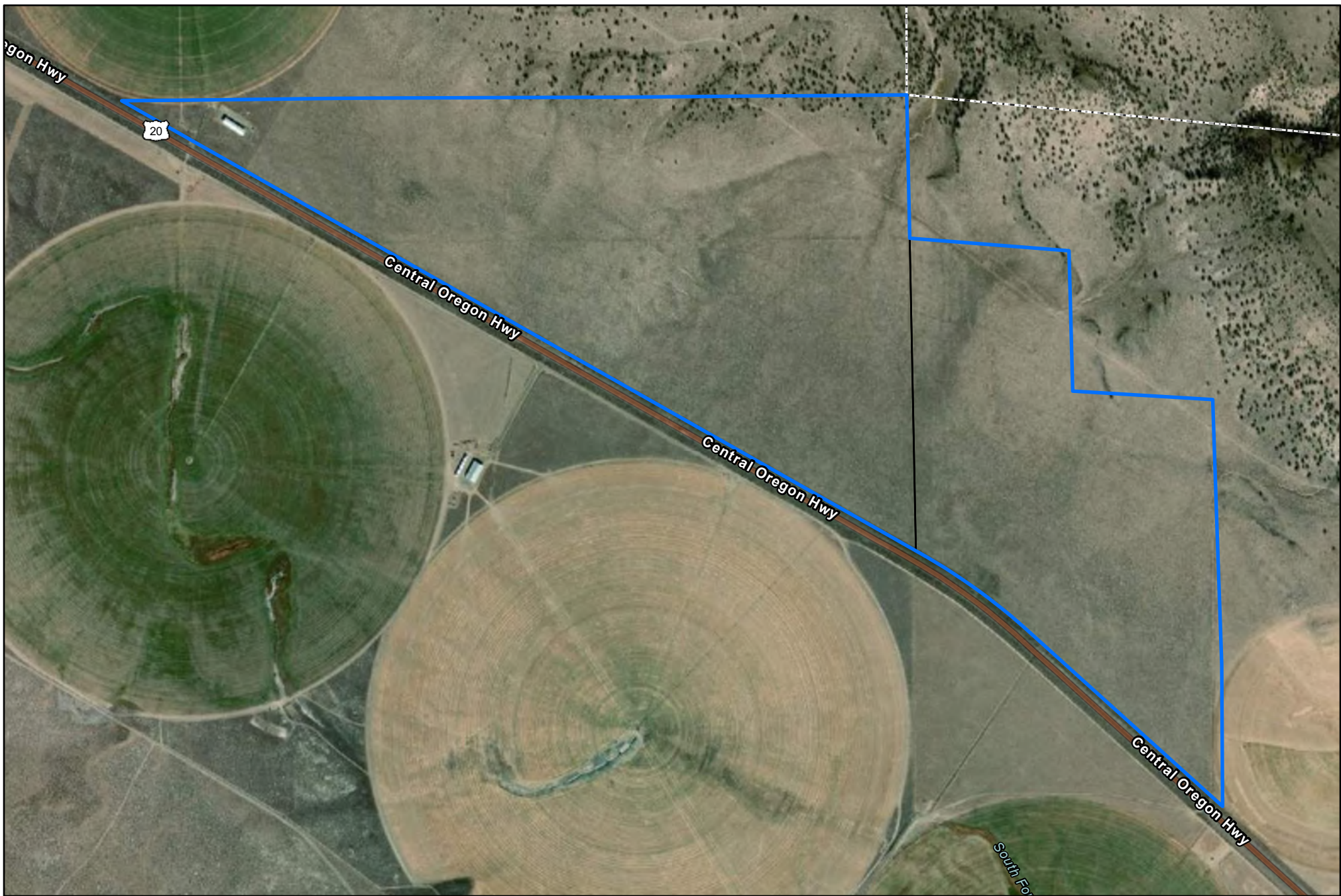


Site ID: 221000-2401

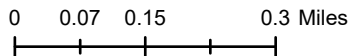


- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
221000-2401	Shanda South	779	2210000002401	778.91	SHANDA ASSET MANAGEMENT LLC

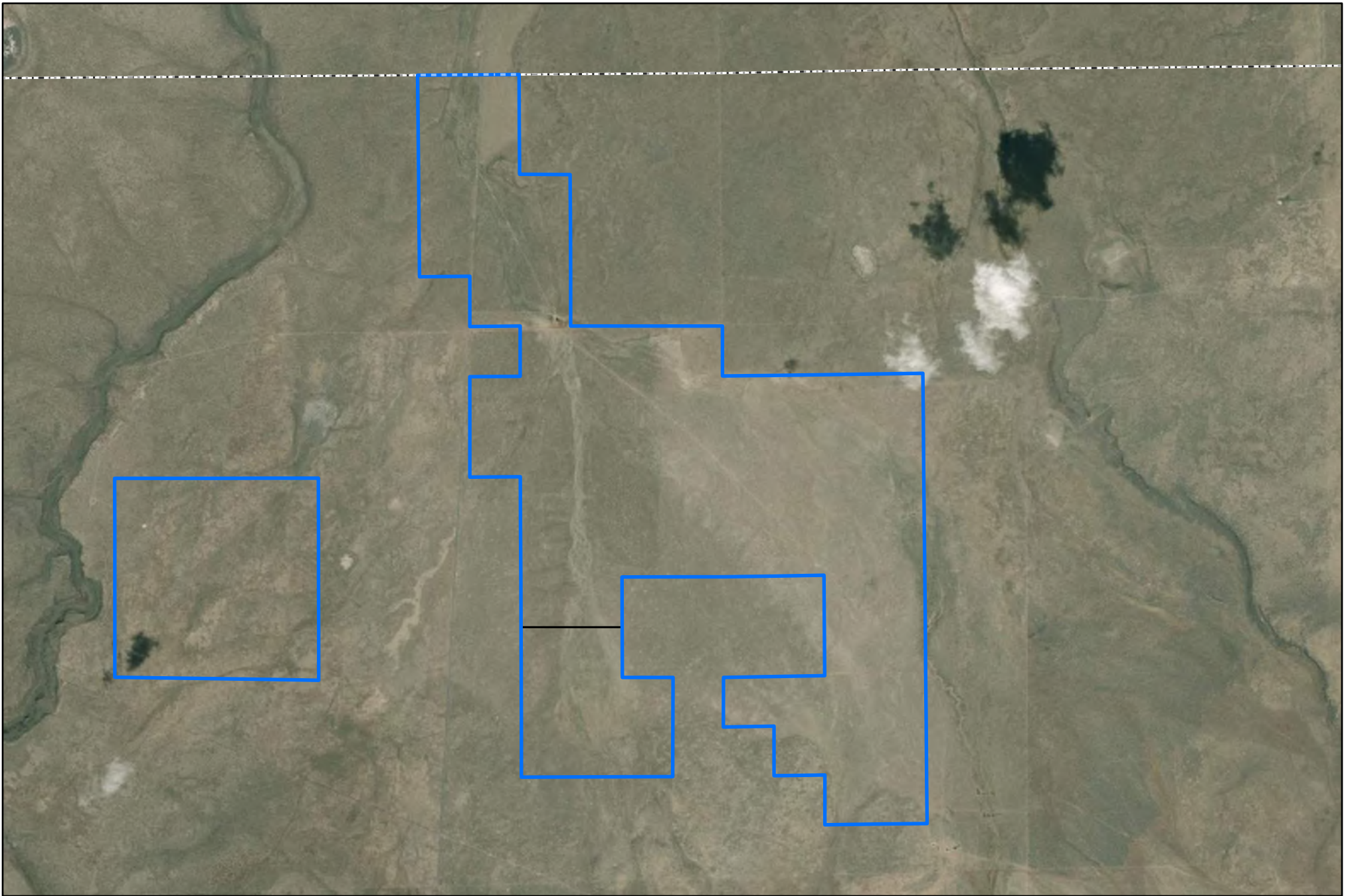


Site ID: 222000



- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
222000	Hampton Triangle	553	2220000000100	345.78	DESERT CREEK LAND CATTLE & TIMBER CO LLC
			2221000000304	206.92	DESERT CREEK LAND CATTLE & TIMBER CO LLC



Site ID: 222200-200

0 0.23 0.45 0.9 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
222200-200	GI East	2897	2222000000500	315.91	GI RANCH CORP
			2222000000200	2581.75	GI RANCH CORP



Site ID: 222200-400

0 0.05 0.1 0.2 Miles

- Potential Sites
- Potential Acquisitions

Site_ID	Site Nickname	Tot. Dev. Acreage	TAXLOT	Parcel Acreage	OWNER
222200-400	GI West	553	2222000000400	640.53	GI RANCH CORP

Appendix B

Broad Site Scoring Tables

SITE ID: 151100

1 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
Site Characteristics/Engineering	35%	2.88	
Site Availability/Acquisition Potential		3.40	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	3	408 acres
Geotechnical Location Factors	10%	3.20	
<i>Fault Hazards</i>	25%	3	1 mi. E of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	1.90	
<i>Depth to Groundwater</i>	25%	1	avg SWL of 5 adjacent wells -245 ft
<i>Proximity to Drinking Water Wells</i>	30%	0	several dom wells on adjacent properties <0.25 mi.
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	3	DESC 3348 & 9234
Development	15%	1.90	
<i>Soils</i>	45%	3	sand, gravel, brown conglomerate, basalt
<i>Topography</i>	30%	1	Avg Slope= 1-2%
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint= 183 acres
Operation	15%	3.05	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	5	Desert Springs Ranch permit G8846; Cert 85633; 0.618 cfs 50.7 ac irr; well 250' static 210' basalt; 0.618 cfs; transfer 25498 pou change
Natural Environments	35%	4.60	
Wetlands and Waters Impacts	10%	5.00	Mapped wet/water adjacent, not within Site Area. Meadow onsite may contain unmapped wetland.
Threatened and Endangered Species	20%	5.00	No ESA in vicinity.
Wildlife Area Combining Zone	10%	3.00	No big game winter range, Deer winter range w/in 3 mi.
Greater Sage-Grouse Area Combining Zone	40%	5.00	Habitat not present in vicinity.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No County overlay mapped w/in 1/2 mi.
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	Site is within protective 2 mile nest buffer of eagle nest.
Land Use	30%	2.55	
Proximity to Airports	15%	5.00	
Site Zoning	20%	1.00	EFU with Destination Resort Combining Zone
Adjacent Land Use Impacts	20%	2.00	
<i>Existing Adjacent Use</i>	25%	1	Residential to the north
<i>Planned Adjacent Use</i>	25%	1	Rural Residential Exception Area to north
<i>Distance to Nearest Residence</i>	25%	1	multiple residence within 0.25 miles
<i>Distance to Nearest Public Road</i>	25%	5	>0.25 miles to Cascade Estates Dr and Clover Dale Rd. however, there are private drives closer
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	site visible to adjacent residences
<i>Remoteness</i>	50%	1	adjacent residences <0.25 miles from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.20	
<i>Displacement</i>	40%	5	Undeveloped
<i>Known Cultural Resources</i>	30%	1	Partial prior survey; one unevaluated site in 500 ft buffer
<i>Potential for Buried Archaeological Sites</i>	30%	3	Little adjacent survey; flat landform with adjacent drainages; moderate probability

SITE ID: 151200

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
		3.63	
Site Characteristics/Engineering	35%	3.44	
Site Availability/Acquisition Potential		4.20	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	650 acres
Geotechnical Location Factors	10%	2.00	
<i>Fault Hazards</i>	25%	3	1.1 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	1	Moderate liquefaction
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.80	
<i>Depth to Groundwater</i>	25%	5	onsite well SWL -525 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	nearest dom well 0.25 mi W of site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA, but Cline Butte Water WHPA is just east
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 63094; confined
Development	15%	2.40	
<i>Soils</i>	45%	3	Pumice, red cinder, basalt, conglomerate
<i>Topography</i>	30%	1	Average Slope 5-10%
<i>Capacity/Site Configuration</i>	25%	3	Disposal Area Footprint = 397 acres
Operation	15%	2.65	
<i>Haul Distance to Waste Centroid</i>	60%	3	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water rights identified.
Natural Environments	35%	4.80	
Wetlands and Waters Impacts	10%	5.00	No mapped features in vicinity.
Threatened and Endangered Species	20%	5.00	No ESA in vicinity.
Wildlife Area Combining Zone	10%	5.00	No winter range overlays. Proposed winter habitat overlay onsite (ODFW).
Greater Sage-Grouse Area Combining Zone	40%	5.00	Habitat not present in vicinity.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No current overlay zone mapped.
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	Site w/in ORBIC polygon and 2 mi buffer of golden eagle nest (ORBIC; ODFW/County 2021).
Land Use	30%	2.50	
Proximity to Airports	15%	5.00	> 5 miles from sisteres and redmond runways
Site Zoning	20%	1.00	EFU with Destination Resort Combining Zone
Adjacent Land Use Impacts	20%	1.50	
<i>Existing Adjacent Use</i>	25%	1	Historic Landmark with apparent hiking trails nearby
<i>Planned Adjacent Use</i>	25%	1	Open Space and Conservation
<i>Distance to Nearest Residence</i>	25%	3	nearest residence ~0.28 miles from footprint,
<i>Distance to Nearest Public Road</i>	25%	1	Cline Falls Hwy within 0.25 mi
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible from 3 residences and Cline Falls Hwy within 0.5 mile from siite
<i>Remoteness</i>	50%	1	3 residences within 0.5 mile from siite
Transportation System Needs/Opportunity	5%	5.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.60	
<i>Displacement</i>	40%	5	Undeveloped
<i>Known Cultural Resources</i>	30%	1	Dense concentration of archaeological resources within the project area
<i>Potential for Buried Archaeological Sites</i>	30%	1	High probability that additional archaeological resources are present; Expect tribal concerns in this area

SITE ID: 151300

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.55	
Site Characteristics/Engineering	35%	3.50	
Site Availability/Acquisition Potential	35%	5.00	
<i>Ownership</i>	40%	5	Deschutes County
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	1170 Acres
Geotechnical Location Factors	10%	3.70	
<i>Fault Hazards</i>	25%	5	10 mi. W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate hazard
<i>Unstable Areas – Poor Foundation</i>	20%	1	Lave tubes within same unit near airport
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	2.40	
<i>Depth to Groundwater</i>	25%	3	Well on site (Negus) SWL -331 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	nearest well 0.2 mi west of site, footprint adjusted so dom. wells are >0.25 mi. distant
<i>Proximity to Wellhead Protection Areas</i>	15%	3	Portion of property is in 5-10YTOT / 2 City of Redmond wells, landfill footprint is outside these
<i>Site Hydrogeologic Framework</i>	30%	3	DESC 1768
Development	15%	2.15	
<i>Soils</i>	45%	3	sand, gravel, conglomerate, basalt
<i>Topography</i>	30%	1	Avg Slope < 1 percent
<i>Capacity/Site Configuration</i>	25%	2	Disposal Area Footprint = 480 acres
Operation	15%	2.20	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	5	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary; 2 wells w/ cert 63682 for 0.38 cfs on adjacent parcel
Natural Environments	35%	5.00	
Wetlands and Waters Impacts	10%	5.00	No mapped wetlands. Wetland may be present per aerial imagery.
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	5.00	No WA zone within 3 miles of site
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone w/in 0.5 mi. Pygmy rabbit ~1 mi from site.
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	1.90	
Proximity to Airports	15%	1.00	runway is 1.88 miles from edge of landfill footprint ~9900 feet
Site Zoning	20%	1.00	EFU with Airport Safety Combining Zone affecting southern third of parcel
Adjacent Land Use Impacts	20%	1.00	
<i>Existing Adjacent Use</i>	25%	1	Residential
<i>Planned Adjacent Use</i>	25%	1	Residential Exception Area to north and southwest
<i>Distance to Nearest Residence</i>	25%	1	20+ residences and public park within 0.25 mile of site
<i>Distance to Nearest Public Road</i>	25%	1	Upas Ave & Negus Way within 0.25 mi
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible from adjacent residences, public park, NE Upas Ave, and NE Negus Way
<i>Remoteness</i>	50%	1	20+ residences and public park within 0.25 mile of site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.80	
<i>Displacement</i>	40%	5	Undeveloped
<i>Known Cultural Resources</i>	30%	1	9 unevaluated archaeological resources within the project area
<i>Potential for Buried Archaeological Sites</i>	30%	5	Previously surveyed; largely undifferentiated flat land, low probability for additional significant resources

SITE ID: 161100

2 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
Site Characteristics/Engineering	35%	2.92	
Site Availability/Acquisition Potential	35%	4.60	
<i>Ownership</i>	40%	4	Municipal Owner
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	733 acres
Geotechnical Location Factors	10%	1.25	
<i>Fault Hazards</i>	25%	0	Fault on site
<i>Seismic Impact Zones/Hazards</i>	30%	1	Moderate liquefaction hazard
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	1.00	workable area shown on GIS map falls within 100 yr flood plain. Geometry may be modifiable to stay out of flood plain
Groundwater Protection/Hydrogeology	20%	3.30	
<i>Depth to Groundwater</i>	25%	3	avg SWL of 5 adjacent wells -432 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	Snow Creek wells between 0.25 and 0.5 mi N of site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 4160 & 58445; confined
Development	15%	1.25	
<i>Soils</i>	45%	1	0'-4' top soil, 4'-100' grey basalt, sandstone beneath
<i>Topography</i>	30%	1	Avg Slope < 0.25 percent
<i>Capacity/Site Configuration</i>	25%	2	Disposal Area Footprint = 427 acres
Operation	15%	1.90	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	3	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary; permit G12358 1 well 0.125 cfs 10 ac on nearby adjacent west property
Natural Environments	35%	3.20	
<i>Wetlands and Waters Impacts</i>	10%	5.00	None mapped in Site Area.
<i>Threatened and Endangered Species</i>	20%	0.00	No federal ESA. State threatened Peck's milk vetch on site.
<i>Wildlife Area Combining Zone</i>	10%	1.00	Tumalo Deer winter range on site
<i>Greater Sage-Grouse Area Combining Zone</i>	40%	5.00	No GSG zones within 3.1 miles of site
<i>Sensitive Bird and Mammal Habitat Combining Zone and</i>	20%	3.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	3	Golden eagle sensitive area 0.03 miles away
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	Golden eagle nest 0.27 mi., 0.95 mi. from prairie falcon
Land Use	30%	2.93	
<i>Proximity to Airports</i>	15%	5.00	
<i>Site Zoning</i>	20%	1.00	Other Zones
Adjacent Land Use Impacts	20%	3.00	
<i>Existing Adjacent Use</i>	25%	5	Open Space, Agriculture, Reservoir, Forest
<i>Planned Adjacent Use</i>	25%	5	Open Space, Agriculture, Reservoir, Forest
<i>Distance to Nearest Residence</i>	25%	1	1 residence 0.25 mi from site
<i>Distance to Nearest Public Road</i>	25%	1	Sisemore within 0.25 mi of site
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible to adjacent residences and Sisemore Rd
<i>Remoteness</i>	50%	1	4 residences within 0.5 mile
Transportation System Needs/Opportunity	5%	3.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.50	
<i>Displacement</i>	40%	5	Undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey
<i>Potential for Buried Archaeological Sites</i>	30%	3	records for surrounding area suggest high potential for historic refuse and low potential for precontact sites

SITE ID: 161234

3 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: ATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	3.08	
Site Availability/Acquisition Potential	35%	4.60	
<i>Ownership</i>	40%	5	Deschutes County
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	4	499 acres
Geotechnical Location Factors	10%	1.20	
<i>Fault Hazards</i>	25%	1	1.0 mile SE of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	0	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	3	moderate landslide hazard
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	2.75	
<i>Depth to Groundwater</i>	25%	5	avg SWL of 5 adjacent wells -546 ft
<i>Proximity to Drinking Water Wells</i>	30%	0	4 dom. wells <0.25 mi. on adjacent properties
<i>Proximity to Wellhead Protection Areas</i>	15%	0	50% of site in Boonesborough 2Y TOT
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 4736 & 55079; confined
Development	15%	1.00	
<i>Soils</i>	45%	1	grey basalt predominant
<i>Topography</i>	30%	1	Avg Slope < 1.0 percent
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint = 124 acres
Operation	15%	2.65	
<i>Haul Distance to Waste Centroid</i>	60%	3	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary; cert 46254 1 well dom located just north of property.
Natural Environments	35%	5.00	
Wetlands and Waters Impacts	10%	5.00	A Canal runs adjacent to the site
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	5.00	No WA zone within 3 miles of site
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	2.00	
Proximity to Airports	15%	3.00	~3.4 miles to Bend Airport Runway
Site Zoning	20%	1.00	EFU Prime Farmland
Adjacent Land Use Impacts	20%	1.00	
<i>Existing Adjacent Use</i>	25%	1	Residential
<i>Planned Adjacent Use</i>	25%	1	Residential
<i>Distance to Nearest Residence</i>	25%	1	10+ residences within 0.25 mile of site
<i>Distance to Nearest Public Road</i>	25%	1	Hwy 97 within 0.25 mi
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible from adjacent residences and Hwy 97
<i>Remoteness</i>	50%	1	over 50 residences within 0.5 mile of site
Transportation System Needs/Opportunity	5%	3.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.60	
<i>Displacement</i>	40%	2	Canal on site
<i>Known Cultural Resources</i>	30%	1	Partial prior survey; 3 unevaluated resources, 2 not eligible
<i>Potential for Buried Archaeological Sites</i>	30%	5	flat land, limited natural water sources; limited probability for significant sites
			grey basalt predominant

SITE ID: 171100-2700

1 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	3.36	
Site Availability/Acquisition Potential	35%	4.20	
Ownership	40%	3	Private
Number of Parcels	20%	5	Single Owner
Total Site Acreage	40%	5	642 acres
Geotechnical Location Factors	10%	1.85	
Fault Hazards	25%	0	fault on site
Seismic Impact Zones/Hazards	30%	3	Moderate liquefaction
Unstable Areas – Mass Movement	25%	3	Moderate landslide
Unstable Areas – Poor Foundation	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.30	
Depth to Groundwater	25%	3	avg SWL of 4 adjacent wells -325 ft
Proximity to Drinking Water Wells	30%	3	nearest well 0.55 mi from site
Proximity to Wellhead Protection Areas	15%	5	no WHPA
Site Hydrogeologic Framework	30%	3	DESC 9838 & 4679
Development	15%	2.80	
Soils	45%	2	Topsoil, grey lava (predominant), red cinder layer 10-20' thick
Topography	30%	3	Average Slope 1 to 3%
Capacity/Site Configuration	25%	4	Disposal Area Footprint = 492 acres
Operation	15%	2.50	
Haul Distance to Waste Centroid	60%	3	
Annual Precipitation	15%	3	
Onsite Water Supply and Management	25%	1	no water right in property boundary. Permit 16910 locates se of property.
Natural Environments	35%	4.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In Tumalo Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagles	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	2.95	
Proximity to Airports	15%	5.00	>10 miles to bend airport
Site Zoning	20%	1.00	Other
Adjacent Land Use Impacts	20%	4.50	
Existing Adjacent Use	25%	5	undeveloped
Planned Adjacent Use	25%	5	forest
Distance to Nearest Residence	25%	3	14 residences 0.5-1.0 mile from site
Distance to Nearest Public Road	25%	5	NF4606 gravel thru site, no paved rds within 0.25 mi.
Site Visibility/Aesthetic Impact	10%	2.00	
Visibility Based on Topography and/or Vegetation	50%	1	likely visible to 2 view residences within 1 mile
Remoteness	50%	3	14 residences 0.5-1.0 mile from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.40	
Displacement	40%	3	Natural Resource
Known Cultural Resources	30%	1	Partial prior survey; 3 unevaluated sites in 500 ft buffer
Potential for Buried Archaeological Sites	30%	3	moderate probability for additional resources along finger ridges

SITE ID: 171100-2735

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
		3.41	
Site Characteristics/Engineering	35%	3.41	
Site Availability/Acquisition Potential	35%	3.40	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	3	2 Owners
<i>Total Site Acreage</i>	40%	4	527 acres
Geotechnical Location Factors	10%	2.70	
<i>Fault Hazards</i>	25%	3	0.6 mi Eof site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	1	high/moderate
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.30	
<i>Depth to Groundwater</i>	25%	3	2 industrial wells on site avg SWL -313 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	nearest well 0.4 mi from site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 54048 & 54049; confined
Development	15%	3.40	
<i>Soils</i>	45%	5	Top soil, tan conglomerate, basalt
<i>Topography</i>	30%	3	Average Slope 2 to 10%
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint = 218 acres
Operation	15%	3.50	
<i>Haul Distance to Waste Centroid</i>	60%	3	
<i>Annual Precipitation</i>	15%	3	
<i>Onsite Water Supply and Management</i>	25%	5	Bull Springs Ranch, 2 wells, permit G18768 0.13 cfs irr 10.6 ac 4/1-11/1
Natural Environments	35%	4.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In Tumalo Deer winter range
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	2.03	
Proximity to Airports	15%	5.00	> 5miles to all airports
Site Zoning	20%	1.00	Other
Adjacent Land Use Impacts	20%	1.50	
<i>Existing Adjacent Use</i>	25%	1	Residential
<i>Planned Adjacent Use</i>	25%	1	Residential
<i>Distance to Nearest Residence</i>	25%	3	3 residences within 0.25-1.0 mile of site
<i>Distance to Nearest Public Road</i>	25%	1	NF4606 & Verheyden Ranch Rd <0.25 mi from site
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	good topographic and forest screening, site may be visible through trees from 1-2 residences ~1 mile away
<i>Remateness</i>	50%	1	3 residences within 0.5 mile of site, Shevlin Park 0.8 mile from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	1.00	haul routes on Johnson Rd or Newport Avenue? please confirm score.
On-Site Land Use Impacts	25%	1.90	
<i>Displacement</i>	40%	1	Natural Resource, existing residence onsite
<i>Known Cultural Resources</i>	30%	2	Parital prior survey; no identified resources
<i>Potential for Buried Archaeological Sites</i>	30%	3	10% existing disturbance/development; The terrain and surrounding records suggest moderate probability

SITE ID: 171203

2 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	3.14	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	4	Municipality
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	4	458 acres
Geotechnical Location Factors	10%	3.20	
<i>Fault Hazards</i>	25%	3	1.0 mi S of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate hazard
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	2.75	
<i>Depth to Groundwater</i>	25%	5	avg SWL of 5 adjacent wells -607 ft
<i>Proximity to Drinking Water Wells</i>	30%	0	10+ dom wells <0.25 mi from site
<i>Proximity to Wellhead Protection Areas</i>	15%	0	Northern 20% is in Boonsborough 2yr TOT
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 59811 & 54389; confined
Development	15%	1.00	
<i>Soils</i>	45%	1	Sand, Pumice and Lava
<i>Topography</i>	30%	1	Avg Slope < 1.0 percent
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint = 226 acres
Operation	15%	2.65	
<i>Haul Distance to Waste Centroid</i>	60%	3	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. Permit 17246 (2 wells 0.037 cfs; 3.0 ac irr 3/1-10/31) located adjacent east of property.
Natural Environments	35%	4.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	3.00	Antelope Range within 3 miles of the site
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	3.40	
Proximity to Airports	15%	3.00	approx 3.4 miles to Bend Airport Runway
Site Zoning	20%	5.00	EFU (only small area of prime farmland)
Adjacent Land Use Impacts	20%	2.00	
<i>Existing Adjacent Use</i>	25%	1	Residential
<i>Planned Adjacent Use</i>	25%	1	Residential
<i>Distance to Nearest Residence</i>	25%	1	several residences within 0.25 mile
<i>Distance to Nearest Public Road</i>	25%	5	Deschutes Mkt Rd 0.32 mi from site
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	likely visible from several residences within 1 mile
<i>Remoteness</i>	50%	1	several residences within 0.5 mile
Transportation System Needs/Opportunity	5%	5.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.80	
<i>Displacement</i>	40%	5	Undeveloped
<i>Known Cultural Resources</i>	30%	1	Previously surveyed; 2 eligible sites, 4 unevaluated resources
<i>Potential for Buried Archaeological Sites</i>	30%	5	Given prior survey, overall terrain, and records from surrounding areas, it is unlikely additional significant resources would be present

SITE ID: 171415

1 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	3.24	
Site Availability/Acquisition Potential	35%	3.40	
<i>Ownership</i>	40%	4	State of Oregon
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	2	317 acres
Geotechnical Location Factors	10%	3.70	
<i>Fault Hazards</i>	25%	5	8.9 mi SW of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.50	
<i>Depth to Groundwater</i>	25%	5	avg SWL of 5 adjacent wells -615 ft
<i>Proximity to Drinking Water Wells</i>	30%	0	5 domestic wells <0.25 mi E of site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 55345 & 55826; confined
Development	15%	2.80	
<i>Soils</i>	45%	5	Top soil, brown conglomerate, and basalt
<i>Topography</i>	30%	1	Avg Slope < 1.0 percent
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint = 217 acres
Operation	15%	2.05	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary or adjacent.
Natural Environments	35%	4.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	3.00	Antelope Range adjacent to parcel
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	3.48	
Proximity to Airports	15%	5.00	>5 miles to Bend Airport Runway
Site Zoning	20%	5.00	EFU no prime farmland
Adjacent Land Use Impacts	20%	3.00	
<i>Existing Adjacent Use</i>	25%	1	Residence
<i>Planned Adjacent Use</i>	25%	5	Agriculture
<i>Distance to Nearest Residence</i>	25%	1	several residences <0.25 mi of site
<i>Distance to Nearest Public Road</i>	25%	5	Johnson Ranch Rd 0.34 mi of site
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible to adjacent residences <0.25 mi from site
<i>Remoteness</i>	50%	1	several residences & farms <0.25 mi of site
Transportation System Needs/Oppportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.90	
<i>Displacement</i>	40%	5	Undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey
<i>Potential for Buried Archaeological Sites</i>	30%	1	Rolling terrain; dense precontact sites in similar nearby settings

SITE ID: 181230

3 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	3.40	
Site Availability/Acquisition Potential	35%	3.80	
Ownership	40%	3	2 Owners
Number of Parcels	20%	3	Private
Total Site Acreage	40%	5	654 acres
Geotechnical Location Factors	10%	2.45	
Fault Hazards	25%	0	<200 ft of site boundary
Seismic Impact Zones/Hazards	30%	5	
Unstable Areas – Mass Movement	25%	3	Moderate landslide
Unstable Areas – Poor Foundation	20%	1	within Horse Lava Tube System
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	2.75	
Depth to Groundwater	25%	5	3 wells on site avg SWL -488 ft
Proximity to Drinking Water Wells	30%	0	Roats well <0.25 mi.
Proximity to Wellhead Protection Areas	15%	0	within multiple (Roats, Avion, HDM) 2-yr TOT
Site Hydrogeologic Framework	30%	5	DESC 5696 & 60882; confined
Development	15%	3.00	
Soils	45%	3	Top soil, brown conglomerate, and basalt
Topography	30%	3	Average Slope 1 to 2%
Capacity/Site Configuration	25%	3	Disposal Area Footprint = 463 acres
Operation	15%	3.85	
Haul Distance to Waste Centroid	60%	5	
Annual Precipitation	15%	4	
Onsite Water Supply and Management	25%	1	no water right in property boundary. Permit G12288; 1 well 0.36 cfs (0.34 comm & 0.02 irrr 1.98 ac) sw of property.
Natural Environments	35%	4.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	OR SpotFrog CritHab 2.7 mi. No suitable habitat at/near site, assumed '5'.
Wildlife Area Combining Zone	10%	3.00	North Paulina Deer winter range adjacent
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory B	20%	4.00	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagles	50%	3	Potentially w/ 1 mi of Golden Eagle nest (ORBIC section data vague)
Land Use	30%	2.60	
Proximity to Airports	15%	5.00	approx 9 mi to Bend Airport runway and 8.4 to sunriver runway
Site Zoning	20%	1.00	Includes residential
Adjacent Land Use Impacts	20%	2.00	
Existing Adjacent Use	25%	5	undeveloped, forested, mining
Planned Adjacent Use	25%	1	Includes residential
Distance to Nearest Residence	25%	1	several residences within 0.25 mi of site
Distance to Nearest Public Road	25%	1	Scalehouse & Knott within 0.25 mi of site
Site Visibility/Aesthetic Impact	10%	2.00	
Visibility Based on Topography and/or Vegetation	50%	3	pine forest screening
Remoteness	50%	1	several residences and developments within 0.5 mi
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.00	
Displacement	40%	3	includes natural resource
Known Cultural Resources	30%	1	Partial prior survey; 1 unevaluated resource in 500 ft buffer
Potential for Buried Archaeological Sites	30%	5	low to moderate probability in the southern half based on topography

SITE ID: 181300

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.83	
Site Characteristics/Engineering	35%	3.94	
Site Availability/Acquisition Potential	35%	4.60	
<i>Ownership</i>	40%	4	Central Oregon Irrigation District
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	873 acres
Geotechnical Location Factors	10%	3.20	
<i>Fault Hazards</i>	25%	3	3.8 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.80	
<i>Depth to Groundwater</i>	25%	5	avg SWL of 5 adjacent wells -720 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	>10 wells bordering property, disposal footprint adjusted so all wells are >0.25 mi distant
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 55063 & 52556; confined
Development	15%	2.80	
<i>Soils</i>	45%	2	Soil and Gray Basalt
<i>Topography</i>	30%	3	Avg Slope < 1.0 percent
<i>Capacity/Site Configuration</i>	25%	4	Disposal Area Footprint = 416 acres
Operation	15%	3.85	
<i>Haul Distance to Waste Centroid</i>	60%	5	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. Permit G13573 a well 0.111 cfs 12.6 ac irr 4/1-10/31 adjacent nw of property.
Natural Environments	35%	4.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands mapped. Potential wetlands per aerial signature.
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	3.00	North Paulina Deer Winter Range 1.12 miles away
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	2.58	
Proximity to Airports	15%	3.00	approx 4.14 mi to Bend Airport runway
Site Zoning	20%	1.00	Other, and half prime farmland
Adjacent Land Use Impacts	20%	3.00	
<i>Existing Adjacent Use</i>	25%	5	undeveloped, agriculture
<i>Planned Adjacent Use</i>	25%	5	agriculture
<i>Distance to Nearest Residence</i>	25%	1	several residences within 0.25 mi of site
<i>Distance to Nearest Public Road</i>	25%	1	witin 0.25 mi of Skywagon Dr & Bear Ck Rd
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	lava ridges & juniper forest screening
<i>Remoteness</i>	50%	1	several residences within 0.25 mi of site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	4.00	
On-Site Land Use Impacts	25%	3.50	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey
<i>Potential for Buried Archaeological Sites</i>	30%	3	Moderate probability for sites based on records from similar nearby settings

SITE ID: 181315

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.82	
Site Characteristics/Engineering	35%	3.64	
Site Availability/Acquisition Potential	35%	5.00	
<i>Ownership</i>	40%	5	Deshutes County
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	683 acres
Geotechnical Location Factors	10%	2.00	
<i>Fault Hazards</i>	25%	3	3.5 mi SW of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	1	High liquefaction risk mapped on property, but outside disposal area footprint
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide risk
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.20	
<i>Depth to Groundwater</i>	25%	5	avg SWL of 5 adjacent wells -785 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	4-5 dom. wells bordering property, disposal footprint adjusted so all wells are >0.25 mi distant
<i>Proximity to Wellhead Protection Areas</i>	15%	1	So of Rickard is in 1 YTOT for Conestoga well, proposed disposal footprint >1300' distant and down-gradient
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 60473 & 1139
Development	15%	1.50	
<i>Soils</i>	45%	1	Top Soil, Lava and Cinders
<i>Topography</i>	30%	1	Avg Slope = 1 to 3 percent
<i>Capacity/Site Configuration</i>	25%	3	Disposal Area Footprint = 369 acres
Operation	15%	3.85	
<i>Haul Distance to Waste Centroid</i>	60%	5	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. Cert G94400 a well 0.009 cfs 0.74 ac irr 3/1-10/31 adjacent sw of property. Cert 86161& 87382 Avion water Co Conestoga well.
Natural Environments	35%	4.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	3.00	North Paulina Deer Winter Range 1.36 miles away
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	2.88	
Proximity to Airports	15%	3.00	approx 4.65mi to Bend airport runway
Site Zoning	20%	5.00	EFU, very small areas of prime farmland
Adjacent Land Use Impacts	20%	1.00	
<i>Existing Adjacent Use</i>	25%	1	residential
<i>Planned Adjacent Use</i>	25%	1	residential
<i>Distance to Nearest Residence</i>	25%	1	several residences within 0.25 mi of site
<i>Distance to Nearest Public Road</i>	25%	1	landfill footprint within 0.9 mi of Rickard Rd
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	topographic and juniper forest screening
<i>Remoteness</i>	50%	1	several residences within 0.25 mi of site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	2.00	
On-Site Land Use Impacts	25%	3.50	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey
<i>Potential for Buried Archaeological Sites</i>	30%	3	Moderate probability for resources based on terrain and records from similar nearby settings.

SITE ID: 181400

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
Site Characteristics/Engineering	35%	3.34	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	4	Municipal
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	4	479 acres
Geotechnical Location Factors	10%	3.10	
<i>Fault Hazards</i>	25%	5	8.1 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.80	
<i>Depth to Groundwater</i>	25%	5	avg SWL of 4 adjacent wells -711 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	4 dom wells 0.25 -0.5 mi adjacent
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 52145; confined
Development	15%	1.00	
<i>Soils</i>	45%	1	Soil and Gray Basalt
<i>Topography</i>	30%	1	Avg Slope < 1.0 percent
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint = 238 acres
Operation	15%	2.65	
<i>Haul Distance to Waste Centroid</i>	60%	3	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property. Permit G16844 a well 0.063 cfs 5.0 ac irr 3/1 10/31 south of site.
Natural Environments	35%	4.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	3.00	North Paulina Deer Winter Range 0.6 miles away
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No bald or golden eagle nest within 2 miles of site
Land Use	30%	2.75	
Proximity to Airports	15%	5.00	approx . 7.4 miles to Bend Airport runway
Site Zoning	20%	1.00	EFU, lots of prime farmland
Adjacent Land Use Impacts	20%	3.00	
<i>Existing Adjacent Use</i>	25%	5	undeveloped or agriculture
<i>Planned Adjacent Use</i>	25%	5	agriculture
<i>Distance to Nearest Residence</i>	25%	1	nearest dwelling 0.15 mi from site
<i>Distance to Nearest Public Road</i>	25%	1	Dodds Rd within 0.25 of site
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible from Dodds Rd & residences < 1 mi from site
<i>Remoteness</i>	50%	1	nearest dwelling 0.15 mi from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.20	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	1	Partial prior survey; 1 unevaluated canal; 2 not eligible resources
<i>Potential for Buried Archaeological Sites</i>	30%	3	Moderate potential for additional resources based on topographic variation and nearby records

SITE ID: 191300

2 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	3.03	
Site Availability/Acquisition Potential	35%	3.00	
Ownership	40%	3	Private
Number of Parcels	20%	5	Single Owner
Total Site Acreage	40%	2	322 acres
Geotechnical Location Factors	10%	1.85	
Fault Hazards	25%	0	<200 ft of site boundary
Seismic Impact Zones/Hazards	30%	3	Moderate liquefaction/
Unstable Areas – Mass Movement	25%	3	Moderate landslide
Unstable Areas – Poor Foundation	20%	1	within Arnold Lave Tube System
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	5.00	
Depth to Groundwater	25%	5	avg of 3 wells SWL-1043 ft
Proximity to Drinking Water Wells	30%	5	nearest dom well 2.8 mi NE of site
Proximity to Wellhead Protection Areas	15%	5	no WHPA
Site Hydrogeologic Framework	30%	5	DESC 5751;confined
Development	15%	1.00	
Soils	45%	1	Top Soil, Lava and Cinders
Topography	30%	1	Avg Slope < 2.0 percent
Capacity/Site Configuration	25%	1	Disposal Area Footprint = 225 acres
Operation	15%	2.65	
Haul Distance to Waste Centroid	60%	3	
Annual Precipitation	15%	4	
Onsite Water Supply and Management	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	2.10	
Wetlands and Waters Impacts	10%	5.00	No mapped wetlands. Wetland along road (avoidable).
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In North Paulina Deer Wintering Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	Low Density Area
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	0.50	
Sensitive Bird and Mammal Habitat Combining Zone	50%	0	Townsend's Big Eared bat mapped on site
Migratory Birds, Including Bald and Golden Eagles	50%	1	Golden/Bald eagle nest within 0.25 miles
Land Use	30%	3.40	
Proximity to Airports	15%	5.00	approx 11.9 miles from Bend Airport runway
Site Zoning	20%	1.00	Other (EFU with prime farmland)
Adjacent Land Use Impacts	20%	5.00	
Existing Adjacent Use	25%	5	undeveloped
Planned Adjacent Use	25%	5	agriculture
Distance to Nearest Residence	25%	5	
Distance to Nearest Public Road	25%	5	
Site Visibility/Aesthetic Impact	10%	5.00	
Visibility Based on Topography and/or Vegetation	50%	5	
Remateness	50%	5	
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.60	
Displacement	40%	5	undeveloped
Known Cultural Resources	30%	1	Parial prior survey; collpaseds lava tube system with numerous unevaluates sites along the rim
Potential for Buried Archaeological Sites	30%	1	Density of sites along the entire lava tube system suggests the potential for dense archaeological resources within the unsurveyed portions of the lava tube in the project area

SITE ID: 191400-200

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
Site Characteristics/Engineering	35%	3.79	
Site Availability/Acquisition Potential	35%	3.40	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	3	445 acres
Geotechnical Location Factors	10%	2.10	
<i>Fault Hazards</i>	25%	3	3.6 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction
<i>Unstable Areas – Mass Movement</i>	25%	1	High/moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	5.00	
<i>Depth to Groundwater</i>	25%	5	3 wells on site avg SWL -890 ft
<i>Proximity to Drinking Water Wells</i>	30%	5	nearest dom well 2.9 mi W of site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 56052; confined
Development	15%	4.55	
<i>Soils</i>	45%	4	Pumice, Clay, Sand/Gravel, Lava, Cinder and Basalt
<i>Topography</i>	30%	5	Avg Slope = 1 to 5 percent
<i>Capacity/Site Configuration</i>	25%	5	Disposal Area Footprint = 369 acres
Operation	15%	3.05	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	5	water right in property; permit G12860 a well 1.09 cfs [0.27 cfs dust control & 0.82 cfs gravel washing] year around
Natural Environments	35%	2.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In North Paulina Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	Low Density area on site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	Golden eagle nest w/in 2 mi. of site
Land Use	30%	4.10	
Proximity to Airports	15%	5.00	approx 13.2 miles to Bend Airport runway
Site Zoning	20%	5.00	SM (wildlife combining zone in separate criteria)
Adjacent Land Use Impacts	20%	5.00	
<i>Existing Adjacent Use</i>	25%	5	undeveloped, ag
<i>Planned Adjacent Use</i>	25%	5	SM and ag
<i>Distance to Nearest Residence</i>	25%	5	no residences within 1 mi
<i>Distance to Nearest Public Road</i>	25%	5	HWy 20 > 0.25 mi from site
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible from Badlands TH <0.25mi from site
<i>Remoteness</i>	50%	3	Bend Aero Modelers Airstrip 0.6 mi from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.40	
<i>Displacement</i>	40%	4	Surface mining (assuming active use?)
<i>Known Cultural Resources</i>	30%	1	Partial prior survey; 1 large eligible site in north; numerous not eligible resources in the 500 ft. buffer
<i>Potential for Buried Archaeological Sites</i>	30%	5	Project area already 50% developed/disturbed; Moderate potential along drainages in the south part of the parcel

SITE ID: 191400-700

1 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	3.21	
Site Availability/Acquisition Potential		2.60	
Ownership	40%	3	
Number of Parcels	20%	1	
Total Site Acreage	40%	3	
Geotechnical Location Factors	10%	2.10	
Fault Hazards	25%	3	1 mi SW of site boundary
Seismic Impact Zones/Hazards	30%	3	Moderate liquefaction/
Unstable Areas – Mass Movement	25%	1	high/moderate landslide
Unstable Areas – Poor Foundation	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.80	
Depth to Groundwater	25%	5	well on site SWL-950 ft
Proximity to Drinking Water Wells	30%	1	2 dom wells <0.5 mi NW of site
Proximity to Wellhead Protection Areas	15%	5	no WHPA
Site Hydrogeologic Framework	30%	5	DESC 5751; confined
Development	15%	4.55	
Soils	45%	4	Sand, Gravel and Basalt
Topography	30%	5	Avg Slope = 2 to 15 percent
Capacity/Site Configuration	25%	5	Disposal Area Footprint = 329 acres
Operation	15%	2.65	
Haul Distance to Waste Centroid	60%	3	
Annual Precipitation	15%	4	
Onsite Water Supply and Management	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	2.10	
Wetlands and Waters Impacts	10%	1.00	Three intermittent stream channels are in the area
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In North Paulina Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	Low Density Area
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	2.50	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagles	50%	0	In Golden Eagle nesting area, ampping vage so need data point
Land Use	30%	2.98	
Proximity to Airports	15%	5.00	approx 11.5 mi to bend airport runway
Site Zoning	20%	1.00	Most SM, but some EFU with prime farmland
Adjacent Land Use Impacts	20%	3.50	
Existing Adjacent Use	25%	5	surface mine
Planned Adjacent Use	25%	5	ag
Distance to Nearest Residence	25%	3	nearest residence 0.36 mi from site
Distance to Nearest Public Road	25%	1	paved Horse Ridge Frontage Rd thru site
Site Visibility/Aesthetic Impact	10%	1.00	
Visibility Based on Topography and/or Vegetation	50%	1	site visible from rd, mt biking parking lot within 1 mile
Remoteness	50%	1	mt biking parking lot & trailhead <0.5 mi from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.70	
Displacement	40%	4	surface mine (assuming active?)
Known Cultural Resources	30%	2	Partial prior survey, no recorded resources
Potential for Buried Archaeological Sites	30%	5	25% existing disturbance; Landforms and lack of natural water sources suggest low overall probability for archaeological resources

SITE ID: 191400-2400

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.27	
Site Characteristics/Engineering	35%	3.84	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	634 acres
Geotechnical Location Factors	10%	1.60	
<i>Fault Hazards</i>	25%	1	<200 ft of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	1	High/moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	4.50	
<i>Depth to Groundwater</i>	25%	3	SWL -372 based on one offsite well
<i>Proximity to Drinking Water Wells</i>	30%	5	nearest well 3 miles from site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 61790 & 5752; confined
Development	15%	5.00	
<i>Soils</i>	45%	5	Sand, Gravel and Basalt
<i>Topography</i>	30%	5	Avg Slope = 1 to 25 percent
<i>Capacity/Site Configuration</i>	25%	5	Disposal Area Footprint = 293 acres
Operation	15%	2.05	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	2.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In North Paulina Deer Wintering Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	In low density area, w/in 3.1 mi. of lek
Sensitive Bird and Mammal Habitat Combining Zone and Migra	20%	3.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	1	Golden eagle mapped on site. Exact nest location unknown.
Land Use	30%	3.40	
Proximity to Airports	15%	5.00	well over 5 miles from any airport runway
Site Zoning	20%	1.00	EFU prime
Adjacent Land Use Impacts	20%	5.00	
<i>Existing Adjacent Use</i>	25%	5	undeveloped
<i>Planned Adjacent Use</i>	25%	5	ag
<i>Distance to Nearest Residence</i>	25%	5	no residences within 1 mile
<i>Distance to Nearest Public Road</i>	25%	5	no public roads within 0.25 mi
Site Visibility/Aesthetic Impact	10%	5.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	5	topographic screening
<i>Remoteness</i>	50%	5	no residences or active developments within 1 mile
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.60	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	1	Partial prior survey; 3 unevaluated sites within parcel
<i>Potential for Buried Archaeological Sites</i>	30%	1	The basin is likely to contain additional archaeological resources on slopes, ridgelines, and potentially within the basin.

SITE ID: 191400-3300

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		2.95	
Site Characteristics/Engineering	35%	3.31	
Site Availability/Acquisition Potential	35%	3.40	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	1	4 Owners
<i>Total Site Acreage</i>	40%	5	646 acres
Geotechnical Location Factors	10%	2.00	
<i>Fault Hazards</i>	25%	1	0.25 mi. SW of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	1	High liquefaction, study further to confirm score
<i>Unstable Areas – Mass Movement</i>	25%	5	
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.90	
<i>Depth to Groundwater</i>	25%	3	avg SWL (2 wells) -362 ft
<i>Proximity to Drinking Water Wells</i>	30%	3	nearest dom well 0.6 mi SW of site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 61790; confined
Development	15%	3.90	
<i>Soils</i>	45%	5	Soil and Basalt
<i>Topography</i>	30%	3	Avg Slope < 1 percent
<i>Capacity/Site Configuration</i>	25%	3	Disposal Area Footprint = 405 acres
Operation	15%	2.05	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. Permit G16243 a well 1.0 cfs & limit to 6.0 afy indust use [gravel mining] year located east of property.
Natural Environments	35%	2.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In Antelope Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	Low density area onsite, 0.15 mi. to lek buffer
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	3.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	3	Sage grouse sensitive lek area 0.15 mile away
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	Golden eagle nest within 2 miles last observed by USFWS 2013
Land Use	30%	2.93	
Proximity to Airports	15%	5.00	well over 5 miles from any airport runway
Site Zoning	20%	1.00	EFU, Prime
Adjacent Land Use Impacts	20%	4.50	
<i>Existing Adjacent Use</i>	25%	5	undeveloped
<i>Planned Adjacent Use</i>	25%	5	ag, sm
<i>Distance to Nearest Residence</i>	25%	3	residences 0.25-1.0 mi from site
<i>Distance to Nearest Public Road</i>	25%	5	by Fort Rock Rd (gravel), but Hwy 20 >0.25 mi from site
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible to residences & Fort Rock Rd within 1 mi
<i>Remoteness</i>	50%	1	residences and paintball facility within 0.5 mi.
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.70	
<i>Displacement</i>	40%	3	unknown use
<i>Known Cultural Resources</i>	30%	2	No prior survey; no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	3	The presence of an ephemeral/intermittent stream channel suggests moderate potential for adjacent archaeology.

SITE ID: 191600

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.50	
Site Characteristics/Engineering	35%	3.69	
Site Availability/Acquisition Potential	35%	4.20	
Ownership	40%	3	Private
Number of Parcels	20%	5	Single Owner
Total Site Acreage	40%	5	1245 acres
Geotechnical Location Factors	10%	1.50	
Fault Hazards	25%	3	3.3 mi SW of site boundary
Seismic Impact Zones/Hazards	30%	1	High liquefaction, study further to confirm score
Unstable Areas – Mass Movement	25%	1	high/moderate landslide
Unstable Areas – Poor Foundation	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	4.50	
Depth to Groundwater	25%	3	on site well SWL-459 ft
Proximity to Drinking Water Wells	30%	5	nearest dom well 1.5 mi north of site
Proximity to Wellhead Protection Areas	15%	5	No WHPA
Site Hydrogeologic Framework	30%	5	DESC 5757
Development	15%	4.55	
Soils	45%	4	Top Soil, Sand/Gravel and Basalt
Topography	30%	5	Avg Slope = 1 to 25 percent
Capacity/Site Configuration	25%	5	Disposal Area Footprint = 567 acres
Operation	15%	1.60	
Haul Distance to Waste Centroid	60%	1	
Annual Precipitation	15%	5	
Onsite Water Supply and Management	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	3.00	
Wetlands and Waters Impacts	10%	5.00	Two small ponded wetlands outside site area
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In mapped Antelope and Deer ranges
Greater Sage-Grouse Area Combining Zone	40%	1.00	In low density habitat
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagles	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.88	
Proximity to Airports	15%	5.00	greater than 5 miles from any airport runway
Site Zoning	20%	3.00	SM
Adjacent Land Use Impacts	20%	5.00	
Existing Adjacent Use	25%	5	ag, undeveloped
Planned Adjacent Use	25%	5	ag
Distance to Nearest Residence	25%	5	no nearby residences within 1 mi
Distance to Nearest Public Road	25%	5	hwy 20 > 0.25 mi
Site Visibility/Aesthetic Impact	10%	3.00	
Visibility Based on Topography and/or Vegetation	50%	1	visible from Hwy 20, 0.3 mi from site
Remoteness	50%	5	no dwellings or active developments within 1 mi
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.70	
Displacement	40%	4	Surface Mining (assume active?)
Known Cultural Resources	30%	2	Partial prior survey; no previously recorded sites
Potential for Buried Archaeological Sites	30%	5	flat undifferentiated landform, low probability

SITE ID: 201400

1 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
Site Characteristics/Engineering	35%	3.18	
Site Availability/Acquisition Potential	35%	3.00	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	2	313 acres
Geotechnical Location Factors	10%	2.60	
<i>Fault Hazards</i>	25%	3	1.1 mi N of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	4.50	
<i>Depth to Groundwater</i>	25%	3	SWL -372 based on one offsite well
<i>Proximity to Drinking Water Wells</i>	30%	5	nearest dom well 1.5 mi NE site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 61790; confined
Development	15%	2.75	
<i>Soils</i>	45%	3	Top Soil, Sand/Gravel and Basalt
<i>Topography</i>	30%	3	Avg Slope = 1 to 3 percent
<i>Capacity/Site Configuration</i>	25%	2	Disposal Area Footprint = 290 acres
Operation	15%	2.05	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	2.10	
Wetlands and Waters Impacts	10%	1.00	Intermittent stream located in area
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Antelope Range on site, 0.15 mi. from winter deer range
Greater Sage-Grouse Area Combining Zone	40%	1.00	Low Density Habitat Area, 2 leks mapped on site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	2.50	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	0	Sage grouse lek sensitive area documented in site
<i>Migratory Birds, including Bald and Golden Eagles</i>	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.43	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport
Site Zoning	20%	1.00	EFU, fully prime farmland of statewide importance
Adjacent Land Use Impacts	20%	5.00	
<i>Existing Adjacent Use</i>	25%	5	ag, undeveloped
<i>Planned Adjacent Use</i>	25%	5	ag, undeveloped
<i>Distance to Nearest Residence</i>	25%	5	nearest residence > 1 mile from site
<i>Distance to Nearest Public Road</i>	25%	5	
Site Visibility/Aesthetic Impact	10%	4.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	visible to residence > mile from site
<i>Remoteness</i>	50%	5	
Transportation System Needs/Opportunity	5%		
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.30	
<i>Displacement</i>	40%	3	unknown activity
<i>Known Cultural Resources</i>	30%	2	No prior survey; no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	5	generally flat but sloping landform; low potential for archaeology

SITE ID: 201500-300

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.29	
Site Characteristics/Engineering	35%	3.65	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	1783 acres
Geotechnical Location Factors	10%	2.10	
<i>Fault Hazards</i>	25%	3	1.8 mi S of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	1	high/moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.30	
<i>Depth to Groundwater</i>	25%	3	avg of 2 wells along Ford Rd. SWL -275 ft
<i>Proximity to Drinking Water Wells</i>	30%	1	nearest dom well 0.4 mi
<i>Proximity to Wellhead Protection Areas</i>	15%	5	No WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 1603; confined
Development	15%	5.00	
<i>Soils</i>	45%	5	Top Soil, Sand/Gravel and Clay
<i>Topography</i>	30%	5	Avg Slope = 1 to 10 percent
<i>Capacity/Site Configuration</i>	25%	5	Disposal Area Footprint = 845 acres
Operation	15%	2.05	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	3.00	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Overlaps Antelope and North Paulina Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	In low density sage grouse area
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.23	
Proximity to Airports	15%	5.00	great than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU with prime farmland of statewide significance
Adjacent Land Use Impacts	20%	4.50	
<i>Existing Adjacent Use</i>	25%	5	ag, undeveloped, SM
<i>Planned Adjacent Use</i>	25%	5	ag, SM
<i>Distance to Nearest Residence</i>	25%	3	nearest residence 0.25-1 mile from site
<i>Distance to Nearest Public Road</i>	25%	5	landfill footprint can be located >0.25 mi from roads
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible from residence and roads within 1 mile
<i>Remoteness</i>	50%	3	landfill footprint can be located 0.5-1 mi from developments
Transportation System Needs/Oppportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.50	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey, no recorded archaeological sites
<i>Potential for Buried Archaeological Sites</i>	30%	3	Moderate probability based on landform and records for nearby areas

SITE ID: 201500-1601

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
		2.87	
Site Characteristics/Engineering	35%	2.99	
Site Availability/Acquisition Potential	35%	3.40	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	3	444 acres
Geotechnical Location Factors	10%	2.70	
<i>Fault Hazards</i>	25%	3	3 mi ESE of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	1	High/Moderate landslide
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.90	
<i>Depth to Groundwater</i>	25%	3	on site well SWL - 444 ft
<i>Proximity to Drinking Water Wells</i>	30%	5	nearest well 2 mi
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	3	DESC 57314
Development	15%	1.90	
<i>Soils</i>	45%	3	Top Soil, Brown Conglomerate
<i>Topography</i>	30%	1	Avg Slope = 15 to 20 percent
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint = 262 acres
Operation	15%	1.45	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	2.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In North Paulina Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	In low density area
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, including Bald and Golden Eagles</i>	50%	3	Golden Eagle nest within 2 miles, last observed by USFWS 2017
Land Use	30%	2.83	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU with prime farmland of statewide significance
Adjacent Land Use Impacts	20%	4.50	
<i>Existing Adjacent Use</i>	25%	5	ag, forest, undeveloped
<i>Planned Adjacent Use</i>	25%	5	ag, forest
<i>Distance to Nearest Residence</i>	25%	3	nearest residence 0.5 mi from site
<i>Distance to Nearest Public Road</i>	25%	5	>0.25 mi
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible to nearby residences within 1 mile
<i>Remoteness</i>	50%	3	residences 0.5-1.0 mi. from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	1.90	
<i>Displacement</i>	40%	1	residence and other use on site
<i>Known Cultural Resources</i>	30%	2	Partial survey; 1 unevaluated resource in parcel; 3 not eligible resources in 500 ft buffer
<i>Potential for Buried Archaeological Sites</i>	30%	3	based on existing records

SITE ID: 201600

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
Site Characteristics/Engineering	35%	3.04	
Site Availability/Acquisition Potential	35%	3.80	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	3	2 Owners
<i>Total Site Acreage</i>	40%	5	752 acres
Geotechnical Location Factors	10%	1.50	
<i>Fault Hazards</i>	25%	1	1 mi SW of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	1	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate susceptibility
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.90	
<i>Depth to Groundwater</i>	25%	3	well on site SWL-260 ft
<i>Proximity to Drinking Water Wells</i>	30%	3	nearest dom well 0.6 mi west of site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 6484
Development	15%	1.95	
<i>Soils</i>	45%	2	Top Soil, Sand/Gravel and Basalt
<i>Topography</i>	30%	1	Avg Slope < 0.3 percent
<i>Capacity/Site Configuration</i>	25%	3	Disposal Area Footprint = 610 acres
Operation	15%	1.60	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	5	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. G17676 & G116741 located east of property.
Natural Environments	35%	3.00	
Wetlands and Waters Impacts	10%	5.00	Small wetland is 15 feet away from site area, likely to be impacted.
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In Antelope range, Deer winter range is 0.15 mile away
Greater Sage-Grouse Area Combining Zone	40%	1.00	In low density sage grouse area
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.78	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU, all prime farmland of statewide significance
Adjacent Land Use Impacts	20%	5.00	
<i>Existing Adjacent Use</i>	25%	5	ag
<i>Planned Adjacent Use</i>	25%	5	ag
<i>Distance to Nearest Residence</i>	25%	5	nearest residence >1 mi. distant
<i>Distance to Nearest Public Road</i>	25%	5	nearest road (Moffitt Rd) 0.76 mi from site
Site Visibility/Aesthetic Impact	10%	4.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	visible from Hwy 20 & residence > 1mi. away
<i>Remoteness</i>	50%	5	nearest residence >1 mi. distant
Transportation System Needs/Opportunity	5%	3.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	4.10	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey, no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	5	low probability of significant sites based on landform and surrounding archaeology records

SITE ID: 211000

4 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	2.04	
Site Availability/Acquisition Potential	35%	3.00	
<i>Ownership</i>	40%	4	State of Oregon
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	1	267 acres
Geotechnical Location Factors	10%	1.20	
<i>Fault Hazards</i>	25%	3	2.4 mi NW of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	0	High liquifaction hazard
<i>Unstable Areas – Mass Movement</i>	25%	1	High susceptibility
<i>Unstable Areas – Poor Foundation</i>	20%	1	No Data
Floodplains	5%	3.00	Workable area shown within 300 ft of 100 yr floodplain. No layer for 500 yr floodplain, but may be within that
Groundwater Protection/Hydrogeology	20%	0.75	
<i>Depth to Groundwater</i>	25%	0	avg SWL of 5 adjacent wells -18 ft
<i>Proximity to Drinking Water Wells</i>	30%	0	10+ dom wells <0.25 mi surrounding site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	0	DESC 6547 & 56997
Development	15%	1.90	
<i>Soils</i>	45%	3	Top Soil, Brown Clay, Black Sand
<i>Topography</i>	30%	1	Avg Slope < 0.5 percent
<i>Capacity/Site Configuration</i>	25%	1	Disposal Area Footprint = 196 acres
Operation	15%	1.90	
<i>Haul Distance to Waste Centroid</i>	60%	2	
<i>Annual Precipitation</i>	15%	3	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property. Fall R OWRD cer in-stream flow rights for fish
Natural Environments	35%	3.40	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	1.00	Oregon Spotted Frog critial habitat is within 1 mile
Wildlife Area Combining Zone	10%	1.00	In Elk and deer migration range
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	3.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	3	Sensitive area 0.35 miles away
<i>Migratory Birds, including Bald and Golden Eagles</i>	50%	3	Bald eagle nesting site 0.68 miles away, county data
Land Use	30%	2.73	
Proximity to Airports	15%	5.00	approx 6.4 miles to sunriver airport runway
Site Zoning	20%	1.00	other (open space/conservation)
Adjacent Land Use Impacts	20%	2.50	
<i>Existing Adjacent Use</i>	25%	1	La Pine State Park
<i>Planned Adjacent Use</i>	25%	1	Recreation
<i>Distance to Nearest Residence</i>	25%	3	nearest residence 0.3 mi from site
<i>Distance to Nearest Public Road</i>	25%	5	adjacent to dirt roads (NF4360, Moose Dr), 1 mi from S Century Dr
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	tree screening
<i>Remoteness</i>	50%	1	residences 0.3 mi distant
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	4.00	
On-Site Land Use Impacts	25%	3.30	
<i>Displacement</i>	40%	3	natural resource (next to State Park)
<i>Known Cultural Resources</i>	30%	2	parital prior survey; no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	5	adjacent records suggest most sites are on the banks of the river; not eligible historic isolates most likely in project area

SITE ID: 211900

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.35	
Site Characteristics/Engineering	35%	3.64	
Site Availability/Acquisition Potential	35%	4.60	
<i>Ownership</i>	40%	4	State of Oregon
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	625 acres
Geotechnical Location Factors	10%	3.60	
<i>Fault Hazards</i>	25%	5	14.1 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	5	
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	4.00	
<i>Depth to Groundwater</i>	25%	1	avg SWL of closest wells -247 ft
<i>Proximity to Drinking Water Wells</i>	30%	5	nearest dom well 1.28 mi
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 59429; confined
Development	15%	2.65	
<i>Soils</i>	45%	3	Top Soil, Clay, and Grey Basalt
<i>Topography</i>	30%	1	Avg Slope = 0 to 1.0 percent
<i>Capacity/Site Configuration</i>	25%	4	Disposal Area Footprint = 529 acres
Operation	15%	1.45	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in prop. boundary. Certs 53800 (well, 1.61 cfs, 128.5 ac ir) 53804 (well, 1.65 cfs, 131.6 ac) & G53805 (well, 1.65 cfs, 132.0 ac ir) adjacent to n. property boundary.
Natural Environments	35%	3.00	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In Antelope Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	Overlaps low density sage grouse area
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.43	
Proximity to Airports	15%	5.00	more than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU, with prime farmland of statewide significance
Adjacent Land Use Impacts	20%	5.00	
<i>Existing Adjacent Use</i>	25%	5	undeveloped, ag
<i>Planned Adjacent Use</i>	25%	5	ag
<i>Distance to Nearest Residence</i>	25%	5	no nearby residences
<i>Distance to Nearest Public Road</i>	25%	5	Hwy 20 over 0.25 mi from site
Site Visibility/Aesthetic Impact	10%	3.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	visible from Hwy 20, less than 1 mile distant
<i>Remoteness</i>	50%	5	no dwellings or active developments within 1 mile
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.50	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey; no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	3	Scattered precontact sites in area on similar landforms

SITE ID: 212000

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
Site Characteristics/Engineering	35%	3.74	
Site Availability/Acquisition Potential	35%	4.60	
<i>Ownership</i>	40%	4	State of Oregon
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	2117 acres
Geotechnical Location Factors	10%	3.60	
<i>Fault Hazards</i>	25%	5	15.1 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	5	
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.40	
<i>Depth to Groundwater</i>	25%	1	avg SWL of 5 nearby wells -153 ft
<i>Proximity to Drinking Water Wells</i>	30%	3	dom well 0.6 mi north of site
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	DESC 791 & 677; confined
Development	15%	4.15	
<i>Soils</i>	45%	5	Top Soil, Clay, Sand and Gravel
<i>Topography</i>	30%	3	Avg Slope = 0 to 1.0 percent
<i>Capacity/Site Configuration</i>	25%	4	Disposal Area Footprint = 405 acres
Operation	15%	1.45	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property
Natural Environments	35%	3.20	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Anetelope Range
Greater Sage-Grouse Area Combining Zone	40%	2.00	Core area is 1.6 miles away
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, including Bald and Golden Eagles</i>	50%	3	Golden eagle nesting is 1 miles away, last observed by USFWS 2014
Land Use	30%	2.75	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport
Site Zoning	20%	1.00	EFU, prime farmland, landscape management
Adjacent Land Use Impacts	20%	3.50	
<i>Existing Adjacent Use</i>	25%	5	ag, sm
<i>Planned Adjacent Use</i>	25%	5	ag, sm
<i>Distance to Nearest Residence</i>	25%	3	nearest residence 0.63 mile from site
<i>Distance to Nearest Public Road</i>	25%	1	along Hwy 20, Harmon Rd crosses through site
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	
<i>Remoteness</i>	50%	3	nearest residence 0.63 miles from site
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	2.40	
<i>Displacement</i>	40%	3	farming use
<i>Known Cultural Resources</i>	30%	1	Partial survey; 1 unevaluated site
<i>Potential for Buried Archaeological Sites</i>	30%	3	Drainage channels and prior site recordings suggest some moderate for encountering archaeology

SITE ID: 221000-1001

3 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	2.72	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	1334 acres
Geotechnical Location Factors	10%	2.60	
<i>Fault Hazards</i>	25%	3	2.6 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	3	Moderate susceptibility along slopes
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	0.45	
<i>Depth to Groundwater</i>	25%	0	avg SWL of 5 adjacent wells -25 ft
<i>Proximity to Drinking Water Wells</i>	30%	0	10+ dom wells <0.25 mi surrounding site
<i>Proximity to Wellhead Protection Areas</i>	15%	3	Site within Ponderosa Pines Comm. Wells 10 YTOT
<i>Site Hydrogeologic Framework</i>	30%	0	DESC 8046 & 62414
Development	15%	3.05	
<i>Soils</i>	45%	5	Pumice Soil, Clay, Sand/ Gravel, Cinders
<i>Topography</i>	30%	1	Avg Slope = 0 to 1.0 percent
<i>Capacity/Site Configuration</i>	25%	2	Disposal Area Footprint = 538 acres
Operation	15%	1.30	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	3	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. Water rights (permits G18308, G18309, G18310) associated with Ponderosa Pines community wells located adjacent to western property boundary.
Natural Environments	35%	3.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	1.00	Oregon Spotted Frog critical habitat within 1 mile
Wildlife Area Combining Zone	10%	1.00	In Deer Migration Range
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.20	
Proximity to Airports	15%	5.00	greater than 5 mi to any airport runway
Site Zoning	20%	1.00	EFU, prime
Adjacent Land Use Impacts	20%	3.00	
<i>Existing Adjacent Use</i>	25%	5	ag
<i>Planned Adjacent Use</i>	25%	5	ag
<i>Distance to Nearest Residence</i>	25%	1	
<i>Distance to Nearest Public Road</i>	25%	1	
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	
<i>Remoteness</i>	50%	1	
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	5.00	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	5	Previous survey; no recorded sites; one isolate
<i>Potential for Buried Archaeological Sites</i>	30%	5	flat forested slopes, no natura water sources, many two-tracks creating soil exposures

SITE ID: 221000-2401

3 FATAL FLAW(S)

Criteria and weight	Weight	Total Score: FATAL FLAW(S)	Notes
Site Characteristics/Engineering	35%	2.77	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	779 acres
Geotechnical Location Factors	10%	2.50	
<i>Fault Hazards</i>	25%	3	2.8mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	1	Moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	5	
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	0.75	
<i>Depth to Groundwater</i>	25%	0	avg SWL of 5 adjacent wells -19 ft
<i>Proximity to Drinking Water Wells</i>	30%	0	20+ wells <0.25 mi
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	0	DESC 8375 &60494
Development	15%	3.05	
<i>Soils</i>	45%	5	Top Soil, Pumice, Clay, Sand/ Gravel, Cinders
<i>Topography</i>	30%	1	Avg Slope = 0 to 1.0 percent
<i>Capacity/Site Configuration</i>	25%	2	Disposal Area Footprint = 401 acres
Operation	15%	1.30	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	3	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. Water rights Cert 93260 associated with storage and pond maint located adjacent to east property boundary.
Natural Environments	35%	3.80	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	1.00	Within 1 mile from Oregon Spotted Frog critical habitat
Wildlife Area Combining Zone	10%	1.00	In Deer Migration Range
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	2.28	
<i>Proximity to Airports</i>	15%	5.00	greater than 5 mi to any airport runway
<i>Site Zoning</i>	20%	1.00	Other, Forest use 1
Adjacent Land Use Impacts	20%	1.00	
<i>Existing Adjacent Use</i>	25%	1	residential zoning
<i>Planned Adjacent Use</i>	25%	1	residential exception area designation
<i>Distance to Nearest Residence</i>	25%	1	
<i>Distance to Nearest Public Road</i>	25%	1	
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	screening with pine tree forest
<i>Remoteness</i>	50%	1	
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	1.00	
On-Site Land Use Impacts	25%	3.30	
<i>Displacement</i>	40%	3	unknown use
<i>Known Cultural Resources</i>	30%	2	No prior survey, no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	5	Flat undifferentiated landform with histroic refuse scatters and isolates in general vicinity,not dense and unlikely eligible

SITE ID: 222000

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Notes
		3.37	
Site Characteristics/Engineering	35%	3.73	
Site Availability/Acquisition Potential	35%	4.20	
Ownership	40%	3	Private
Number of Parcels	20%	5	Single Owner
Total Site Acreage	40%	5	553 acres
Geotechnical Location Factors	10%	3.60	
Fault Hazards	25%	5	13.7 mi W of site boundary
Seismic Impact Zones/Hazards	30%	3	Moderate liquefaction/
Unstable Areas – Mass Movement	25%	5	
Unstable Areas – Poor Foundation	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.40	
Depth to Groundwater	25%	1	on site well SWL-114ft
Proximity to Drinking Water Wells	30%	3	nearest domestic well 0.52 mi
Proximity to Wellhead Protection Areas	15%	5	no WHPA
Site Hydrogeologic Framework	30%	5	DESC 56139; confined
Development	15%	5.00	
Soils	45%	5	Top Soil, Clay, Sand/ Gravel, Cinders
Topography	30%	5	Avg Slope = 1 to 10 percent
Capacity/Site Configuration	25%	5	Disposal Area Footprint = 358 acres
Operation	15%	1.45	
Haul Distance to Waste Centroid	60%	1	
Annual Precipitation	15%	4	
Onsite Water Supply and Management	25%	1	no water right in property. Water rights Cert G95128 (4.15 cfs), G95604 (5.55 cfs), G96725 (2.52 cfs) associated w/ wells located along south and nw sides of property boundary.
Natural Environments	35%	3.40	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In Antelope Range
Greater Sage-Grouse Area Combining Zone	40%	2.00	GSG core area is 1.12 miles away
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagle:	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	2.93	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU, prime, landscape management
Adjacent Land Use Impacts	20%	3.50	
Existing Adjacent Use	25%	5	ag
Planned Adjacent Use	25%	5	ag
Distance to Nearest Residence	25%	3	
Distance to Nearest Public Road	25%	1	adjacent to Hwy 20
Site Visibility/Aesthetic Impact	10%	1.00	
Visibility Based on Topography and/or Vegetation.	50%	1	visible from Hwy20 and nearby residences
Remoteness	50%	1	site adjacent to Hwy 20 and pivot-irrigated farming
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.50	
Displacement	40%	5	undeveloped
Known Cultural Resources	30%	2	No prior survey; nor recorded sites
Potential for Buried Archaeological Sites	30%	3	adjacent portions of the highway corridor that have been surveyed show high number of precontact resources:

SITE ID: 222200-200

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
Site Characteristics/Engineering	35%	3.75	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	2897 acres
Geotechnical Location Factors	10%	4.20	
<i>Fault Hazards</i>	25%	5	5.2 E mi NW of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	5	
<i>Unstable Areas – Mass Movement</i>	25%	5	
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.40	
<i>Depth to Groundwater</i>	25%	1	SWL-179 ft (Cougar Well)
<i>Proximity to Drinking Water Wells</i>	30%	5	nearest well 3.5 miles
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	3	DESC 7802 & CROO 50599
Development	15%	4.75	
<i>Soils</i>	45%	5	Top Soil, Clay, Sand/ Gravel,
<i>Topography</i>	30%	5	Avg Slope = 0 to 1.0 percent
<i>Capacity/Site Configuration</i>	25%	4	Disposal Area Footprint = 889 acres
Operation	15%	1.45	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	3.00	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified on site. Small pond/wetland is directly out of project area
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Antelope Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	In low density Sage Brush habitat, just outside of Core
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	Golden Eagle nesting area just outside 2 miles, last observed USFWS 2016
Land Use	30%	3.78	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU, prime farmland
Adjacent Land Use Impacts	20%	5.00	
<i>Existing Adjacent Use</i>	25%	5	ag
<i>Planned Adjacent Use</i>	25%	5	ag
<i>Distance to Nearest Residence</i>	25%	5	
<i>Distance to Nearest Public Road</i>	25%	5	
Site Visibility/Aesthetic Impact	10%	5.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	5	
<i>Remoteness</i>	50%	5	
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	4.10	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey; no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	5	few ephemeral drainages, isolates most likely, probability of significant sites low

SITE ID: 222200-400

0 FATAL FLAW(S)

Criteria and weight	Weight	Total Score:	Broad Site Screening Notes (subject to refinement)
		3.30	
Site Characteristics/Engineering	35%	3.73	
Site Availability/Acquisition Potential	35%	4.20	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	5	640 acres
Geotechnical Location Factors	10%	3.60	
<i>Fault Hazards</i>	25%	5	12 mi S of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction
<i>Unstable Areas – Mass Movement</i>	25%	5	
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	
Groundwater Protection/Hydrogeology	20%	3.40	
<i>Depth to Groundwater</i>	25%	1	SWL-179 ft (Cougar Well)
<i>Proximity to Drinking Water Wells</i>	30%	5	nearest well 2.5 miles
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	3	DESC 7802 & CROO 50599
Development	15%	5.00	
<i>Soils</i>	45%	5	Top Soil, Clay, Sand/ Gravel,
<i>Topography</i>	30%	5	Avg Slope = 2 to 5 percent
<i>Capacity/Site Configuration</i>	25%	5	Disposal Area Footprint = 593 acres
Operation	15%	1.45	
<i>Haul Distance to Waste Centroid</i>	60%	1	
<i>Annual Precipitation</i>	15%	4	
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	2.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Antelope Range
Greater Sage-Grouse Area Combining Zone	40%	1.00	Portion of landfill is in low density sage grouse habitat
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	3.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	1	Golden eagles nest within 0.25 miles, last observed by USFWS 2016
Land Use	30%	3.63	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU, prime farmland
Adjacent Land Use Impacts	20%	5.00	
<i>Existing Adjacent Use</i>	25%	5	ag
<i>Planned Adjacent Use</i>	25%	5	ag
<i>Distance to Nearest Residence</i>	25%	5	
<i>Distance to Nearest Public Road</i>	25%	5	
Site Visibility/Aesthetic Impact	10%	5.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	5	
<i>Remoteness</i>	50%	5	
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	
On-Site Land Use Impacts	25%	3.50	
<i>Displacement</i>	40%	5	undeveloped
<i>Known Cultural Resources</i>	30%	2	No prior survey, no recorded sites
<i>Potential for Buried Archaeological Sites</i>	30%	3	area bordering South Fork Crooked River canyon moderate probability

Appendix C

Focus Site Scoring Tables

SITE ID: 191400-200

0 FATAL FLAW(S)

NICKNAME: MOON PIT

Criteria and weight	Weight	Wtd. Score:	Focused Site Screening Notes
Site Characteristics/Engineering	35%	3.90	
Site Availability/Acquisition Potential	35%	3.40	
<i>Ownership</i>	40%	3	Private
<i>Number of Parcels</i>	20%	5	Single Owner
<i>Total Site Acreage</i>	40%	3	445 acres
Geotechnical Location Factors	10%	2.60	
<i>Fault Hazards</i>	25%	3	3.6 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquefaction
<i>Unstable Areas – Mass Movement</i>	25%	3	High/moderate landslide risks mapped - isolated to berms, stockpiles, and excavations associated with mining operations
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	3.00	Footprint is not within the 100 year flood plan, but may fall within natural drainage channels
Groundwater Protection/Hydrogeology	20%	5.00	
<i>Depth to Groundwater</i>	25%	5	3 wells on site avg SWL -890 ft
<i>Proximity to Drinking Water Wells</i>	30%	5	Nearest domestics water well ~2.6 miles west of site.
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	5	Water record queries found only 3 records representing 3 wells all located in the NW portion of the work site area. Next closest identified well ~2 miles away; a dry well. Depth to 1st water ranges from 890 to 1070 ft. SWL 850-970 ft. Multiple thick layers of rock above deep aquifer.
Development	15%	5.00	
<i>Soils</i>	45%	5	topsoil, loamy sand, silty gravel, basalt - partially excavated by moon pit mining operations
<i>Topography</i>	30%	5	Avg Slope = 1 to 5 percent
<i>Capacity/Site Configuration</i>	25%	5	Disposal Area Footprint = 369 acres
Operation	15%	3.65	
<i>Haul Distance to Waste Centroid</i>	60%	3	Shorter overall distance of focused sites. 20.6 "weighted" miles from various transfer stations.
<i>Annual Precipitation</i>	15%	4	between the 10" and 15" isohyetal lines
<i>Onsite Water Supply and Management</i>	25%	5	water right in property; permit G12860 a well 1.09 cfs [0.27 cfs dust control & 0.82 cfs gravel washing] year around
Natural Environments	35%	3.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	In North Paulina Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	3.00	Site is 0.96 miles from low density GSG habitat. Site is within 4 miles of 1 sage grouse lek and is surrounded by BLM land. Indirect impact from corvid attraction likley. Potential noise impacts. Assuming potential mitigation through bank or in-lieu fee. Depending on Habitat Quantification Tool review w/ ODFW.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory B	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	Two golden eagle nest w/in 2 mi. of site
Land Use	30%	3.40	
Proximity to Airports	15%	5.00	approx 13.2 miles to Bend Airport runway
Site Zoning	20%	3.00	SM (wildlife combining zone in separate criteria)
Adjacent Land Use Impacts	20%	3.00	
<i>Existing Adjacent Use</i>	25%	1	undeveloped, ag, <i>Recreational Uses -Badlands Wilderness (multiple trailheads next to site) and Dry River Canyon Rec Area</i>
<i>Planned Adjacent Use</i>	25%	1	SM and ag; <i>Badlands Wilderness - Recreational Area</i>
<i>Distance to Nearest Residence</i>	25%	5	no residences within 1 mi
<i>Distance to Nearest Public Road</i>	25%	5	Hwy 20 > 0.25 mi from site
Site Visibility/Aesthetic Impact	10%	3.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	3	site is well-screened from view by natural topography, vegetation, and perimeter berming along west and north boundary
<i>Remoteness</i>	50%	3	Bend Aero Modelers Airstrip 0.6 mi from site, <i>Badlands Rock TH nearby - Recreational area for hikers & horses</i>
Transportation System Needs/Opportunity	5%	1.00	Needs and opportunities the same for all focused sites along US20 given shared location along the corridor
Haul Route Impacts	5%	5.00	No housing units along expected haul route
On-Site Land Use Impacts	25%	3.40	
<i>Displacement</i>	40%	4	Active Surface Mine
<i>Known Cultural Resources</i>	30%	1	Partial prior survey; 1 large eligible site in north; numerous not eligible resources in the 500 ft. buffer
<i>Potential for Buried Archaeological Sites</i>	30%	5	Project area already 50% developed/disturbed; Moderate potential along drainages in the south part of the parcel

SITE ID: 201500-301

0 FATAL FLAW(S)

NICKNAME: ROTH EAST

Criteria and weight	Weight	Wtd. Score:	Focused Site Screening Notes
Site Characteristics/Engineering	35%	3.79	
Site Availability/Acquisition Potential	35%	4.20	
Ownership	40%	3	Private
Number of Parcels	20%	5	Single Owner
Total Site Acreage	40%	5	1706 acres
Geotechnical Location Factors	10%	2.60	
Fault Hazards	25%	3	Fault 1.74 miles south of site (DOGAMI/USGS)
Seismic Impact Zones/Hazards	30%	3	Moderate liquefaction susceptibility (DOGAMI)
Unstable Areas – Mass Movement	25%	3	moderate landslide susceptibility (DOGAMI SLIDO)
Unstable Areas – Poor Foundation	20%	1	no data
Floodplains	5%	3.00	Footprint is not within the 100 year flood plain, but may fall within natural drainage channel:
Groundwater Protection/Hydrogeology	20%	3.90	
Depth to Groundwater	25%	3	Depth to water near site appears to be greater than 630 ft. Wells located further (~0.7 to 1.3 miles) to the NE 1st water ranges from 460 ft and 495 ft.
Proximity to Drinking Water Wells	30%	3	Closest wells could be w/in 0.2 miles, but likely ~0.5 miles of work site area. One of these wells is dry. Both wells capped/not used. Closest located well is ~0.7 miles.
Proximity to Wellhead Protection Areas	15%	5	No wellhead protection areas.
Site Hydrogeologic Framework	30%	5	Thick deposits of clay/claystone and rock/clay conglomerate appears to be present above WB zone.
Development	15%	5.00	
Soils	45%	5	Top Soil, Sandstone, Gravel, Clay
Topography	30%	5	Avg Slope = 1 to 10 percent
Capacity/Site Configuration	25%	5	Disposal Footprint = 450+ acres, Total Property area = 1706 acres
Operation	15%	2.55	
Haul Distance to Waste Centroid	60%	2	Slightly longer travel distance than focused sites to the west. 28.6 "weighted" miles from various transfer stations
Annual Precipitation	15%	4	Between 10" and 15" isohyetal lines
Onsite Water Supply and Management	25%	3	Existing Well onsite (DESC 194). Well and water right expansion/improvement required to support SWMF water needs
Natural Environments	35%	3.40	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified. Site is 300 feet from a ephemeral stream. Aerial imagery indicates seasonal wash (water).
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Within Antelope and North Paulina Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	2.00	In low density sage grouse area. Core GSG area 0.56 miles from site. Potential impacts to Core Area from noise and corvid attraction. Assuming mitigation through bank or in-lieu fee. Depending on Habitat Quantification Tool review w/ ODFW.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagles	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.63	
Proximity to Airports	15%	5.00	greater than 5 miles from airport runways listed in the Deschutes County Transportation System Plan
Site Zoning	20%	5.00	EFUHR, Forest Use 1, Landscape Management Overlay, Wildlife Area Combining Zone Overlay (Deer Winter Range; Antelope Range), Surface Mining Overlay
Adjacent Land Use Impacts	20%	3.50	
Existing Adjacent Use	25%	1	Agricultural, rural residential homes, OHV Recreational Areas/staging areas, hang glider/paraglider landing areas, Pine Mountain Observatory
Planned Adjacent Use	25%	5	Ag, Forest to the south, SM to the north
Distance to Nearest Residence	25%	3	two dwellings on Newt Morris Rd approx. 0.8 miles from disposal footprint
Distance to Nearest Public Road	25%	5	Disposal footprint > 0.25 miles from Cnty Rd 2017, Newt Morris Rd, and Ford Rd
Site Visibility/Aesthetic Impact	10%	2.00	
Visibility Based on Topography and/or Vegetation	50%	1	a portion of disposal footprint is visible from two dwellings on Newt Morris Rd approx. 0.8 miles away
Remoteness	50%	3	dwellings at 56900 Ford Rd is approx. 0.8 miles away from disposal footprint
Transportation System Needs/Opportunity	5%	1.00	Needs and opportunities the same for all focused sites along US20 given shared location along the corridor
Haul Route Impacts	5%	5.00	Less than 5 housing units along expected haul route
On-Site Land Use Impacts	25%	2.70	
Displacement	40%	3	potential active cattle ranching on EFU land.
Known Cultural Resources	30%	2	No known resources; no existing survey.
Potential for Buried Archaeological Sites	30%	3	Moderate probability for sites based on landform and records for nearby areas.

SITE ID: 201500-300

0 FATAL FLAW(S)

NICKNAME: ROTH WEST

Criteria and weight	Weight	Wtd. Score:	Focused Site Screening Notes
		3.55	
Site Characteristics/Engineering	35%	3.72	
Site Availability/Acquisition Potential	35%	4.20	
Ownership	40%	3	Private
Number of Parcels	20%	5	Single Owner
Total Site Acreage	40%	5	1783 acres
Geotechnical Location Factors	10%	2.60	
Fault Hazards	25%	3	Fault 2.1 mi W of site (DOGAMI/USGS)
Seismic Impact Zones/Hazards	30%	3	des
Unstable Areas – Mass Movement	25%	3	moderate landslide susceptibility, estimated <10% of site (DOGAMI SLIDO)
Unstable Areas – Poor Foundation	20%	1	no data
Floodplains	5%	3.00	Footprint is not within the 100 year flood plain, but may fall within natural drainage channels
Groundwater Protection/Hydrogeology	20%	3.90	
Depth to Groundwater	25%	3	Avg SWL of DESC 1371, 1603, and 58094 is -411 ft. Avg depth to 1st water is -423 ft.
Proximity to Drinking Water Wells	30%	3	The closest well (DESC 1371) with high location confidence is ~0.7 mile from NW corner of work site area.
Proximity to Wellhead Protection Areas	15%	5	No wellhead protection areas.
Site Hydrogeologic Framework	30%	5	Clay, conglomerate, sandstone, and broken lava above WB zone.
Development	15%	5.00	
Soils	45%	5	Top Soil, Sand/Gravel and Clay
Topography	30%	5	Avg Slope = 1 to 10 percent
Capacity/Site Configuration	25%	5	Disposal Area Footprint = 845 acres
Operation	15%	2.05	
Haul Distance to Waste Centroid	60%	2	Slightly longer travel distance than focused sites to the west. 28.6 "weighted" miles from various transfer stations.
Annual Precipitation	15%	4	between the 10" and 15" isohyetal lines
Onsite Water Supply and Management	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	3.40	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Within Antelope and North Paulina Deer Winter Range
Greater Sage-Grouse Area Combining Zone	40%	2.00	In low density sage grouse area. No lek within 4 miles of the site. Assuming mitigation through bank or in-lieu fee. Depending on Habitat Quantification Tool review w/ ODFW.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagles	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	3.53	
Proximity to Airports	15%	5.00	greater than 5 miles from airport runways listed in the Deschutes County Transportation System Plan. The Millican Airstrip on county land was closed by County Ord. 92-051 per the request of the State Aeronautics Division.
Site Zoning	20%	5.00	EFU, farmland of statewide significance (not prime soils or high-value farmland)
Adjacent Land Use Impacts	20%	3.50	
Existing Adjacent Use	25%	1	undeveloped, SM, OHV Trails, Pine Mountain Observatory, Paragliders/Hang gliders, Millican Airstrip (closed in 1992 per Deschutes County)
Planned Adjacent Use	25%	5	ag, SM
Distance to Nearest Residence	25%	3	nearest residence 0.25-1 mile from site
Distance to Nearest Public Road	25%	5	landfill footprint can be located >0.25 mi from roads
Site Visibility/Aesthetic Impact	10%	1.00	
Visibility Based on Topography and/or Vegetation	50%	1	visible from residence and roads within 1 mile
Remoteness	50%	1	landfill within 0.5 mi of residence, direct visibility from Observatory, landing area for hang gliders/paragliders approx. 1 mile distant
Transportation System Needs/Opportunity	5%	1.00	
Haul Route Impacts	5%	5.00	Needs and opportunities the same for all focused sites along US20 given shared location along the corridor
On-Site Land Use Impacts	25%	2.70	
Displacement	40%	3	undeveloped, potential cattle ranching
Known Cultural Resources	30%	2	No prior survey, no recorded archaeological sites
Potential for Buried Archaeological Sites	30%	3	Moderate probability based on landform and records for nearby areas

SITE ID: 211900

0 FATAL FLAW(S)

NICKNAME: DSL SOUTH

Criteria and weight	Weight	Wtd. Score:	Focused Site Screening Notes
Site Characteristics/Engineering	35%	3.10	
Site Availability/Acquisition Potential	35%	3.40	
Ownership	40%	1	State of Oregon, DSL reports that this property is designated as leased grazing land, which have special protections under DSL's rules and well as the obligations that come with the land being leased.
Number of Parcels	20%	5	Single Owner
Total Site Acreage	40%	5	625 acres
Geotechnical Location Factors	10%	3.60	
Fault Hazards	25%	5	14.1 mi W of site boundary
Seismic Impact Zones/Hazards	30%	3	Moderate liquefaction/
Unstable Areas – Mass Movement	25%	5	
Unstable Areas – Poor Foundation	20%	1	No data
Floodplains	5%	5.00	Footprint is not within the 100 year flood plan
Groundwater Protection/Hydrogeology	20%	3.40	
Depth to Groundwater	25%	1	2 wells. SWL 174 ft and 320 ft. Avg is 247 ft.
Proximity to Drinking Water Wells	30%	5	CROO 2934 located ~1.1 miles
Proximity to Wellhead Protection Areas	15%	5	no WHPA
Site Hydrogeologic Framework	30%	3	WB zone overlain by lava and sediment that is overlain by sandstone conglom and grey lava.
Development	15%	2.65	
Soils	45%	3	Top Soil, Clay, and Grey Basalt
Topography	30%	1	Avg Slope = 0 to 1.0 percent
Capacity/Site Configuration	25%	4	Disposal Area Footprint = 529 acres
Operation	15%	1.45	
Haul Distance to Waste Centroid	60%	1	Longer travel distance due to eastern proximity within the county. 55.5 "weighted" miles from various transfer stations.
Annual Precipitation	15%	4	Between 10" and 15" isohyetal lines
Onsite Water Supply and Management	25%	1	no water right in prop. boundary. Certs 53800 (well, 1.61 cfs, 128.5 ac ir) 53804 (well, 1.65 cfs, 131.6 ac) & G53805 (well, 1.65 cfs, 132.0 ac ir) adjacent to n. property boundary.
Natural Environments	35%	3.40	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Within Antelope winter range
Greater Sage-Grouse Area Combining Zone	40%	2.00	Overlaps low density sage grouse area. No lek within 4 miles of the site. Assuming mitigation through bank or in-lieu fee. Depending on Habitat Quantification Tool review w/ ODFW.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
Sensitive Bird and Mammal Habitat Combining Zone	50%	5	No SBMH zone within 0.5 mile of site
Migratory Birds, Including Bald and Golden Eagles	50%	5	No migratory bird nest within 2 miles of site
Land Use	30%	2.93	
Proximity to Airports	15%	5.00	more than 5 miles to any airport runway
Site Zoning	20%	1.00	EFU, with farmland of statewide significance - <i>Leased Grazing Land</i>
Adjacent Land Use Impacts	20%	4.00	
Existing Adjacent Use	25%	1	undeveloped, ag - <i>Leased Grazing Land</i>
Planned Adjacent Use	25%	5	ag, SM, OS&C
Distance to Nearest Residence	25%	5	no nearby residences
Distance to Nearest Public Road	25%	5	Hwy 20 over 0.25 mi from site
Site Visibility/Aesthetic Impact	10%	3.00	
Visibility Based on Topography and/or Vegetation	50%	1	visible from Hwy 20, less than 1 mile distant
Remoteness	50%	5	no dwellings or active developments within 1 mile
Transportation System Needs/Opportunity	5%	1.00	Needs and opportunities the same for all focused sites given shared location along US 20 corridor
Haul Route Impacts	5%	5.00	No housing units along expected haul route
On-Site Land Use Impacts	25%	2.30	
Displacement	40%	2	undeveloped, <i>Leased Grazing Land</i>
Known Cultural Resources	30%	2	No prior survey; no recorded sites
Potential for Buried Archaeological Sites	30%	3	Scattered precontact sites in area on similar landforms

SITE ID: 212000

0 FATAL FLAW(S)

NICKNAME: DSL NORTH

Criteria and weight	Weight	Wtd. Score:	Focused Site Screening Notes
Site Characteristics/Engineering	35%	3.08	
Site Availability/Acquisition Potential	35%	3.40	
<i>Ownership</i>	40%		State of Oregon, DSL reports that this property is designated as leased grazing land, which have special protections under DSL's rules and well as the obligations that come with the land being leased.
<i>Number of Parcels</i>	20%	5	1 Single Owner
<i>Total Site Acreage</i>	40%	5	5 2117 acres
Geotechnical Location Factors	10%	3.60	
<i>Fault Hazards</i>	25%	5	15.1 mi W of site boundary
<i>Seismic Impact Zones/Hazards</i>	30%	3	moderate liquefaction/
<i>Unstable Areas – Mass Movement</i>	25%	5	
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	Footprint is not within the 100 year flood plan
Groundwater Protection/Hydrogeology	20%	2.20	
<i>Depth to Groundwater</i>	25%	1	11 wells in prop area ID. Avg SW -162 ft. Avg depth to 1st water -199 ft.
<i>Proximity to Drinking Water Wells</i>	30%	1	All wells identified as irrigation wells. An exception CROO 2933 identified as domestic well located ~0.4 miles from site work area.
<i>Proximity to Wellhead Protection Areas</i>	15%	5	no WHPA
<i>Site Hydrogeologic Framework</i>	30%	3	WB zone typically ~200 to 250 ft. Overlying deposits vary typically include basalt, pumice, sandstone, cemented gravel, and some siltstone.
Development	15%	4.15	
<i>Soils</i>	45%	5	Top Soil, Clay, Sand and Gravel
<i>Topography</i>	30%	3	Avg Slope = 0 to 1.0 percent
<i>Capacity/Site Configuration</i>	25%	4	Disposal Area Footprint = 405 acres
Operation	15%	1.45	
<i>Haul Distance to Waste Centroid</i>	60%	1	Longer travel distance due to eastern proximity within the county. 55.8 "weighted" miles from various transfer stations.
<i>Annual Precipitation</i>	15%	4	Between 10" and 15" isohyetal lines
<i>Onsite Water Supply and Management</i>	25%	1	no water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	3.60	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	1.00	Within Anetelope Range
Greater Sage-Grouse Area Combining Zone	40%	3.00	Core area is 1.6 miles away. No lek within 4 miles of the site. Not in low density. Indirect impacts due to corvid attraction may require mitigation. Depending on Habitat Quantification Tool review w/ ODFW.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No SBMH zone within 0.5 mile of site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	Golden eagle nesting is 1 miles away, last observed by USFWS 2014
Land Use	30%	2.45	
Proximity to Airports	15%	5.00	greater than 5 miles to any airport
Site Zoning	20%	1.00	EFU, farmland of statewide importance, landscape management, <i>Leased Grazing Land</i>
Adjacent Land Use Impacts	20%	2.50	
<i>Existing Adjacent Use</i>	25%	1	ag, sm, leased grazing land (on site), leased agriculture pivot that grows alfalfa (adjacent)
<i>Planned Adjacent Use</i>	25%	5	ag, sm
<i>Distance to Nearest Residence</i>	25%	3	nearest residence 0.63 mile from site
<i>Distance to Nearest Public Road</i>	25%	1	along Hwy 20, Harmon Rd crosses through site
Site Visibility/Aesthetic Impact	10%	2.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	
<i>Remoteness</i>	50%	3	nearest residence 0.63 miles from site
Transportation System Needs/Opportunity	5%	1.00	Needs and opportunities the same for all focused sites along US20 given shared location along the corrido
Haul Route Impacts	5%	5.00	Less than 5 housing units along expected haul route
On-Site Land Use Impacts	25%	2.00	
<i>Displacement</i>	40%	2	farming use, leased grazing land, CCAA for Sage Grouse
<i>Known Cultural Resources</i>	30%	1	Partial survey; 1 unevaluated site
<i>Potential for Buried Archaeological Sites</i>	30%	3	Drainage channels and prior site recordings suggest some moderate for encountering archaeology

SITE ID: 161224

1 FATAL FLAW(S)

NICKNAME: HWY 97 BLM

Criteria and weight	Weight	Wtd. Score: FATAL FLAW(S)	Focused Site Screening Notes
Site Characteristics/Engineering	35%	3.26	
Site Availability/Acquisition Potential	35%	3.80	
<i>Ownership</i>	40%	2	Blm-owned, 80 ac LTZ 3 - Disposal (14%), 508 acres LTZ 1 - Retention/Acquisition (86%) - potential acquisition via Congress
<i>Number of Parcels</i>	20%	5	proposed acquisition boundary includes portions of two taxlots under BLM ownership
<i>Total Site Acreage</i>	40%	5	578 acre SWMF site
Geotechnical Location Factors	10%	3.70	
<i>Fault Hazards</i>	25%	5	Nearest fault is Fault 3.39 miles West of site
<i>Seismic Impact Zones/Hazards</i>	30%	5	No seismic impact zones or liquefaction hazards mapped in vicinity of site
<i>Unstable Areas – Mass Movement</i>	25%	3	Mapped moderate landslide susceptibility is isolated and likely resulting from bedrock outcrop
<i>Unstable Areas – Poor Foundation</i>	20%	1	no data
Floodplains	5%	5.00	Footprint is not within the 100 year flood plan, >2.5 miles from nearest 100-year floodplain
Groundwater Protection/Hydrogeology	20%	2.70	
<i>Depth to Groundwater</i>	25%	3	Static WLs ~490-505 ft.
<i>Proximity to Drinking Water Wells</i>	30%	1	Closest identified supply well desc 50170 ~0.3 miles west of west west of site work boundary.
<i>Proximity to Wellhead Protection Areas</i>	15%	5	Closest identified public supply system is Long Butte water system located ~1.8 mi west of west work area boundary.
<i>Site Hydrogeologic Framework</i>	30%	3	Indications of some confining presence. Interlayered basalt, sand, and gravel layers. WB zone is sand and basalt units.
Development	15%	1.25	
<i>Soils</i>	45%	1	Stukel-Rock outcrop-Deschutes complex, shallow sandy loam over bedrock (18-28 inches deep)
<i>Topography</i>	30%	1	Avg Slope = 1.0 to 2.0 percent
<i>Capacity/Site Configuration</i>	25%	2	50M cy available with 60-80' excavation and 90-110' fill above adjacent grade, well above surrounding terrain
Operation	15%	3.85	
<i>Haul Distance to Waste Centroid</i>	60%	5	Shortest overall distance of focused sites. 14.3 "weighted" miles from various transfer stations.
<i>Annual Precipitation</i>	15%	4	Between 10" and 15" isohyetal lines
<i>Onsite Water Supply and Management</i>	25%	1	No water right in property boundary. No water rights adjacent to property.
Natural Environments	35%	4.70	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	4.00	Antelope Range is 2.5 miles from the site.
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of the site
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	4	SBMH is 2.86 miles from the site
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	4	ORBIC polygon indicates a golden eagle nest may exist 1.8 miles from the site. No apparent impacts from site.
Land Use	30%	3.03	
Proximity to Airports	15%	0.00	within 5 miles from Redmond Airport property boundary and planned expansions per Airport Master Plan
Site Zoning	20%	5.00	EFU Alfalfa (farmland of statewide importance); Airport Safety Combining Zone in NW portion of site; Landscape Management Combining Zone (road) in NW corner of site
Adjacent Land Use Impacts	20%	4.50	
<i>Existing Adjacent Use</i>	25%	5	Recreational (Redmond Rod and Gun Club); Utility - Solar Farm; Deschutes County Sheriff's Posse, Whistlestop Farm and Flower Garden Shop, Agricultural
<i>Planned Adjacent Use</i>	25%	5	Agricultural; OS&C to the west (along Highway 97 - touches a corner of the site - scenic corridor)
<i>Distance to Nearest Residence</i>	25%	3	Nearest residence 0.35 miles (to the west) from landfill footprint
<i>Distance to Nearest Public Road</i>	25%	5	Disposal footprint 0.34 miles from Deschutes Pleasant Ridge Rd.
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	nearest residence (Whistle Stop Farm & Flowers) 0.35 miles (to the west) from landfill footprint, less than 1000ft from Redmond Rod and Gun Club. Both locations at higher elevations
<i>Remoteness</i>	50%	1	nearest residence (Whistle Stop Farm & Flowers) 0.35 miles (to the west) from landfill footprint, less than 1000ft from Redmond Rod and Gun Club
Transportation System Needs/Opportunity	5%	1.00	Transportation system needs along likely haul routes exceed expected benefits
Haul Route Impacts	5%	5.00	Less than 5 housing units along expected haul route
On-Site Land Use Impacts	25%	2.90	
<i>Displacement</i>	40%	5	Undeveloped
<i>Known Cultural Resources</i>	30%	2	No existing survey and no previously recorded sites within the parcel.
<i>Potential for Buried Archaeological Sites</i>	30%	1	The general vicinity of the parcel with similar topography where survey has been conducted reveals scattered precontact sites and a very high density of both hisotric and procontact isolated finds. A similar suite and denisty of resources should be expected within the subject parcel.

SITE ID: 161300

0 FATAL FLAW(S)

NICKNAME: POWELL BUTTE HWY BLM

Criteria and weight	Weight	Wtd. Score:	Focused Site Screening Notes
Site Characteristics/Engineering	35%	2.49	
Site Availability/Acquisition Potential	35%	1.80	
<i>Ownership</i>	40%	1	BLM Owned. Land Tenure Zone 1 (retention/acquisition). Act of Congress required.
<i>Number of Parcels</i>	20%	3	Property is owned by the BLM, 2 parcels (1 BLM, 1 private)
<i>Total Site Acreage</i>	40%	2	329 acres
Geotechnical Location Factors	10%	4.20	
<i>Fault Hazards</i>	25%	5	Nearest fault located 8 miles west of site (DOGAMI/USGS)
<i>Seismic Impact Zones/Hazards</i>	30%	5	No seismic impact zones or liquefaction hazards mapped in vicinity of site
<i>Unstable Areas – Mass Movement</i>	25%	5	Low landslide susceptibility(DOGAMI SLIDO)
<i>Unstable Areas – Poor Foundation</i>	20%	1	No data
Floodplains	5%	5.00	Footprint is not within the 100 year flood plan
Groundwater Protection/Hydrogeology	20%	3.20	
<i>Depth to Groundwater</i>	25%	5	No wells identified in site area. Wells located ~0.4-0.7 miles east of site have static WLs ~520-550 ft. GW aquifer anticipated >500 ft.
<i>Proximity to Drinking Water Wells</i>	30%	1	Closest ID supply well desc 50170 ~0.4 miles east of east side of site boundary.
<i>Proximity to Wellhead Protection Areas</i>	15%	5	Outside of any known wellhead protection area.
<i>Site Hydrogeologic Framework</i>	30%	3	Indications of some confining presence.
Development	15%	1.00	
<i>Soils</i>	45%	1	Rock is predominant at ground surface over majority of site.
<i>Topography</i>	30%	1	Avg Slope = 0 to 1.0 percent, poor E/V ratio
<i>Capacity/Site Configuration</i>	25%	1	The configuration does not match the surrounding terrain, significant landfill height required to provide 50M cubic yard capacity
Operation	15%	2.65	
<i>Haul Distance to Waste Centroid</i>	60%	3	Shorter distance due to central location within the county. 17.5 "weighted" miles from various transfer stations
<i>Annual Precipitation</i>	15%	4	between the 10" and 15" isohyetal lines
<i>Onsite Water Supply and Management</i>	25%	1	No water right permits exist appurtenant to site.
Natural Environments	35%	4.70	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	2.00	Site occurs in antelope range.
Greater Sage-Grouse Area Combining Zone	40%	5.00	No GSG zones within 3.1 miles of the site.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	5.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	No sensitive bird and mammal habitat present within
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	5	No migratory nest within 2 miles of the site.
Land Use	30%	3.33	
Proximity to Airports	15%	5.00	greater than 5 miles from Bend and Redmond municipal airport property boundaries
Site Zoning	20%	5	EFUAL - Exclusive Farm Use - Alfalfa Subzone; Wildlife Area Combining Zone - Antelope Range; Farmland of Statewide Importance (not prime)
Adjacent Land Use Impacts	20%	2.50	
<i>Existing Adjacent Use</i>	25%	1	(1) Undeveloped land to the west, north, and south ag. (EFU, antelope range); Rural Residential/Residences to the east
<i>Planned Adjacent Use</i>	25%	5	Crook County EFU3 (rural residential & hay/grass production) to the east, Deschutes County Agriculture to the west, north & south
<i>Distance to Nearest Residence</i>	25%	3	Nearest Residence 0.41 miles to the east - 10 residences within a mile, approx 40 residences within 2 miles
<i>Distance to Nearest Public Road</i>	25%	1	Powell Butte Hwy 0.07 miles and Majestic View Ln. is 0.2 miles from disposal footprint
Site Visibility/Aesthetic Impact	10%	1.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	Visible from Powell Butte Hwy and residences to the east
<i>Remoteness</i>	50%	1	Nearest Residence 0.41 miles to the east
Transportation System Needs/Opportunity	5%	1.00	Transportation system needs along likely haul routes exceed expected benefits
Haul Route Impacts	5%	5.00	Less than 5 housing units expected along haul route
On-Site Land Use Impacts	25%	2.70	
<i>Displacement</i>	40%	3.00	within 3 active grazing allotments, military training area, and Mayfield Pond Recreational Area
<i>Known Cultural Resources</i>	30%	2	No previous surveys within the parcel. No previously recorded resources within the parcel. No resources documented within one mile
<i>Potential for Buried Archaeological Sites</i>	30%	3	Parcel is located on a Pleistocene-aged lava bed with extremely thin mantle of aeolian sediment. Limited sensitivity for encoutering buried archaeological resources.

SITE ID: 181300

0 FATAL FLAW(S)

NICKNAME: HWY 20 BLM

Criteria and weight	Weight	Wtd. Score:	Focused Site Screening Notes
Site Characteristics/Engineering	35%	3.20	
Site Availability/Acquisition Potential	35%	3.00	
<i>Ownership</i>	40%	1	BLM Owned. Land Tenure Zone 1 (retention/acquisition). Act of Congress required.
<i>Number of Parcels</i>	20%	5	Site would require partial acquisition of 4 separate BLM parcels
<i>Total Site Acreage</i>	40%	4	451 acres
Geotechnical Location Factors	10%	3.10	
<i>Fault Hazards</i>	25%	3	Nearest Fault 1.2 miles SE of site (DOGAMI/USGS)
<i>Seismic Impact Zones/Hazards</i>	30%	3	Moderate liquifaction on east adjacent property boundary(DOGAMI)
<i>Unstable Areas – Mass Movement</i>	25%	5	Low landslide susceptibility(DOGAMI SLIDO)
<i>Unstable Areas – Poor Foundation</i>	20%	1	No Data
Floodplains	5%	5.00	Footprint is not within the 100 year flood plan
Groundwater Protection/Hydrogeology	20%	5.00	
<i>Depth to Groundwater</i>	25%	5	No wells identified in site area. Two wells located ~1.3 & 1.6 miles east of site have static WLs 1064 and 1117 ft. GW aquifer anticipated >500 ft.
<i>Proximity to Drinking Water Wells</i>	30%	5	Closest ID supply well DESC 63009 ~1.3 miles east of east side of site boundary.
<i>Proximity to Wellhead Protection Areas</i>	15%	5	Outside of any known wellhead protection area.
<i>Site Hydrogeologic Framework</i>	30%	5	First water and static same depth in wells closest to site. Depth to water significant >1,000 ft. Multiple lava, cinder conglom, and SS conglom layers present.
Development	15%	1.25	
<i>Soils</i>	45%	1	Rock is predominant at ground surface over majority of site
<i>Topography</i>	30%	1	Avg Slope = 2.0 to 4.0 percent
<i>Capacity/Site Configuration</i>	25%	2	50M cy available with 60-80' excavation and 90-110' fill above adjacent grade, well above surrounding terrain
Operation	15%	2.65	
<i>Haul Distance to Waste Centroid</i>	60%	3	Shorter distance due to central location within the county. 15.6 "weighted" miles from various transfer stations
<i>Annual Precipitation</i>	15%	4	between the 10" and 15" isohyetal lines
<i>Onsite Water Supply and Management</i>	25%	1	No water right permits exist appurtenant to site.
Natural Environments	35%	3.70	
Wetlands and Waters Impacts	10%	5.00	No wetlands identified
Threatened and Endangered Species	20%	5.00	No ESA species identified
Wildlife Area Combining Zone	10%	2.00	Site occurs in North Paulina Deer Winter Range.
Greater Sage-Grouse Area Combining Zone	40%	3.00	Site is 1.2 miles from draft low density GSG habitat. Draft GSG zones expected in Spring 2024. Indirect impact from corvid attraction likley. Potential noise impacts. Assuming potential mitigation through bank or in-lieu fee. Depending on Habitat Quantification Tool review w/ ODFW.
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	4	Big eared bat habitat 2.1 miles from sites.
<i>Migratory Birds, including Bald and Golden Eagles</i>	50%	4	Golden eagle nest 1.9 mile from site. No apparent impacts of project.
Land Use	30%	3.63	
Proximity to Airports	15%	5.00	greater than 5 miles from airport runways listed in the Deschutes County Transportation System Plan
Site Zoning	20%	5.00	(5) EFU-Horse Ridge Subzone; Wildlife Area Combining Zone - North Paulina Deer Winter Range; Sage Grouse Habitat Area - General
Adjacent Land Use Impacts	20%	3.00	
<i>Existing Adjacent Use</i>	25%	1	(1) Recreation -Oregon Badlands Wilderness ((North and East) and trailheads to the East/SouthEast; Horse Ridge Natural Area to South; Undeveloped to West (based on tax lot boundary adjacency, not usable location adjacency)
<i>Planned Adjacent Use</i>	25%	5	Agriculture; SM to SE, however Badlands recreation unlikely to develop as agriculture.
<i>Distance to Nearest Residence</i>	25%	5	nearest residence 1.3 miles to the north - 0 residence within 1 mile, 18 within 2 m
<i>Distance to Nearest Public Road</i>	25%	1	Disposal footprint 0.25 miles from Horse Ridge Frontage rd and 0.56 miles to HWY 20
Site Visibility/Aesthetic Impact	10%	3.00	
<i>Visibility Based on Topography and/or Vegetation</i>	50%	1	Visible from Hwy 20, less than 1 mile distant
<i>Remoteness</i>	50%	5	Closest residence over 1 mile from disposal footprint
Transportation System Needs/Opportunity	5%	1.00	Transportation system needs along likely haul routes exceed expected benefits
Haul Route Impacts	5%	5.00	Less than 5 housing units expected along haul route
On-Site Land Use Impacts	25%	2.70	
Displacement	40%	3.00	within 1 grazing allotment and Horse Ridge Recreational Area
<i>Known Cultural Resources</i>	30%	2	No previous surveys within the parcel. No previously recorded resources within the parcel. Three surveys within one mile, precontact lithic scatters and rock art in the vicinity.
<i>Potential for Buried Archaeological Sites</i>	30%	3	Parcel is located on a Pleistocene- to Holocene-aged lava bed with a thin mantle of aeolian sediment. While Holocene-aged aeolian sediments have sensitivity for containing buried archaeological resources, this sensitivity is limited considering how thin and diffuse these deposits are.