

Solid Waste Management Facility Siting Focused Site Evaluation

Prepared for

Deschutes County

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CITATION

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1. APPROACH

Deschutes County is working through a multi-step process to evaluate potential locations for the new Solid Waste Management Facility (SWMF). Initially, the site selection criteria and process were prepared by the consultant and County team and reviewed by the Solid Waste Advisory Committee (SWAC) and Board of County Commissioners. The criteria and process were finalized in a technical memorandum dated July 8, 2022, and have been the guiding protocol for the subsequent steps in this process.

First, "Exclusionary Areas" were mapped where siting a Solid Waste Management Facility 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.

After excluding areas with fatal flaws, the County identified "Areas of Interest". 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 Solid Waste Management Facility, and where adequate buffers to adjacent properties and wells could be accommodated.

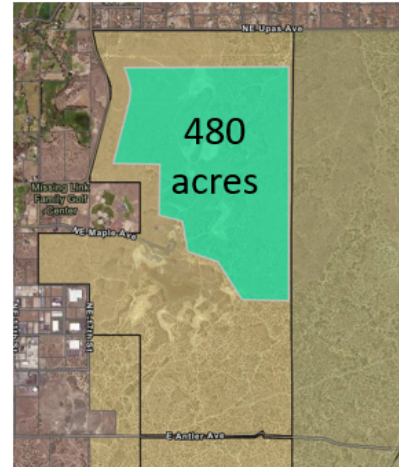
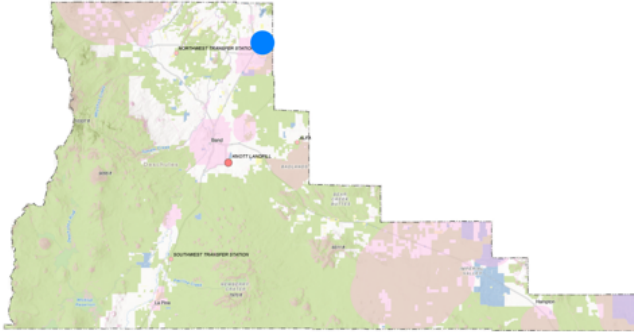
The County evaluated these 31 sites through Broad Site Screening, using technical analysis and the siting criteria to further eliminate sites that were less suited to SWMF permitting and development. Throughout this process, County staff engaged with the Solid Waste Advisory Committee to share information and discuss input. Based on the findings of the Broad Site Screening, most of the 31 sites were removed due fatal flaws and practical flaws that were discovered through more detailed evaluation, which resulted in a list of 13 potential sites for Focused Site Screening.

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 Federal Aviation Administration. Another four of these sites were removed from consideration due to property owners' unwillingness to sell.

The purpose of this report is to summarize the 13 candidate SWMF sites evaluated during Focused Site Screening and summarize the resulting findings, analyses, and outcomes. Based on these focused screening results, the County will work with the Solid Waste Advisory Committee to identify two to three finalist sites on which to conduct Site Due Diligence Studies. Once the finalist sites are chosen, continued screening of the remaining sites will involve 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.

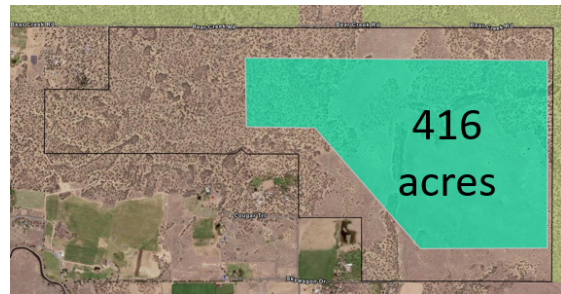
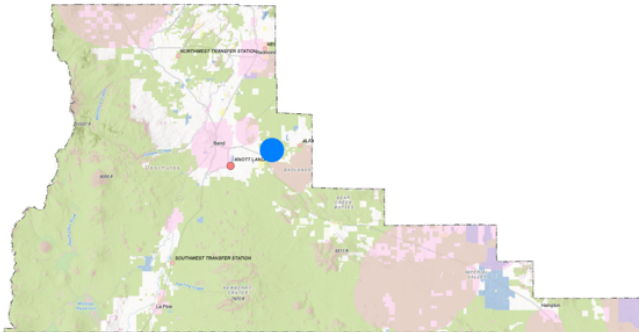
2. SITE DESCRIPTIONS

2.1 Site 151300 (Negus)



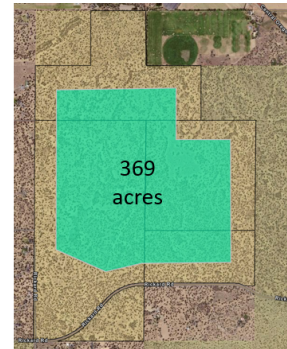
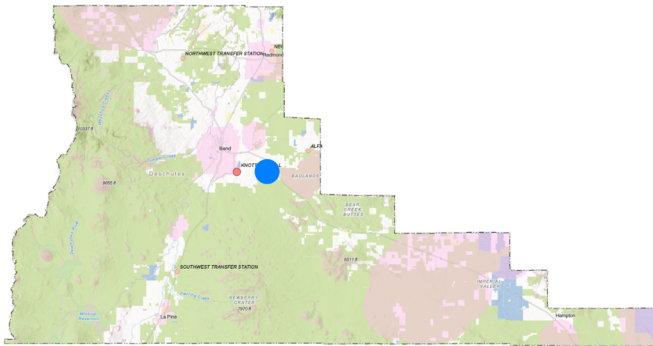
This potential SWMF site on County property in Redmond was eliminated during focused site screening due to its location within the 5-mile airport/landfill buffer zone recommended by the FAA and interpreted by the BOCC and SWAC as a fatal flaw.

2.2 Site 181300 (Bear Creek)



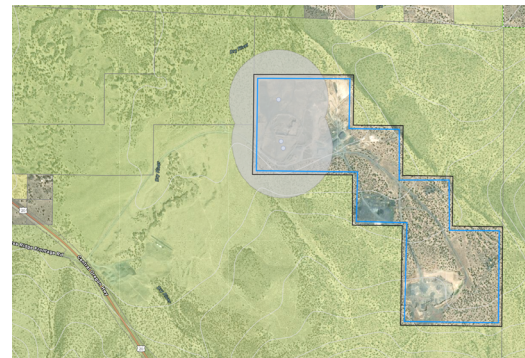
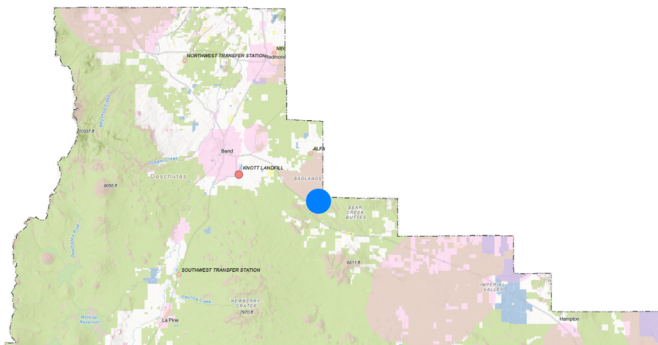
This potential SWMF site on COID-owned property east of Bend was eliminated during focused site screening due to its location within the 5-mile airport/landfill buffer zone recommended by the FAA and interpreted by the BOCC and SWAC as a fatal flaw.

2.3 Site 181315 (Rickard)



This potential SWMF site on County-owned property in 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.

2.4 Site 191400-200 (Moon Pit)



2.4.1 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 Mine (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.

The nearest mapped fault hazard is approximately 3.6 miles west of the site boundary. Onsite 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" and 15" 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 (WHPA) in the vicinity, and water record queries show only three records representing three wells located in the NW portion of the work 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 850-970 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 onsite wells with a yield of 1.09 cfs year-round (0.27 cfs dust control & 0.82 cfs gravel washing). There is good potential to reuse existing onsite water rights and wells for SWMF operations.

2.4.2 Natural Environment

The Moon Pit site has no wetlands, threatened, or endangered species identified. The site is located in 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 sensitive bird and mammal habitat combining zones within 0.5 miles of its perimeter. However, a golden eagle nest area is mapped within two miles of the site.

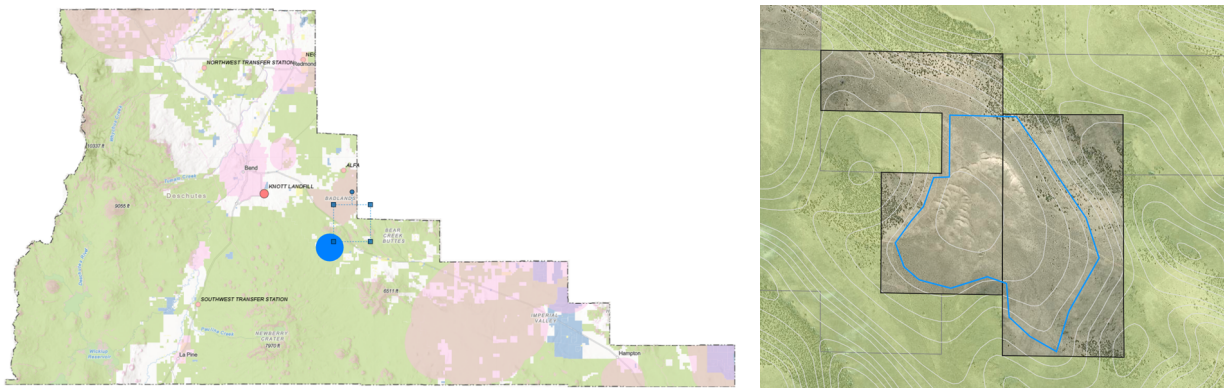
2.4.3 Land Use

The Moon Pit site is zoned Surface Mine (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.

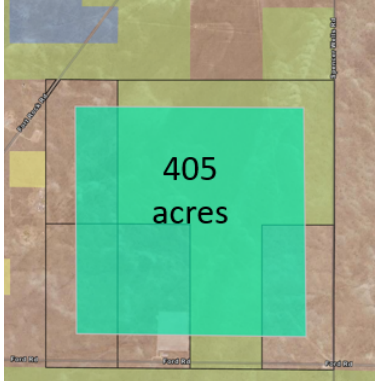
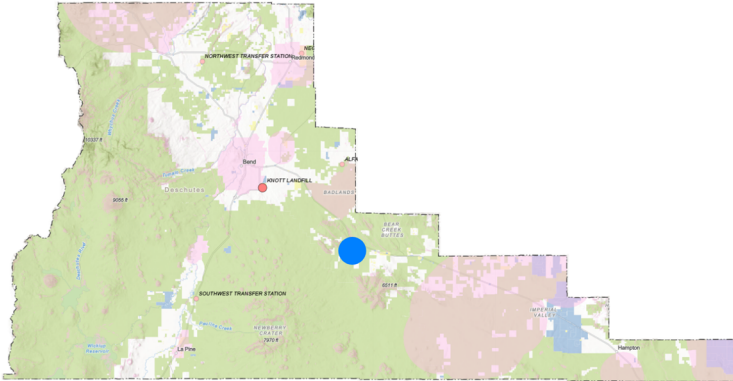
The site is already 50% developed/disturbed, with moderate potential for cultural resources along drainages in the southern part of the parcel and within a 500-foot buffer from the property boundary. A partial prior survey was reviewed, which described cultural resources to the north of the site, including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

2.5 Site 2161400-2400 (Golden Basin)



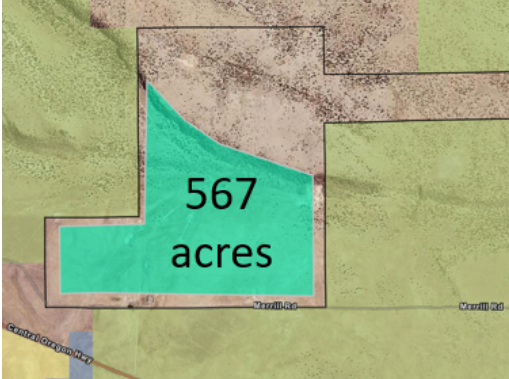
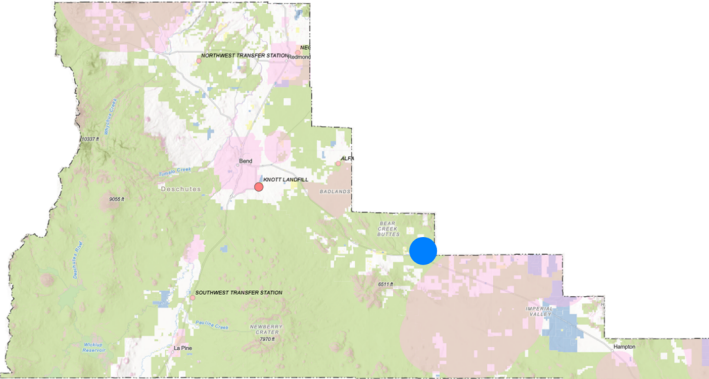
This potential SWMF site consisting of private and BLM property in the Millican Valley was eliminated during focused site screening, in response to property owner requests and unwillingness to sell.

2.6 Site 191400-3300 (Spencer-Ford)



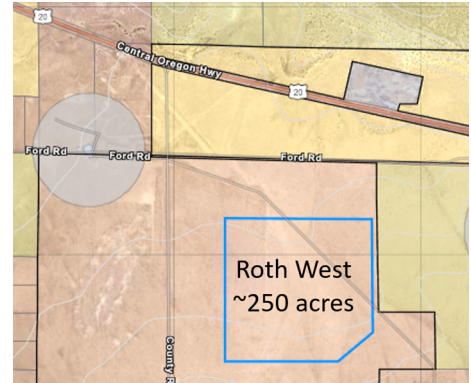
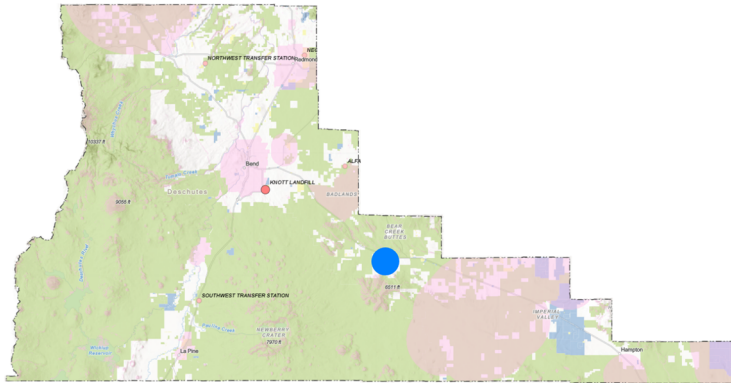
This potential SWMF site consisting of private and BLM property in the Millican Valley was eliminated during focused site screening, in response to property owner requests and unwillingness to sell.

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.

2.8 Site 201500-300 (Roth West)



2.8.1 Site Characteristics/Engineering

The Roth West candidate SWMF site is privately owned, comprising a single parcel of land spanning 1783 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.

2.8.2 Natural Environment

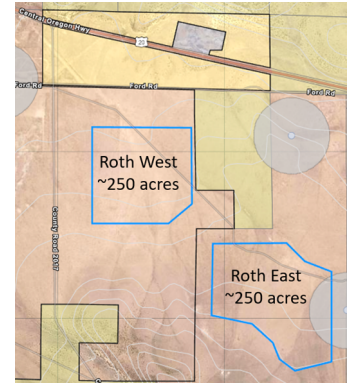
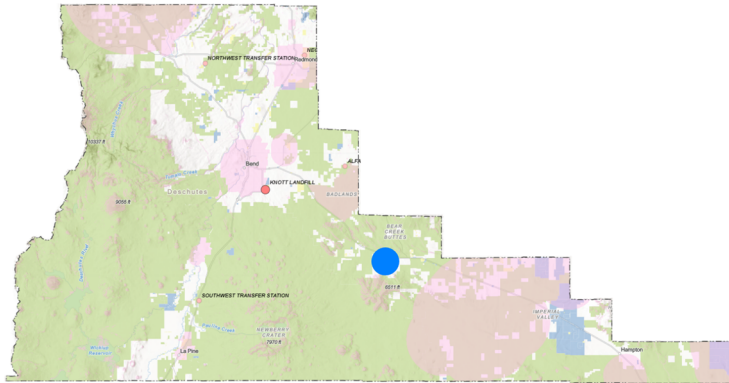
No wetlands have been identified, and no threatened or endangered species have been reported or observed. The site is within the Antelope and North Paulina Deer Winter Range, while the Greater Sage-Grouse Area Combining Zone shows a low-density sage grouse area. No sensitive bird and mammal habitat combining 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.

2.8.3 Land Use

The Roth West site is zoned as Exclusive Farm Use - Horse Ridge Subzone (EFUHR) with overlays including Landscape Management Overlay, Wildlife Area 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 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.

2.9 Site 201500-301 (Roth East)



2.9.1 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.

2.9.2 Natural Environment

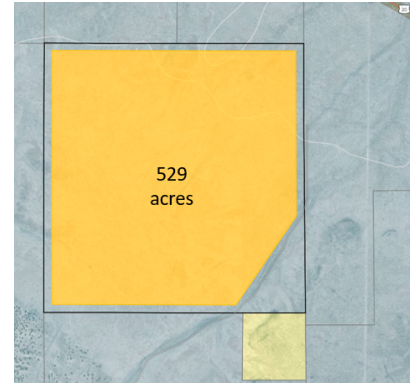
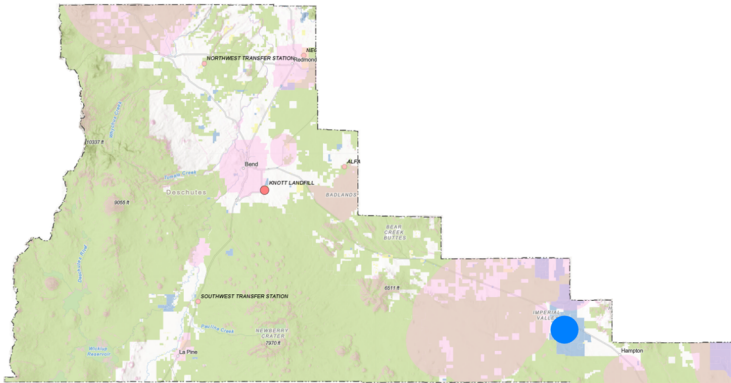
The Roth East site is not located within any wetlands or sensitive bird and mammal habitat combining zones. However, it is within the Antelope and North Paulina Deer Winter Range and low-density sage grouse area. No leks, or breeding grounds, for sage grouse were found within four miles of the site, and 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.

2.9.3 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 as Exclusive Farm Use - Horse Ridge Subzone (EFUHR) with overlays including Forest Use 1, Landscape Management, Surface Mining Impact Area, and Sage Grouse Habitat – Low Density, and Wildlife Area 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 Rd 2017, Newt Morris Rd, and Ford Rd. 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.

2.10 Site 211900 (DSL South)



2.10.1 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.

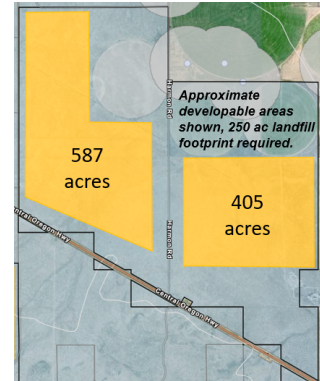
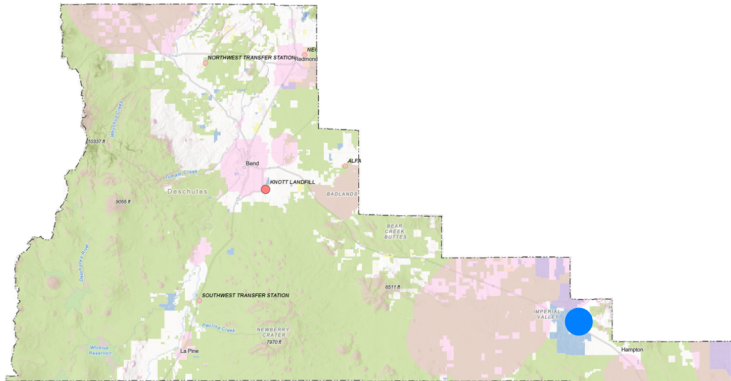
2.10.2 Natural Environment

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 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 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.

2.10.3 Land Use

The DSL South site is zoned as Exclusive Farm Use - Horse Ridge Subzone (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 pre-contact sites in the area are located on similar landforms. The planned adjacent use includes agriculture, SM, and OS&C.

2.11 Site 212000 (DSL North)



2.11.1 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 onsite 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.

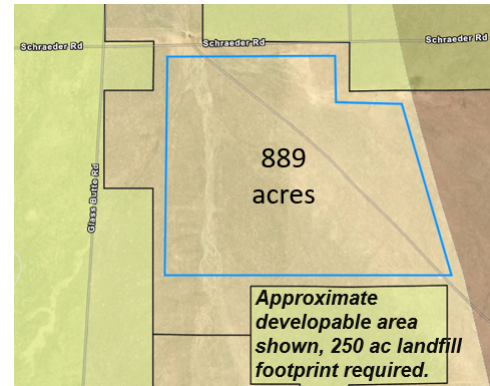
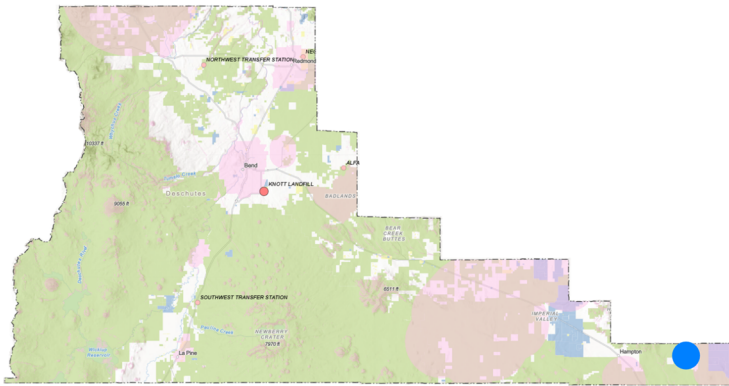
2.11.2 Natural Environment

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 sensitive bird and mammal habitat 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 Candidate Conservation Agreement with Assurances (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.

2.11.3 Land Use

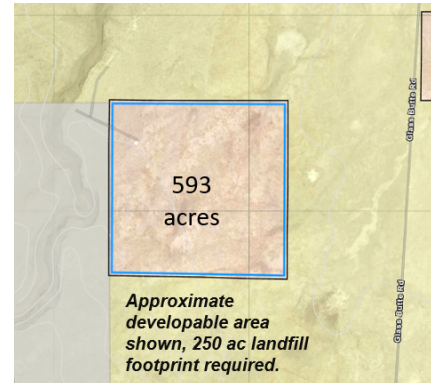
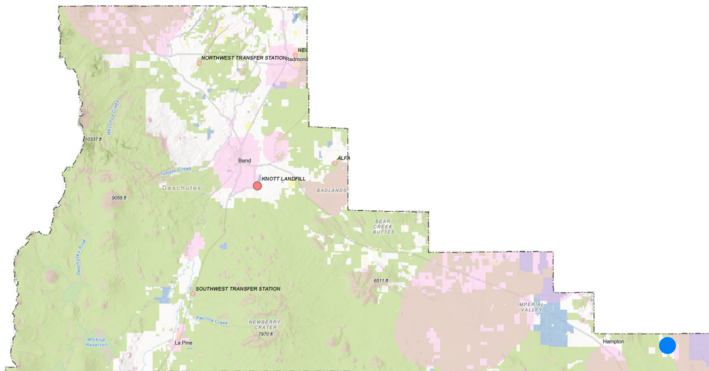
The DSL North site is zoned as Exclusive Farm Use - Horse Ridge Subzone (EFUHR) with overlays including Wildlife Area and Sage Grouse Habitat (General, Low Density). The site is mapped as "farmland of statewide significance" which is understood to not mean "high-value farmland" per DCC 18.04.030, but 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 5 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.

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.

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.

3. EVALUATION RESULTS

3.1 Focused Site Scoring

Each candidate SWMF site was evaluated against each of the screening criteria, as outlined and described in the Siting Criteria Technical Memorandum. **Table 1** below 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.

Table 1 Site Characteristics/Engineering Criteria Scoring Comparison

	SITE ID:	191400-200	201500-300	201500-301	211900	212000
	NAME:	MOON PIT	ROTH WEST	ROTH EAST	HAMPTON SOUTH	HAMPTON NORTH
Site Characteristics/Engineering	35%	3.76	3.72	3.72	3.10	3.08
Site Availability/Acquisition Potential	35%	3.40	4.20	4.20	3.40	3.40
<i>Ownership</i>	40%	3	3	3	1	1
<i>Number of Parcels</i>	20%	5	5	5	5	5
<i>Total Site Acreage</i>	40%	3	5	5	5	5
Geotechnical Location Factors	10%	2.10	2.60	2.60	3.60	3.60
<i>Fault Hazards</i>	25%	3	3	3	5	5
<i>Seismic Impact Zones/Hazards</i>	30%	3	3	3	3	3
<i>Unstable Areas – Mass Movement</i>	25%	1	3	3	5	5
<i>Unstable Areas – Poor Foundation</i>	20%	1	1	1	1	1
Floodplains	5%	3.00	3.00	3.00	5.00	5.00
Groundwater Protection/Hydrogeology	20%	5.00	3.90	3.90	3.40	2.20
<i>Depth to Groundwater</i>	25%	5	3	3	1	1
<i>Proximity to Drinking Water Wells</i>	30%	5	3	3	5	1
<i>Proximity to Wellhead Protection Areas</i>	15%	5	5	5	5	5
<i>Site Hydrogeologic Framework</i>	30%	5	5	5	3	3
Development	15%	5.00	5.00	5.00	2.65	4.15
<i>Soils</i>	45%	5	5	5	3	5
<i>Topography</i>	30%	5	5	5	1	3
<i>Capacity/Site Configuration</i>	25%	5	5	5	4	4
Operation	15%	3.05	2.05	2.05	1.45	1.45
<i>Haul Distance to Waste Centroid</i>	60%	2	2	2	1	1
<i>Annual Precipitation</i>	15%	4	4	4	4	4
<i>Onsite Water Supply and Management</i>	25%	5	1	1	1	1

Table 2 below compares candidate sites in terms of Natural Environment criteria. The Hampton North Site (212000) scored the highest in terms of the Natural Environment criteria.

Table 2. Natural Environment Criteria Scoring Comparison

	SITE ID:	191400-200	201500-300	201500-301	211900	212000
	NAME:	MOON PIT	ROTH WEST	ROTH EAST	HAMPTON SOUTH	HAMPTON NORTH
Natural Environment	35%	2.80	3.00	3.00	3.00	3.20
Wetlands and Waters Impacts	10%	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
Wildlife Area Combining Zone	10%	1.00	1.00	1.00	1.00	1.00
Greater Sage-Grouse Area Combining Zone	40%	1.00	1.00	1.00	1.00	2.00
Sensitive Bird and Mammal Habitat Combining Zone and Migratory Birds	20%	4.00	5.00	5.00	5.00	4.00
<i>Sensitive Bird and Mammal Habitat Combining Zone</i>	50%	5	5	5	5	5
<i>Migratory Birds, Including Bald and Golden Eagles</i>	50%	3	5	5	5	3

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

Table 3. Land Use Criteria Scoring Comparison

	SITE ID:	191400-200	201500-300	201500-301	211900	212000
	NAME:	MOON PIT	ROTH WEST	ROTH EAST	HAMPTON SOUTH	HAMPTON NORTH
Land Use	30%	3.30	3.53	3.63	2.93	2.45
Proximity to Airports	15%	5.00	5.00	5.00	5.00	5.00
Site Zoning	20%	3.00	5.00	5.00	1.00	1.00
Adjacent Land Use Impacts	20%	3.00	3.50	3.50	4.00	2.50
<i>Existing Adjacent Use</i>	25%	1	1	1	1	1
<i>Planned Adjacent Use</i>	25%	1	5	5	5	5
<i>Distance to Nearest Residence</i>	25%	5	3	3	5	3
<i>Distance to Nearest Public Road</i>	25%	5	5	5	5	1
Site Visibility/Aesthetic Impact	10%	2.00	1.00	2.00	3.00	2.00
<i>Visibility Based on Topography/Vegetation</i>	50%	1	1	1	1	1
<i>Remoteness</i>	50%	3	1	3	5	3
Transportation System Needs/Opportunity	5%	1.00	1.00	1.00	1.00	1.00
Haul Route Impacts	5%	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
<i>Displacement</i>	40%	4	3	3	2	2
<i>Known Cultural Resources</i>	30%	1	2	2	2	1
<i>Potential for Buried Archaeological Sites</i>	30%	5	3	3	3	3

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 4 and Figure 1 below for a comparison between candidate sites in terms of criteria scoring and total weighted scores.

Table 4 - Focused Site Scoring Summary

Site ID	Site Name	Site Characteristics/ Engineering 35%	Natural Environment 35%	Land Use 30%	Total Weighted Site Score:
191400-200	Moon Pit	3.76	2.80	3.30	3.29
201500-300	Roth West	3.72	3.00	3.53	3.41
201500-301	Roth East	3.72	3.00	3.63	3.44
211900	DSL South	3.10	3.00	2.93	3.01
212000	DSL North	3.08	3.20	2.45	2.93

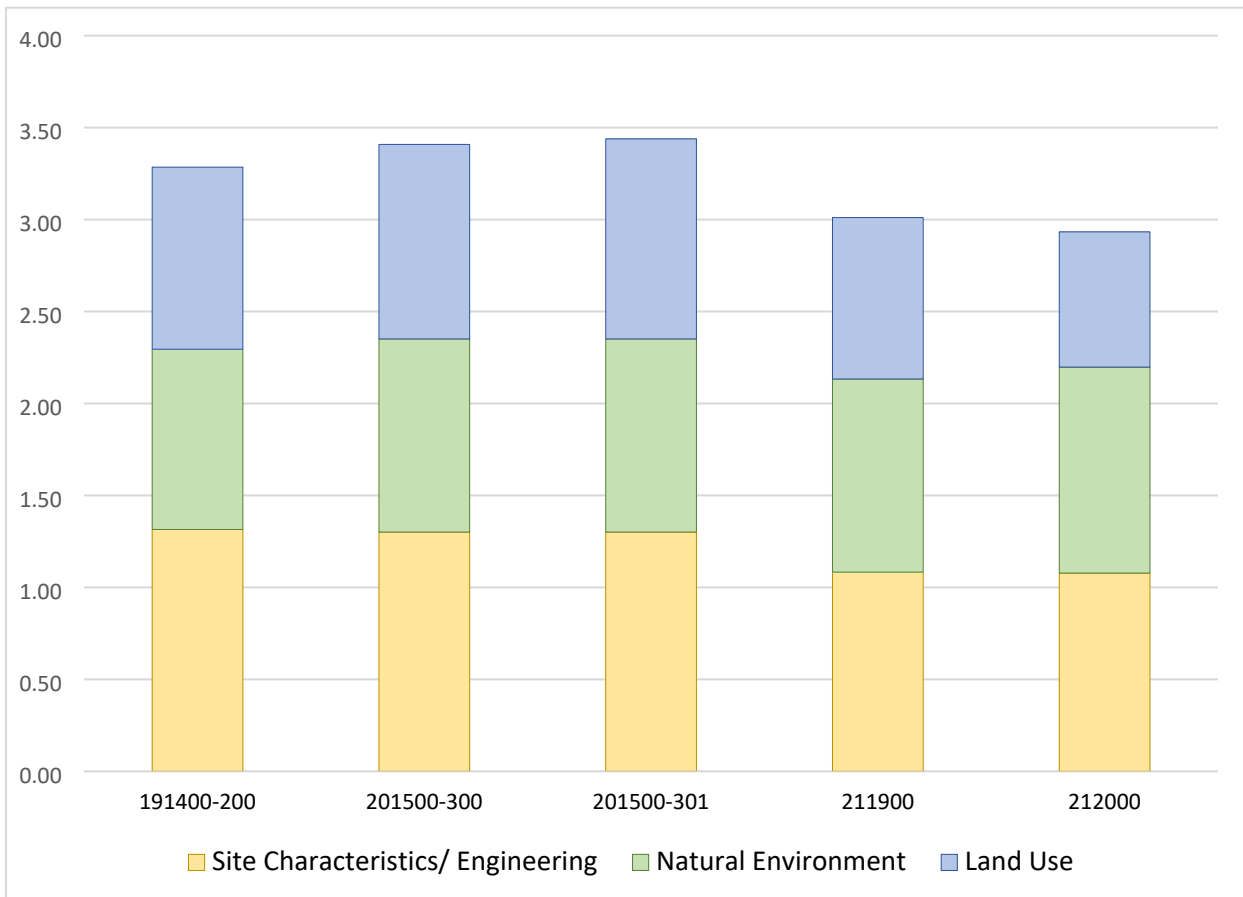


Figure 1. Focused Site Scoring Comparison

3.2 Comparative Cost Factor Analysis

Five major cost factors were identified, which influence the cost to develop and operate a solid waste management facility. 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 and Figure 2 below for a comparison of each site with respect to SWMF cost factors.

Table 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

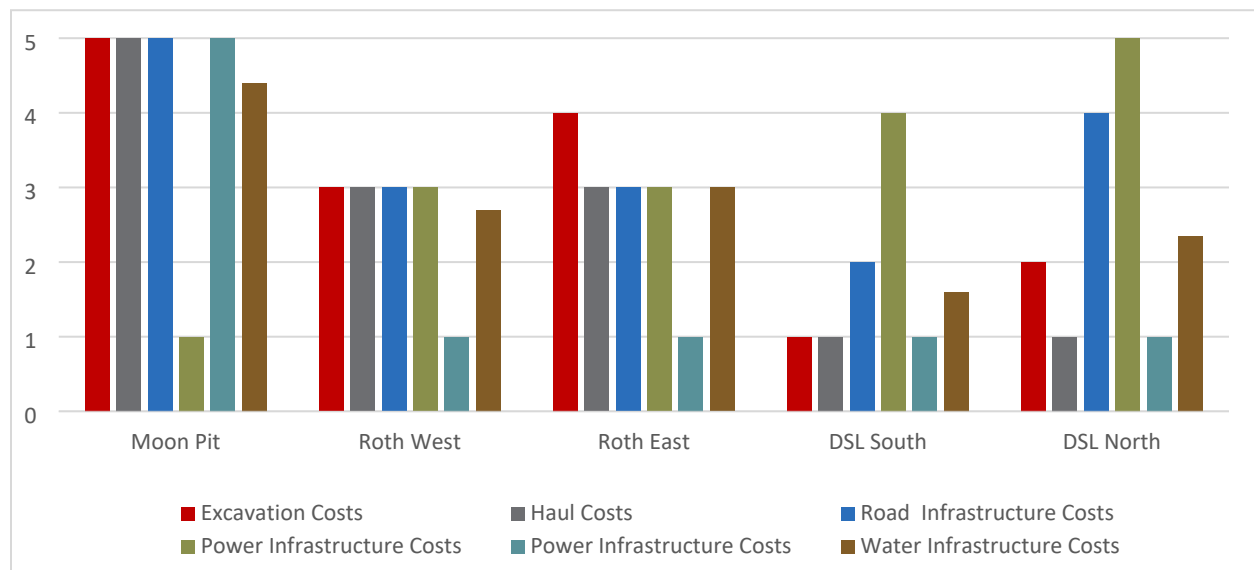


Figure 2. Cost Factor Comparison Chart

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. The SWMF development and operational costs related to 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.

3.3 Residential Proximity

It is well understood that a new solid waste management facility 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 3, Figure 4, Figure 5, and

Table 6 below for a summary of residential proximity information.

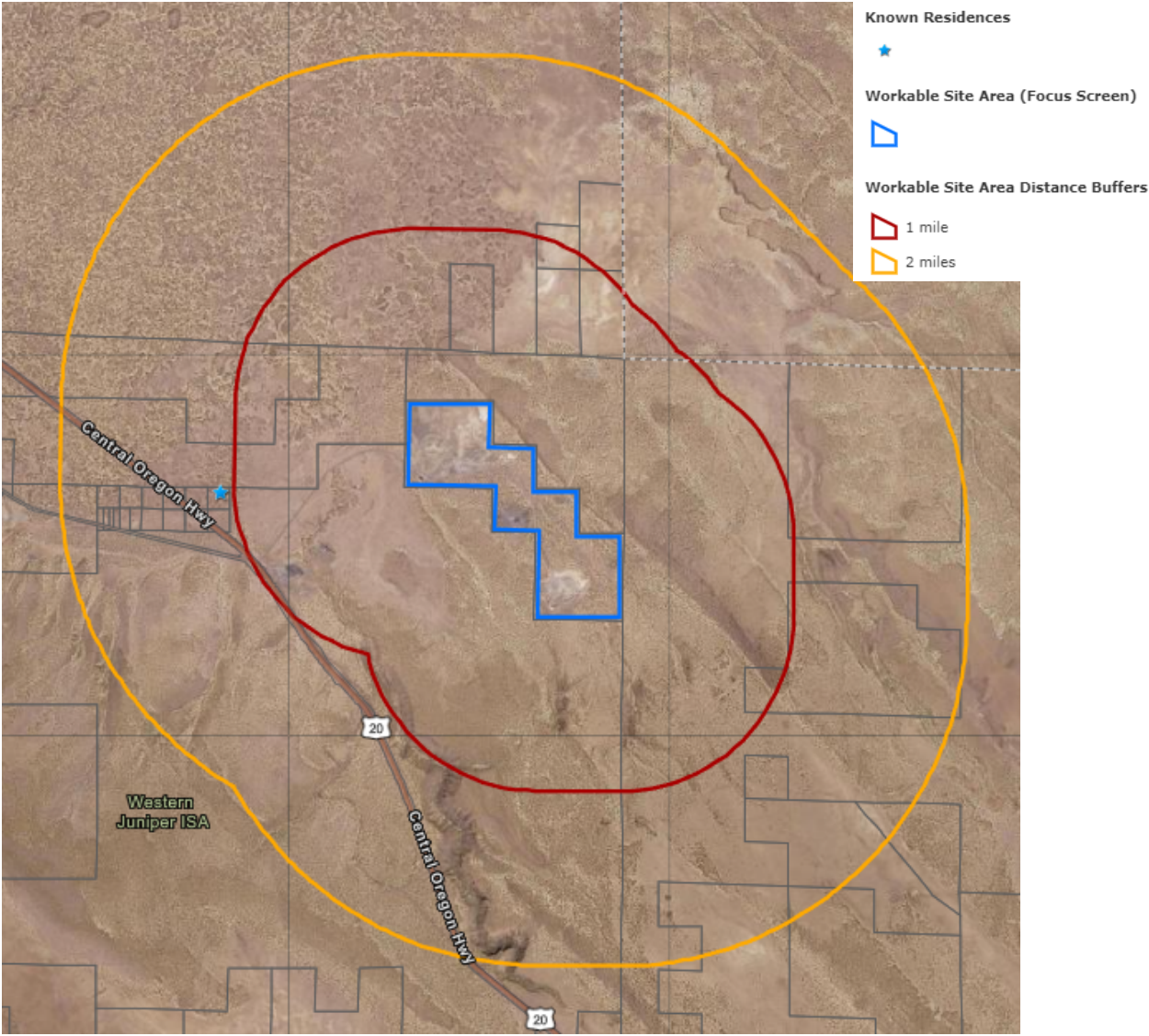


Figure 3. Residential Proximity Map – Moon Pit

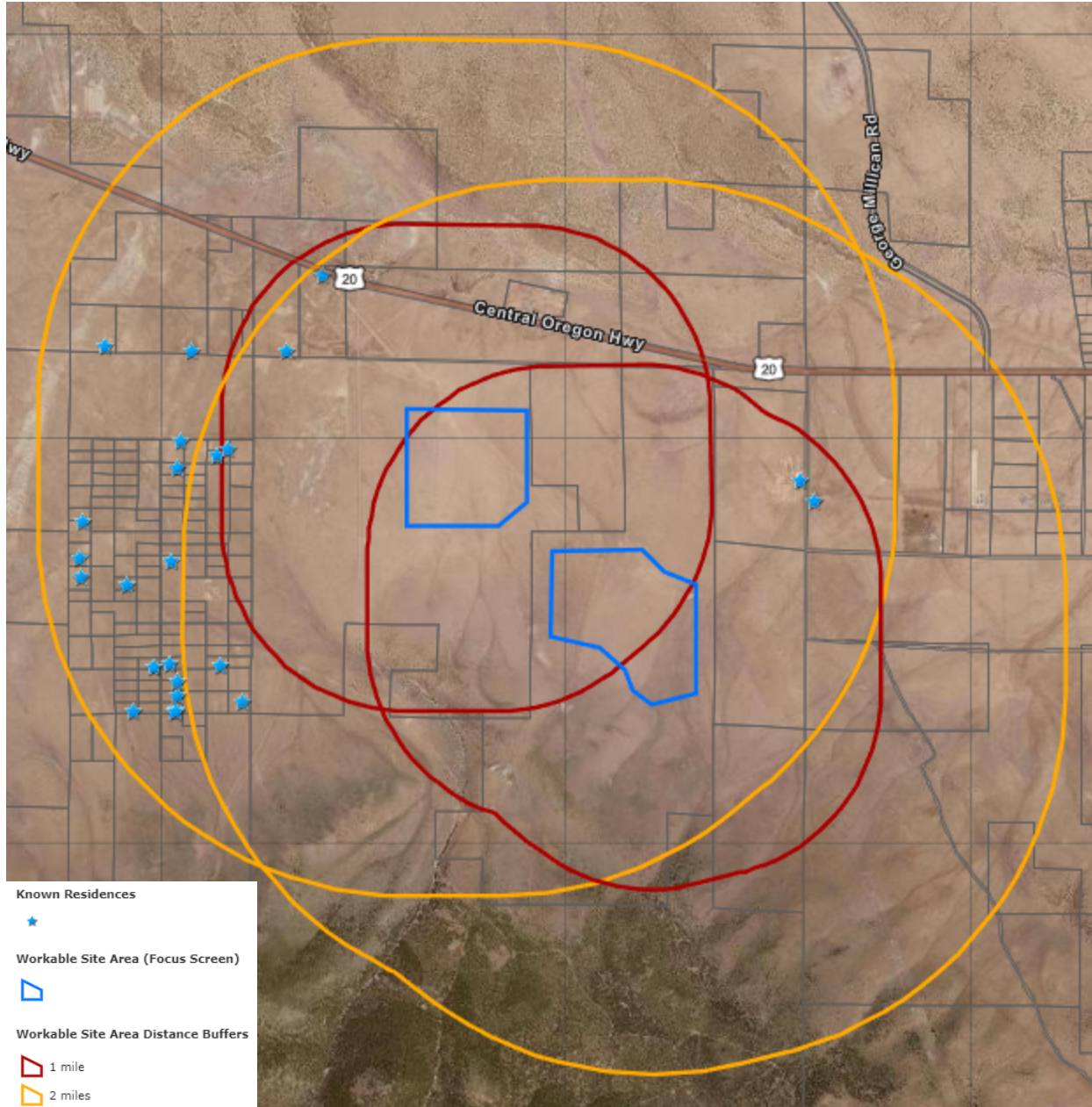


Figure 4. Residential Proximity Map - Roth Sites

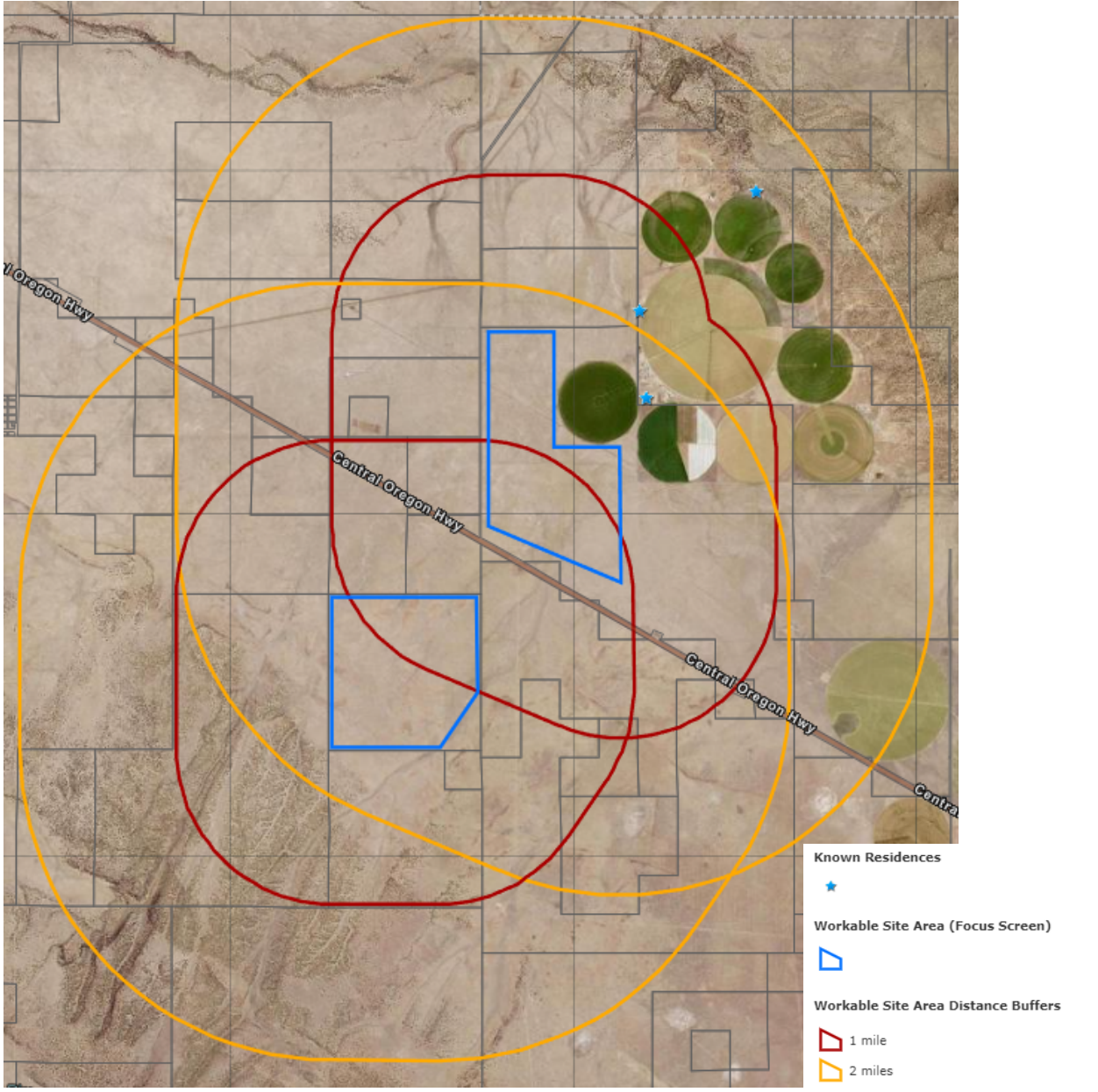


Figure 5. Residential Proximity Map - DSL Sites

Table 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